STATE HEALTH POLICY - DISASTER RESPONSE AND MANAGEMENT

A disaster is a situation arising out of an event which creates a DISRUPTION of a GREAT MAGNITUDE in life (Human/ Animal/plant) and life supporting systems (Water/Air/Food/ Sunlight, etc.). This separates a disaster from an accident or incident.

Disaster events are of sudden onset and diffuse effects. Simplistic classification as 'natural' and 'man-made' are misleading, as a complex relationship between these two is being increasingly appreciated. A spectrum of events from the 'natural' to 'man-made' as cause and acute to chronic in time scale is more practical.

Eg.: Natural / Acute --- Earthquakes.
Natural /Chronic --- Drought
Man-made/Acute --- Armed conflict
Man-made/Chronic --- Caste communal tensions.

Events like Droughts, Deforestation / Epidemics and Endemic diseases have elements of both.

Similarly, Disaster "effects" can be placed on a spectrum of Acute to Chronic in time-scale and implications for nature and man.

Eg.: On nature / acute ---- kills all life
On nature / chronic ---- pollution/dwindling genetic diversity
On man / acute ---- death / shock
On man / Chronic ---- stress diseases / morbidity.

Intermediate stages with elements of both are also seen.

Response to disasters is in three phases -

a) RESCUE and Immediate Relief --- this needs Emergency medical measures;

b) SHORT_TERM rehabilitation --- needs continuing medical and Public Health measures to tackle emerging diseases/ epidemics.

c) LONG_TERM rehabilitation --- needs predominantly Public Health measures with community participation. Also, preparation for the next disaster.

Some characteristics of disaster situations which are universal need to be understood to evolve adequate plans for coping.

a) PRE, DURING AND POST_DISASTER CONTINUUM:

All conditions which existed before a disaster are likely to continue afterwards - in a more ACUTE form. This applies to Medical / Social / Economic / Political, etc.

b) The worst affected in a community are the most needy -
- socio-economically backward;
- women, children and the aged;
- destitutes, daily-wage earners, etc.

c) The Family is the basic coping unit and people evolve an adaptive response seeking safety and stability at personal, family and social levels, depending on their level of preparedness to a disaster.

d) A majority of people manifest acute stress reactions with no long-term psychological impairment, and,

e) Medical relief stations tend to become focal points of all human misery during a disaster. The needs are predominantly for information, food, shelter, safe water and solace.

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Considering all these, the planning by the Medical / Health establishment should include:

a) activitating / understanding / operationalising the District Disaster plan (at the collectorate and District Collector) in mock drills at regular intervals;

b) preparation of support systems like personnel/ drug-stores/transport/mapping of area (indicating communication channels/disease patterns/area most likely to be affected, etc.) and logistic needs like liaison with food /transport and other authorities, including areas of responsibility and channels of reporting or seeking help;

c) Training, Education and Preparation of personnel & volunteers from the community and Voluntary Agencies in the area.

d) Rationalising all the above in terms of peoples perceptions, needs and capabilities. In short, ensuring peoples participation in all the above, for optimal benefit; and

e) Learning from the past disasters, while making the present situation most favourable to survival so that any disaster leaves minimal effects on people.

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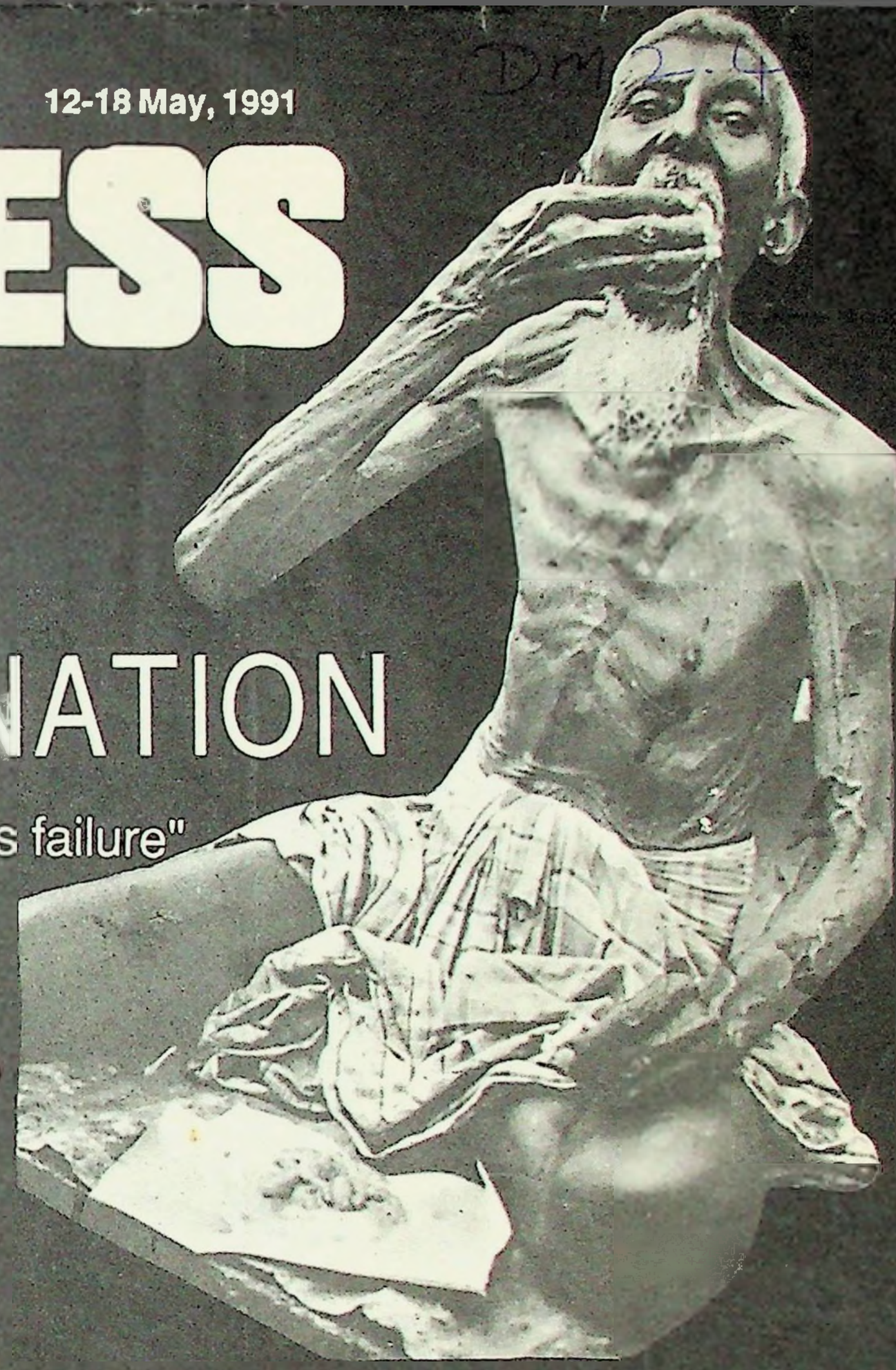
EXPRESS



CRY FOR CO-ORDINATION

"The govt has admitted its failure" says an NGO official

What to do in a disaster

Inadequate relief goods

Catastrophe as Pornography and Public Relations

New equation in JP leadership

Govt and Opposition contradict each other on relief distribution

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EDITORIAL

They ought to have done better

The government of Begum Khaleda Zia ought to have done better. It has not, and that is the visible truth. It now appears that the Prime Minister and her ministers were taken completely unawares by the magnitude of the cyclone that struck the country's coastal regions not so long ago. But they should not have, for the particular reason that they knew what was coming. But, of course, in a more philosophical vein, one could argue that anyone in power in the limiting circumstances that characterise governance in Bangladesh might have done the same. Or not done anything at all. That is true, but that is not the point. The truth that has emerged today is that the government has failed to do what it was expected to do. And that was to save lives, and failing that, to provide succour to those who survived.

A government, and especially one that has been elected by popular franchise, cannot fall back on excuses to explain its predicament. Those excuses are untenable, and they only cover up the fact that those responsible for governing the country have not quite succeeded in justifying their reason for governance. Relief materials have come in trickles, and have not affected the tens of thousands who have survived. The Prime Minister refuses to acknowledge such truths, and in the process holds up a picture that the nation would rather avoid looking at--she reminds us, in so many words, that autocracy does not always have to be unelected. The attitude is regrettable, all the more so when the clear intention of the government seems to be a defence of its actions.

We will remind the government, and ourselves, that tragedy occurs beyond human control. But when the winds blow over, it is management of the consequences that should assume priority. Begum Zia ought not to misunderstand. No one is in the move to destabilise her government, for reasons of allowing democracy to function. But neither is anyone prepared to see the government do a job that is botched, be it in the matter of distribution of relief or saving aircraft parked in the jaws of disaster.

Favoured Biman pilot

Sir,

My attention has been drawn to the article under caption "Utter negligence of a Biman Pilot" which appeared in the issue of 28th April - 4th May of your esteemed weekly.

It is astonishing as to how Civil Aviation Authority of Bangladesh can keep quiet ignoring such an incidence of importance. It seems that the captain is unduly favoured or a certain group is being maintained by the CAAB and the negligence is being suppressed intentionally.

The matter is of national importance involving the security of life and property. Due investigation should be made an punishment should be given for the negligence. We believe the new minister and the secretary will take action and weed out all corrupt and inefficient personnel who were appointed in CAAB without proper qualification by the past regime.

Abul Khalleque
12, Rankin Street,
Wari, Dhaka.

Zia's Bangladeshis

Sir

This refers to Maj. Zia's 'The birth of a nation' published in 28 April-4 May issue from the weekly 'Bichitra' in 1974. It makes history weep once again.

It is sad to speak about the so called 'Bangladeshis' who either deliberately or ignorantly concede to distortion of facts. I think progressive people i.e., the Bangalees should look inward. And why not, when a valiant freedom fighter appears to be a patron of 'Razakers' and once holding a sheer, ideology of Bengali nationalism indulges in anti-liberation politics? He maintains camaraderie with communal forces rooting out secularism from the constitution. Zia's divergence from his standpoint of pre-75 assembling the communal forces and reactionaries on the same platform in the name of 'Bangladeshi nationalism' has added a new twist to the politics of Bangladesh. From that inanity of our national identity persuaded by the Zia regime in collaboration with the reactionists, we are yet to emerge free. Calumny against our Father of the Nation, controversy on the declaration of independence, phobia of so called Indian aggression, using religion to fulfil political lust--these are well-planned practices of the post-75 legacy. And the nation is helplessly somersautting in that position. It is not the Awami League but the self-proclaimed nationalists who are basking after the downfall of Ershad.Let the progressive forces ovecome their crisis and uphold our national spirit which has been exiled after the assassination of Bangabandhu.

Thanks to Sunday Express for providing courage to the nation.

Sazzad Masud
316-Zia Hall
Dhaka University.

Wave of death: Bravo! Keep it up

Your cover story 'WAVE OF DEATH' reveals a lot of things related to why and how waves of death periodically cause havoc in this ancient land. The "Genesis of cyclonic storm", 'SIGNALS', "why does Bangladesh become the target of cyclone often?" are all befitting. On top of all, "Questions in people's mind" is a superb composition.

Moreover, your story reveals the sheer negligence of the Bangladesh Air Force and Navy personnel and you have boldly pointed fingers at these facts. Formation of an enquiry committee by the Acting President the very next day of the publication of your magazine probably followed your report. Bravo! Keep it up.

Monica
Shantinagar, Dhaka.

Govt and Opposition contradict each other on relief distribution

Airlifting of relief materials by helicopters costs about Taka 10,000 per hour but what the bereaved, battered, haggard and hungry people get to eat, drink and also cover themselves are much too inadequate. In the absence of interment of human bodies and carcasses the entire affected area has turned into a veritable hell leading to an outbreak of diarrhoea in an epidemic form.

According to prime minister and government leaders there is no lack of coordination in relief works and everybody is getting support. Shelters will soon be provided.

The situation is grave. No doubt about the enormity of the calamity and its consequences. But it has been made worse by the lack of coordination between different agencies and the government. No wonder, the armed forces, who are the most efficient organ in bringing in control the situation in the aftermath of natural calamities, are carrying on relief operation separately. Neither have they been assigned to the task in a manner the situation demands.

The situation has been further complicated by the ruling BNP deciding to face it on party basis instead of nationally. People were disappointed at the prime minister's rejection of the proposal to form a national committee at the Jatiya Sangsad. Consequently, the opposition parties have been forced to separately conduct their relief operations.

Students, particularly those of Dhaka University, have always been in the forefront of relief works in all such emergency situations, but this time they too are somewhat inactive. The government is responsible for not pulling the students and people together for the task.

Yet another disturbing factor is that the local MPs--possibly because they belong to the Opposition--have not been included in the relief committee.

All this is then reflected in the aid given by the donors. Foreign donors are reluctant to hand over relief goods to the government, they are giving those to the NGOs. Mercifully though, the NGOs are doing commendable jobs. Yet what is ponderable is the fact that till May 9 last, the assurance of

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only 27 percent of the required aid could be received.

It will be intersting to note the conflicting views and statements of the ruling party versus opposition parties:

On May 7 prime minister Khaleda Zia told at a press conference it was impossible to satisfy anyone with aid in this poor country. She termed the press report on the spread of diarrhoea in an epidemic form as an exaggeration.

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Dr Kamal Hossain called for all to engage in relief works sinking differences. He also demanded the formation of national task force.

On the other hand 14 opposition and independent MPs, after having visited affected areas of Chittagong and Cox's Bazar, said the government has totally failed to face the situation.

The government could not inter the bodies, let alone reaching relief materials to the affected people. The MPs who made this complaint are among others, **Abdur Razzak, Suranjit Sen Gupta, Rashed Khan Menon, Salahuddin Kader Chowdhury, Shahjahan Siraj, Azizur Rahman, Mohiuddin Ahmed and A.S.M. Firoj.**

Suranjit Sen Gupta complained one the basis of his tour experience that the affected people have lost confidence in the government.

Shahjahan Siraj charged the government has kept people in constant panic. It has failed to deploy the army and BDR.

Azizur Rahman said people will never forgive the government for the death and sufferings caused by its negligence. Uptil May 7, no government high official visited Banshkhali, the worst hit area.

Mohiuddin Ahmed remarked it was alleged to have buried dead bodies covered with banana leaves in 1975, but today there is no arrangement for internment.

Former deputy prime minister and acting chairman of JP, **Moudud Ahmed** pointed out the failures of the government in reaching relief goods and also demanded the publication of upazila-wise distribution of relief goods.

Criticising the failure of the government, Abbas Ali Khan said the Jamaat supported the BNP to remove political stalemate and form people's government but it was not going to share in the present failure of the government.

–Shaju Sardar

Suranjit Sen Gupta complained one the basis of his tour experience that the affected people have lost confidence in the government.

Cry For Co-ordination:
NGOs Are In Shambles

The waves of death continue to appear in this land with all their crudity and diversity. At this hours of disaster and distress, the government, as it has already appeared, alone cannot cope with the situation. The non-governmental organisations, popularly known as NGOs, the past experiences say, can supplement the efforts. In what ways? Could they rise to the occasion properly and effectively? Farhad Mazhar writes:

Farhad Mazhar

The hotly debated issue in the NGO *para* now is co-ordination "A cry for urgent and effective co-ordination among NGOs" was the bold caption of a letter written on 4th of May by Md. Saidur Rahman, Country Representative of Oxfam-UK to his colleagues . The language of the letter was moving and mingled with emotion and frustration. Saidur wrote, "NGOs immediate intervention to save human lives is slow and very poor. As of pm of May 3rd, almost 90 hours after the cyclone struck the coast, only two organisation started food distribution in Hatiya and four in Chittagong and Cox's Bazar areas. Large number of worst hit areas have not yet been reached".

In the evening of 4th of May I was in Chokoria. From the Red Crescent and other local sources I was told that executives of BRAC and CARITAS was in the area but no relief operation had began until then. On 5th I was in Kutubdia and Mongnama. According to Mr. Shahabuddin, UNO of Kutubdia, EDM was planning to distribute terpaulins for housing. I categorically asked him about other NGOs. He could not give me any other names.

In Mongnama I saw Gonoshasthaya Kendra's jute relief bag in the hands of the people. Two soldiers who were engaged in mobilizing people to bury the dead bodies and the carcasses told me that they had to help Gonoshasthaya relief team because local Union Chairman and members were creating tension in food distribution. The road from Chokoria to Pekua is good for vehicle. To reach Mongnama any relief team would have to walk tor 4 to 5 kilometers from Pekua. It is difficult but not at all impossible. That means, if any NGO had the will to run the relief operation in Chokoria-Mongnama area, one of the worst affected spots, there was no reason why they could not do so

Inaccessibility to affected areas and lack of communication was excuses for many large NGOs to avoid their responsibility and social commitment. Many had resources to mobilize immediately but did not move until they got financial commitments from their respective donors. A slow and poor response is a sign of inefficiency and lack of will. Saidur Rahman is correct, NGOs are indeed guilty of not intervening in time to save human lives.

In an ADAB meeting Khushi Kabir of Nijera Kari also expressed her deep concern over the poor NGO to NGO co-ordination. A bit of realization of the massive destruction caused by the unprecedented cyclone should force any one to come closer to others to join in hands to face the tragedy collectively. The spirit was not there. The fetish of the paid voluntarism is taking its revenge.

Saidur Rahman gave a few examples to demonstrate the nature of non-coordination. There is a terrible lack of information sharing among the NGOs. NGOs often take pride in their professionalism. But listen to what Saidur Rahman had to say:

".....NGOs didn't know where to go, how to go, what to buy, where to buy from, how to transport the materials etc etc. Many NGO's don't have the latest situation report of the disaster. They don't have the information of who have gone where, what resources mobilised for which area, where to make pool of resources with small contribution from small NGO's etc. etc."

These criticisms are extremely serious. Lack of professionalism also costing valuable resources received from the donors. Chira (pressed rice) was bought on 1st May at the rate of Tk.800 per bag of 55Kg. Soon the markets of Kowran Bazar and Moulvi Bazar shot the price up to Tk1350. But it was still available at Tk 800 rate from factories of Tongi, Joydevpur, Narayanganj and Munshiganj. Similarly cost of transport also went up unnecessarily. A truck which was hired at the rate of Tk. 2,300 from Dhaka to Chittagong was paid Tk. 6,500 by a foreign agency.

While Saidur Rahman's agony should be appreciated as a self-criticism of the NGO community it is important to look deeper into the problem. NGO community is not a homogeneous body. Besides being divided by size and their connection to different types of donors there are serious division among them in terms of philosophical outlook and developmental practices.

Indeed lack of co-ordination does not mean much unless we identify the cause. If an NGO refuses to co-ordinate with another NGO because of the latter's lack of social commitment and insensitivity to community's need there is nothing wrong in it. If an NGO strongly believes that a disaster can be realistically managed only by involving the community to mobilize the popular spirit and organizational capabilities inherent in its social mechanism, there will definitely be conflict with this NGO with others who want to face disaster or conduct development activities with well paid "volunteers" who receive per diem while working out of station. These conflicts at the level of commitment and philosophy cannot be compromised but only dialectically resolved through ideological and practical struggle.

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Nevertheless in the name of "pro-democracy" movement the present leaders of ADAB had explicitly taken sides with political parties who were in opposition movement. The principal of non-partisanship had been openly violated for the sake of personal image. NGO leaders were perhaps nervous about their past relationship with the Ershad regime. They thought sacrificing one of their colleagues as the only "collaborator" with Ershad regime will clean them all. They were so afraid of the opposition movement that they wanted to erase all traces of collaboration. It was a naive political opportunism. A movement can not be democratic just because it is opposing a government and demanding removal of a person unless a clear democratic transformation is posited in the slogans and the political programmes. The change of the government in December left untouched the whole undemocratic structure of the state as had been anticipated. The existing NGO leaders of ADAB demonstrated very poor political wisdom and had risked to divide the NGO community only to remove one of their colleagues from ADAB without going deep into their real difference and the question of their clear stand for popular democracy. The trend of political opportunism to knock the opponent during confusing political events for vested interest has further complicated the relationship among the NGOs. It was indeed a terrible experience for many who were concerned about the developmental movement in Bangladesh.

The criticism of ADAB is nothing new. Many persons expressed serious doubt privately or publicly about the utility of this organization and its ability to perform what one expects them to do. The nature of the present conflict between NGOs has contributed further to its deterioration.

Given these realities I seriously doubt the possibility of any effective co-ordination among the NGOs. But in the face of the massive devastation caused by the 29 April surge NGOs will perform badly unless they repair the shamble they are plunged into now. There are already serious doubts raised whether the NGO community can at all manage a massive relief and rehabilitation programme which donors are demanding from them. One of my faint hope is that the present leadership of ADAB can take full advantage of the current situation and will repair the wound to a point where at least operational co-ordination can be established. We must save human lives at this moment without losing time as rightly expressed in Saidur Rahman's concern.

But for the long term NGOs must rethink seriously whether they at all need a central co-ordinating body like ADAB. NGOs must be allowed to form different consortia and groups on the basis of their philosophical dispositions and nature of work. There is nothing wrong to have two or three consortia, groups, networks, federations etc. who can co ordinate among themselves. Let there be many co-ordinating bodies and networks. This is an area where donors must think seriously as well because they often uncritically assume that the presence of a structure like ADAB is complementing to the development activities of Bangladesh. The reality points to the opposite.

In many cases to face the disaster of the 29 April NGOs in groups are co-operating among themselves without the mediation of ADAB. These are symptomatic of newer possibilities and must not be hindered in the name of a central co-ordination which no one can assure now. It will be quite positive indeed if different NGOs come close into groups according to their ideological affinity and working patterns to plan and execute a collective relief and rehabilitation programme.

Only a cohesive group can plan, execute and co-ordinate their activities in an efficient and professional manner. Unnecessary time should not be wasted to co-ordinate at a level which has been rendered impossible by the NGOs themselves. -- **11 May, 1991**

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Indeed lack of co-ordination does not mean much unless we identify the cause. If an NGO refuses to co-ordinate with another NGO because of the latter's lack of social commitment and insensitivity to community's need there is nothing wrong in it. If an NGO strongly believes that a disaster can be realistically managed only by involving the community to mobilize the popular spirit and organizational capabilities inherent in its social mechanism, there will definitely be conflict with this NGO with others who want to face disaster or conduct development activities with well paid "volunteers" who receive per diem while working out of station. These conflicts at the level of commitment and philosophy cannot be compromised but only dialectically resolved through ideological and practical struggle.

The hidden wound of deepest conflict at the level of ideology and approach to development activities manifested openly when a group of NGO leaders used the

political turmoil during the period of Ershad's fall to remove their opponent from the Chairmanship of ADAB. In a meeting five out of six members of the Self-Regulation Sub-committee of ADAB expressed that the removal was "illegal". The drama of this illegal removal to punish an opponent will be remembered as the darkest history of NGO movement in this country. Generally in the eye of the masses NGOs are seen as a negative force, agents of external powers to dominate and control their society and resources. While there are definitely forces of domination active in Bangladesh the general negative view of the NGOs as an enemy of the people is quite unfortunate. The NGO community never clarified, or perhaps never wanted to clarify their image and role in the society. The event of ADAB has further tarnished the image of NGOs which will take long time to be repaired.

The NGOs must have political clarity of what they are doing. Whether they are conscious of the political aspects of their activities or are insensitive and naive in this respect or not, developmental activities are political. But what distinctly places NGOs above the partisan politics is that they must remain non-partisan. Political content of the NGOs lies in the philosophical position and the nature of the respective institutions with regard to the relation with the civil society and the state. Unlike political parties NGOs are not instruments to capture political power. Their relation with the state and the government is based on the principle of non-partisanship. They can support or differ with the government with regard to a specific policy or approach. In this respect work of the NGOs must be judged on the basis of the content of a policy they are supporting or opposing.

On this principle present leaders of ADAB supported and collaborated with the Ershad government and the existing military-bureaucratic state on many occasion in the sphere of khas land distribution, cluster village formation, EPI programme, ORS distribution, etc. The list can be extended. I see nothing wrong in this collaboration and NGOs must not be intimidated by the vested political interest not to support a pro-people policies like Drug policy, Health policy or others. On the other hand it is not difficult to understand that there is essentially no difference in terms of class aspiration between the Ershad's Jatiya Party, Hasina's Awami League and Khaleda's BNP. As an NGO there is no glory in supporting Awami League or BNP.

Nevertheless in the name of "pro-democracy" movement the present leaders of ADAB had explicitly taken sides with political parties who were in opposition movement. The principal of non-partisanship had been openly violated for the sake of personal image. NGO leaders were perhaps nervous about their past relationship with the Ershad regime. They thought sacrificing one of their colleagues as the only "collaborator" with Ershad regime will clean them all. They were so afraid of the opposition movement that they wanted to erase all traces of collaboration. It was a naive political opportunism. A movement can not be democratic just because it is opposing a government and demanding removal of a person unless a clear democratic transformation is posited in the slogans and the political programmes. The change of the government in December left untouched the whole undemocratic structure of the state as had been anticipated. The existing NGO leaders of ADAB demonstrated very poor political wisdom and had risked to divide the NGO community only to remove one of their colleagues from ADAB without going deep into their real difference and the question of their clear stand for popular democracy. The trend of political opportunism to knock the opponent during confusing political events for vested interest has further complicated the relationship among the NGOs. It was indeed a terrible experience for many who were concerned about the developmental movement in Bangladesh.

It will be quite positive indeed if different NGOs come close into groups according to their ideological affinity and working patterns to plan and execute a collective relief and rehabilitation programme.

The criticism of ADAB is nothing new. Many persons expressed serious doubt privately or publicly about the utility of this organization and its ability to perform what one expects them to do. The nature of the present conflict between NGOs has contributed further to its deterioration.

Given these realities I seriously doubt the possibility of any effective co-ordination among the NGOs. But in the face of the massive devastation caused by the 29 April surge NGOs will perform badly unless they repair the shamble they are plunged into now. There are already serious doubts raised whether the NGO community can at all manage a massive relief and rehabilitation programme which donors are demanding from them. One of my faint hope is that the present leadership of ADAB can take full advantage of the current situation and will repair the wound to a point where at least operational co-ordination can be established. We must save human lives at this moment without losing time as rightly expressed in Saidur Rahman's concern.

But for the long term NGOs must rethink seriously whether they at all need a central co-ordinating body like ADAB. NGOs must be allowed to form different consortia and groups on the basis of their philosophical dispositions and nature of work. There is nothing wrong to have two or three consortia, groups, networks, federations etc. who can co ordinate among themselves. Let there be many co-ordinating bodies and networks. This is an area where donors must think seriously as well because they often uncritically assume that the presence of a structure like ADAB is complementing to the development activities of Bangladesh. The reality points to the opposite.

In many cases to face the disaster of the 29 April NGOs in groups are co-operating among themselves without the mediation of ADAB. These are symptomatic of newer possibilities and must not be hindered in the name of a central co-ordination which no one can assure now. It will be quite positive indeed if different NGOs come close into groups according to their ideological affinity and working patterns to plan and execute a collective relief and rehabilitation programme.

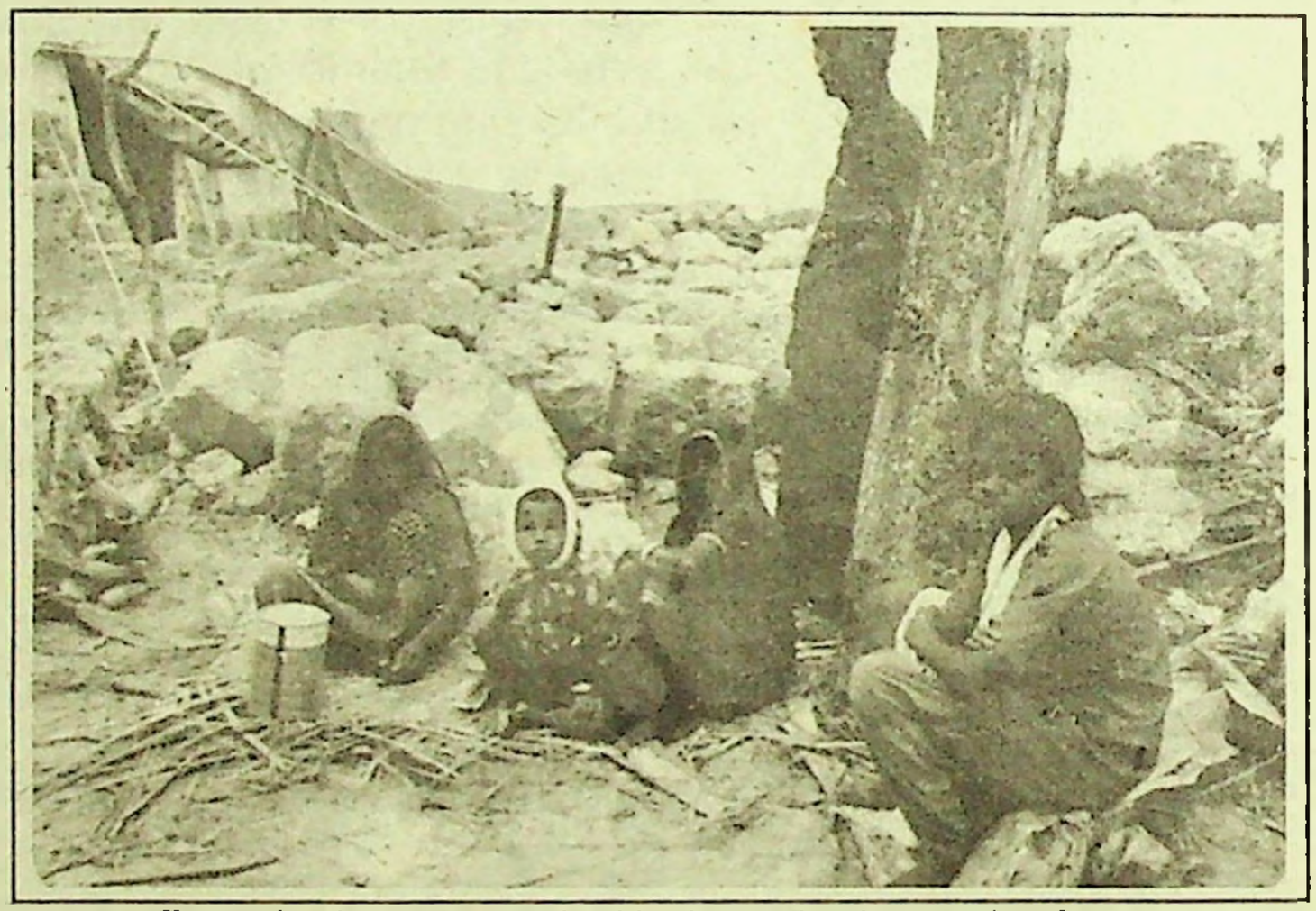
Only a cohesive group can plan, execute and co-ordinate their activities in an efficient and professional manner. Unnecessary time should not be wasted to co-ordinate at a level which has been rendered impossible by the NGOs themselves. -- **11 May, 1991**

Now tornado causes havoc

Nature seems to have chosen Bangladesh, the largest delta in the world as the target of ventilating her wrath in recent times. With the nation still writhing due to the aftershock of cyclone and tidal bore of April 29 that left a trail of devastation, another tornado has hit Gazipur, 28 kilometers from Dhaka on May 7. Sunday Express correspondent Iftekhar Hassan has filed the following report after an on-the-spot survey in the affected area.

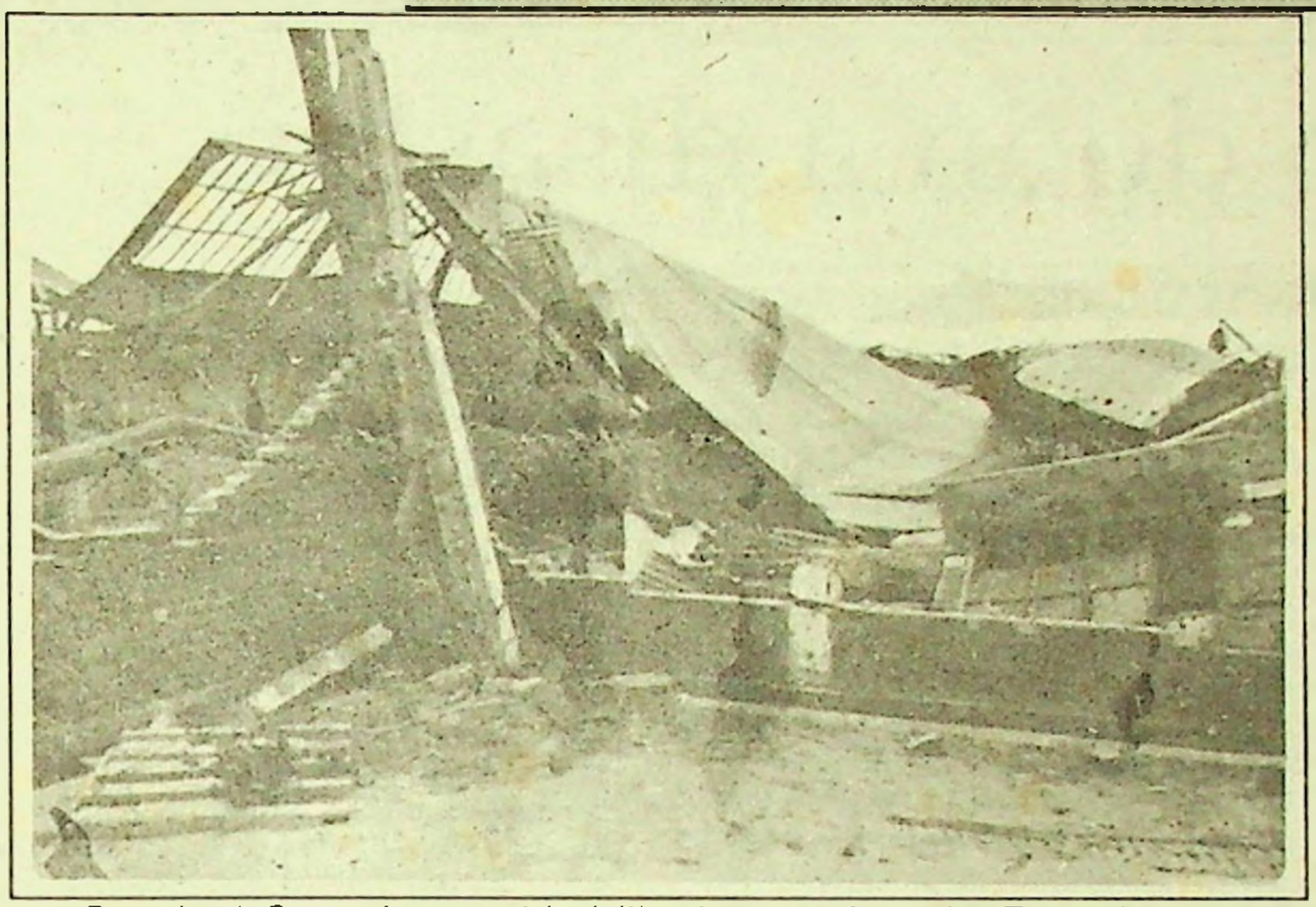
On May 7 at around six in the evening a devastating tornado hit the villages Naojor, Vogra, Sharifpur, Adepasha, Jhajar, Vegerchala, Polagach, Chhoidana, Hyderabad, Khailkur of Gazipur district. So far fortyfive deaths have been reported. More than five hundred people were injured. With many of them in critical condition the death toll may further rise.

According to the eye-witnesses on that fateful evening wind at great velocity started blowing from the south. It stopped for a while. The sudden toll was followed by black funnel of smoke swirling in at great speed. The guests and squalls were accompanied with hails and heavy downpour. Trees were uprooted. Walls fell and tin-sheds were seen flying like pieces of paper. The tornado weakened after causing extensive damage in a radius of 7/8 miles. The destructive power of the tornado was umbelievable. An under-construction ceramic industry was turned into a heap of rubble. The fifteen crore taka-industry was supposed to start working from June. Apart from this a drug manufacturing industry and Green Metal Industry were completely destroyed. The villages over which the tornado passed bear testimony to the destruction of the tornado. The 15" to 20" thick mud walls of most of the dwelling houses were levelled by the storm. In Sharifpur, six from one family were killed when the walls of a house collapsed. Seven people from one family in Jhajhar village died in the same manner. Police, Fire Service with the help from local people started rescue



Tornado that swooped with demonic destructive forces on May 7 left 90 percent of mud-walled houses levelled to the ground and also the girl (flanked by two women) orphaned in Gazipur.

WAVE OF DEATH



Standard Ceramic crumbled like house of cards. Tornado was the cause. Was that all? Or, defective construction to the neglect of design criteria, wind speed and earthquake could have anything to do? Imagine if people were there.

operation at around seven thirty. Army came in the scene at ten. Specially, Fire Servicemen earned everyone's praise for their work. The tornado has robbed sixteen thousand people of more than three thousand families of sixteen villages of their means of living. These people with no shed over their head are suffering from the scorching sun and rain and living a subhuman life at the moment.

--Iftekhar Hassan

Commentary

Hajj vs help for cyclone victims

"The flesh of them (of sacrificed animals) shall not reach God, neither their blood, but godliness (sincerity & devotion) from you shall reach Him." -- Al Quran. (22;37). This is how Islam looks at the things.. If anyone truly follows the Quranic teachings, he finds hardly any difficulty in setting before him the priorities. And what priorities at a time when the nation is passing through one of its worst and severest crises?

Religious sermons are however often misinterpreted only because that way things suit the traders of religions. Good men and poets in particular have always held man and man alone above every other things. In its unmitigated sufferings, the nation should, more than at any other times, come to grapple with this reality.

If doing good to people is anybody's aim and be one favoured with God, he has an opportunity before him. Performing Hajj surely earns for a Muslim God's blessings, but at this time of human distress serving the cause of humanity will be even more divinely rewarded (earn 'sawab'). And there exactly we feel tempted to offer a suggestion. If the prospective Hajis decided not to perform Hajj this year and instead went themselves or their representatives to the affected areas to help one or two families by building their houses and also providing them with other means of living, God would perhaps have been more pleased than perhaps if they visited the holy shrine. Will the men and women intending to visit Makkah follow the man from Baghdad--as quoted by Imams-- who donated all his painfully saved money to his neighbours who were eating rotten meat after days of starvation?

Stretch the idea and you can help without slaughtering animals on the occasion of Eid-ul-Azha at least this year. The benefit is double by way of sparing the already precariously reduced number of cows and oxen and also diverting the money so saved for the alleviation of sufferings of the cyclone affected people. Instead of slaughtering animals, give them to the people who have lost all their draft animals and milch cows. #

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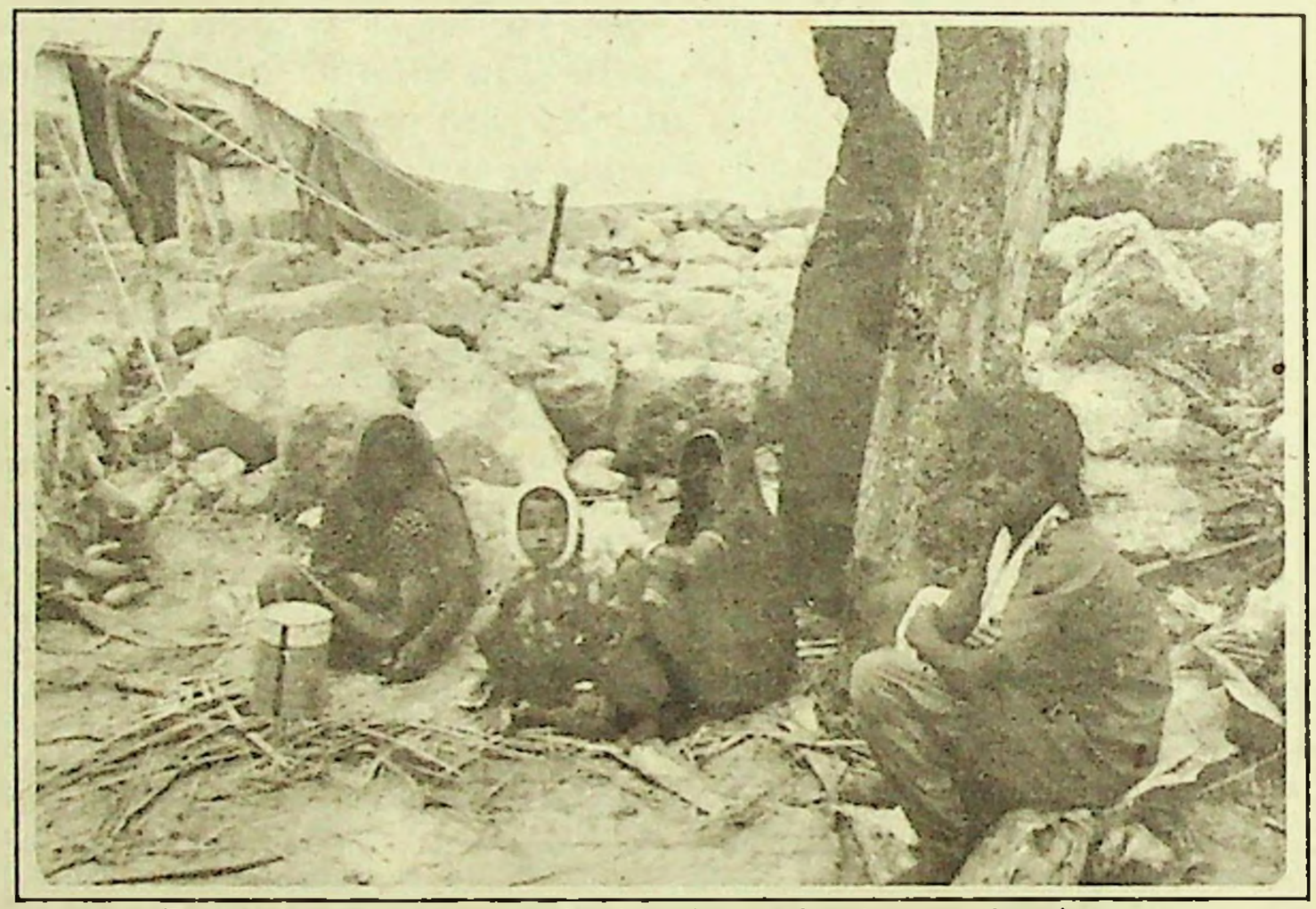

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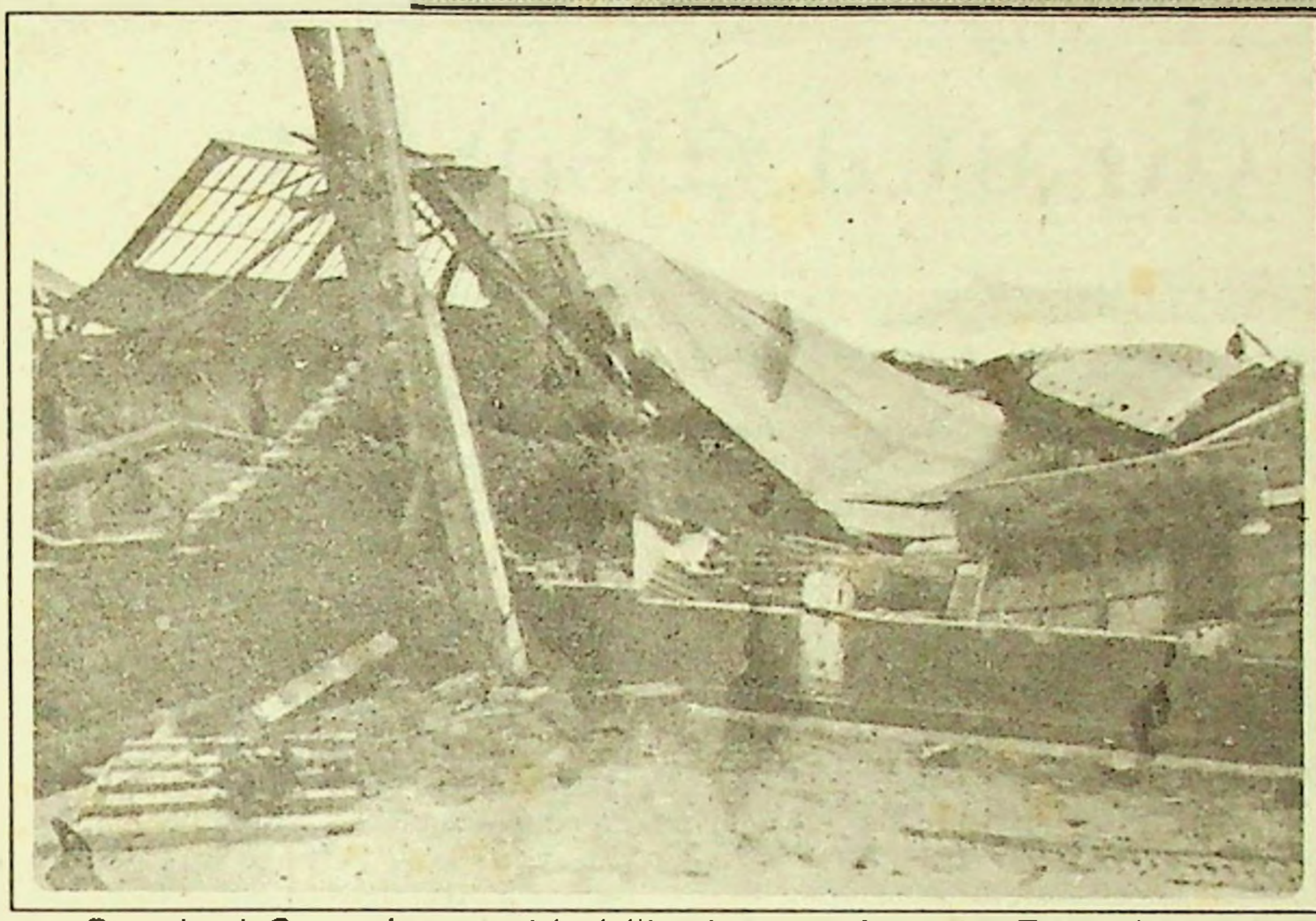

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What to do in a disaster:

A personal Account
By A Disaster Management Expert

Dr. Zafrullah Chowdhury

STARTING ON THE FOURTH OF MAY, 1991

I started for Chittagong on Saturday morning of the fourth May in a jeep with Saleha behind the wheel. Desperate hours were spent after the cyclone had hit the coastal belts of Bangladesh to collect information about the worst affected areas. It was extremely hard to pick up hints about the state of communication. At a point it seemed that inaccessibility to the affected areas has been taken for granted. The most vital information one needs immediately after a disaster is how to reach the affected area with relief and medical supplies. Unfortunately that information was lacking.

Mohammed Zakaria, member of the Board of Trust of GK, Farhad Mazhar of UBINIG, Mohammed Shafiuddin of Gonokalyan Trust and Md. Shiraz of SEDS accompanied me on this trip. It was a collective exercise to plan and operate the relief and rehabilitation.

GKT and SEDS are active in Satuna. UBINIG is a wellknown organization involved in research, advocacy and education on developmental issues. UBINIG has a programme with the poor community of the prawn seed collectors of Badarkhali for the last two years which is one of the worst affected areas.

Mohammed Zakaria was trying to arrange a ship to carry materials to Kutubdia and other affected areas. A large vessel was necessary to carry food, medical supplies and water. That would have been ideal, but it was difficult to arrange.

BANK WAS CLOSED: A HINDRANCE TO RELIEF PREPARATION

Our preparation for a massive and quick response had been seriously hindered due to the fact that the first of May was a national holiday. No Bank was open on that day. The following day was Thursday, bank operation was open only for the half of the day to be closed again till the next Saturday morning. It was difficult to mobilize fund and therefore the necessary purchase of relief materials was hampered. It manifests the lack of political will to face a disaster of such a massive magnitude.

From Feni onward the devastating effects of the cyclone was visible. On our way we did not meet any vehicle or truck that shows any sign of relief activities. However, shortly after Mirersharai we met two youth groups belonging to Islami Chattra Shibir raising funds for the distressed. In a Bazaar before the BNP office there was also a small group of 5 to 6 people raising money. They obviously belonged to BNP. We met no other political groups or organizations on our way to Cox's Bazar.

SHARIF & HIS TEAM: A GOOD SOURCE OF VITAL INFORMATION

From Chittagong we picked up Mianbhai, a friend of ours and a wellknown social worker. He took us to Bangla Bazar to see a barge and a ship thrown on the bank of Karnaphuli by the cyclone. Massive devastating power of the Cyclone was obvious.

We reached Chokoria slightly before seven in the evening. It was already dark. We met the relief team of Gonoshasthaya Kendra before the Upazilla Office. Two medical teams had already started operating and preparation was taken to start food distribution from the early next morning.

The field officer of Red Crescent at Chokoria informed us that he met with the people from BRAC and CARITAS but they had not brought any relief materials till then. GK relief medical team had already started working and planned their operation on the basis of the information available to Red Crescent and other sources. Here we first came to know that relief trucks can go upto Pekua and from there one can walk 3 to 4 kilometers to Mongnama which is badly affected. It therefore was not at all impossible to distribute food and water in this badly affected area.

When we reached Cox's Bazar it was already nine in the evening. We went straight to Red Crescent Office to meet the project officer Sk Sharif Ahmed. Sharif is an excellent and active person with the right kind of information one needs to plan a relief operation in his area. He briefed us about the devastation on the map of Cox's Bazar hanging from his wall. Here we also noticed the discrepancy between the government figure of deaths with the figures of Red Crescent. We also informed by Sharif that some of the information of the media was not correct. For example, Inqilab, a national daily reported that there is no one alive in Sonadia. This is completely wrong. Sonadia was not at all severely affected in terms of loss of life.

Sharif is familiar with GK and its mode of operation. To help us concretize our logistics, he offered to accompany us next morning with his 90 horsepower speedboat which he navigates himself. We planned to cover as much area as we

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could including Kutubdia. Masaaki Ohashi, delegate of League of Red Cross and Red Crescent Societies was scheduled to visit the affected areas. Sharif tagged us with that trip.

Sharif had already started to distribute relief bags and emergency nutritional rations on the basis of his available supply. In Cox's Bazar and adjacent areas 50, Kutubdia 400, Moheshkhali 300 and Chakoria150 relief bags were distributed by that day (4th of May) . Each relief bag contained 5kg of rice, 800Kg of pulse, 100gm salt, one matchbox and one candle. Besides the food bags 15 and 30 nutritional ration were distributed in Kutubdia and Moheshkhali. The nutritional ration is known as BP-4 Norwegian biscuits. It contains four 230gm compressed bars each of 1000 Kcal. The nutritional-composition is as follows:

protein 17.5%
fat 12%
carbohydrate 65%
Vitamin/mineral added.

Before we finished for the day Farhad went out to meet the leaders of Abhigyan Bigyan Kendra, a local organisation of students. We needed to organize roti production. Therefore the community must be encouraged to participate. The women also must be mobilized. The group was quite enthusiastic about roti production. Next day we all met members of Abhigyan Biggan Kendra and explained what we intended to do and it should be planned. In the mean time we also told them to look for if we can rent a bakery in Cox's Bazar to produce the nutritional biscuits which Gonoshasthay has recently formulated. The group were also asked to provide us with necessary information about transportation, trawlers and price of the necessary commodities.

We divided ourselves into three groups. Two went back to Chittagong. Shafi and Shiraz went to Chokoria to meet with the GK group operating there. Through Pekua they will try to reach Mongnama. Farhad accompanied me in Sharif's speedboat.

DESCRIBING THE EXPERIENCE

Next day (5th May) Sharif navigated the speedboat explaining the state of devastation while he was passing an area. We stopped at Dhalghata and Matarbari of Moheshkhali which was severly affected. The dead bodies and carcasses were still visible. According to Sharif 7000 out of 10,000 of the population are dead or missing in Matarbari. As far as the eye could go there was no house except two broken buildings by the bank. One of the broken brick structures was the salt crushing factory, the largest in the area. We spoke with a person of the salt factory who came to the bank noticing the speed boat approaching the shore. He said production cannot be restored until next season. In the mean time the machineries will be repaired and necessary preparation to launch production during the next season will be undertaken.

We enquired about the drinking water. Despite the terrible state of the situation it is not unavailable. Obviously in most cases one has to walk a long way to reach a tube well. But there are no sweet water available for cleaning and washing. The stagnant salt water polluted with caracasses and dead bodies has already become a serious health hazards for those who are still alive.

We steered by a small island named Kariardia. There is no tubewell in this island. It never had one.

Our next stop was at Ujantia where Red Crescent has a cyclone shelter. Here we met Jasimuddin Chowdhury, a Red Crescent volunteer. According to Jasim there are three thousand persons in the shelter. Until then he had received 8 bags of nce and 23 bags of chira (puffed rice). A medical team is also stationed here. Supply of medicine is not sufficient. Apart from that the doctor has shown us a container of paracetamol contaminated, supplied from abroad, by fungal growth.

It was an important realization for us that the cyclone shelter had not only saved the lives but was also providing a roof for many. It is often criticized as an useless vacant structure. Local people said that the last cyclone they saw was back in nineteen sixtyfive. The structure of the cyclone shelter has proved its utility after more than 25years.

Throughout whole journey, we found large number of dead animals. I counted over 170 in one hour journey. We next stopped at Kutubdia. **There were still unburied human bodies lying between the piles of dead livestocks. The acute rotten smell of decomposed human and animal flesh has made the air putrid and heavy. People around us seemed to have been quite accustomed to the scene and the smell. The experience evokes an absurd experiential state to the point of a surrealistic numbness as if we lost all our senses.**

Amid the debris what had brought us back to human emotion is the body of a little girl holding the rope of her goat tightly in her hand. One can easily visualise how she struggled hard to save her loving creature, an important member of her life. The relation of the rural population with their livestocks is extraordinarily intimate and human. It is important to note that a cursory assessment can tell that more than 95 percent of the livestock and the poultry have been destroyed in the cyclone.

From the steamer ghat we took a rickshaw to go to the Upazilla town. Bashar, the rickshawpuller, used to work in Chittagong as a baby taxi driver. He returned to Kutubdia to join his family during cyclone, but in the last moment he was seperated from the family by cyclone and tidal waves. Next morning he realised that 17 persons of his family are either dead or missing. He came back only a day before on 3rd of May. What had immeditaly impressed us is his enormous courage and emotional stamina to face the cruelty of nature and life. He is not waiting for relief or help from outside. Immediately on the road with a rickshaw to earn for the survivers of his family whom he does not want to leave, now he is back in Kutubdia.

Bashar forced the frame of our perspective to turn completely in a different direction. **The post-disaster reality must be seen from the perspective of the struggling courage of the people.** Therefore when we were passing through the devastated bazar we saw the life buzzing again with all its charm, despite the fact that except a few brick constructions there is no roof or house in the bazar. This was once a crowded bazar, almost every one walking or moving around us had lost dear members of the family. The feeling that we were going through a holocaust amid the piles of debris started to disappear when we noticed people already busy selling foods and necessary commodities. By the road side a group of people were squated around a tea shop. Bashar stopped his Rickshaw there and we ordered tea and poagula . Poagula, a local cake produced from flour and fried on oil. It was hot and tasty. Farhad tried to pronounce the name of the cake in local dialect and every one laughed at his poor performance. The tea was served without milk, but it was alright.

Next to the poagula tea shop little Sagira, a girl of hardly 11 years old was selling roti made of nce flour. She is selling roti sitting at the same place where her father had a shop. Except her mother rest of the 8 member family was missing or dead. She will now take care of her mother earning money by selling roti.

At the Red Crescent Office we learned more about the magnitude of devastation. **Asadullah Khan, the Red Crescent**

field officer has informed us that he had lost 103 persons among his family and kins. All the unions of Kutubdia was severely devasted. However the devastation and the death toll of Ali Akbar Dail was the highest. Seventy percent or more of the population of Khudiar Tek belonging to this Union are either dead or missing. According to the estimate of the Red Crescent volunteers on the average 25 to 30 percent of the population of Kutubdia are lost or dead.

Afterwards we went to meet Mr. Shahabuddin Ahmed, the Upazilla Nirbahi Officer(UNO). While we were entering Upazilla compound we saw army were preparing to distribute relief and people were gathering around the Upazilla building. According to the estimate of Mr. Ahmed, 40,000 (36%) people are either missing or dead in the Cyclone out of 110,000 of total population. According to 1981 figure compiled by the Bangladesh Bureau of Statistics total population of Kutubdia was 72,600 with equal proportion of men and women. It is not clear what was the basis of Mr. Ahmed's statistics. Discussing with the people around us we tried to make an assessment asking them to tell about their family and village. Perhaps the figure of the population died or missing are not going to be as high as it is estimated now for lack of concrete information. Mr. Ahmed reported that 99 percent of the houses and the livestocks are completely destroyed. The embankment is completely damaged. Fifty percent of the households lost their utensils. These were quite obvious. We walked and travelled around; wherever we went, we found demolition of 100% thatched houses, even some buildings.

Till then he had received 50 metric tons of rice. EDM is planning to distribute terpaulines as a temporary sheds. Mr. Shahabuddin thinks **it is difficult to use them since the minimum speed of the wind of the island is 25 miles per hour, it easily accelerates to 50 miles in odd weather.**

As an administrator he had already developed a plan and structure to meet the massive misery of his area. Apart from the distribution of the food he insisted that the priority should be given to pump out the stagnant polluted water as early as possible. The next priority is medical team and medicine.

While we were discussing with Mr. Shahabuddin, Mr. Khondoker Shahidul Alam, (presently Deputy Secretary of Commerce) newly apponted relief co-ordinator for Kutubdia arrived by Helicopter. He was a District Commissioner for Noakhali from 87 to 90. Shahabuddin did not know about the new appointment and seemed quite puzzled. The decision to bureaucratize the relief operation is not a good idea at all. The administration should encourage all local initiative. The bureacratic conflict may jeopardize the already channeled steps of operation undertaken by UNO.

Suddenly a staff of Mr.Shahabuddin told him that one Major was calling him downstair. Shahullah as a UNO felt emberassed before us because the military officer should rather come to him if he required anything. He told the staff, "tell him to come here". The conflict between the army and the UNO was obvious.

The young major entered the room with his red face. He demanded that he immediately needs three bamboos or long stands and three pieces of colored cloth. The air force is going to airdrop food. These flag poles will be used for identification above from the sky.

> The soldiers also reported that there was airdrop of food in the area However, they complained that one bag fell in the water and another one on the piles of dead bodies and carcasses. People were so hungry that they recovered the bag from the piles of decomposed bodies. The bag in the water could not be recovered.

The way he was all excited and wanted every one to be on their toe gave a feeling that the Air Force is going to airdrop food for a longer period of time. I asked him for clarification and learnt that the air drop was only for today. I was surprised why he could not organise three bamboos and three pieces of cloth.

I asked Shahabuddin where he exactly wants us to work. For proper co-ordination of the relief work he should be clear who is doing what in which area. He suggested that we should work in Ali Akbar Dail, specially in the area of Khudiar Tek, because it is worse affected. We told him that depending on our resources we want to work in two to threa unions and co-operate and co-ordinate with others who would be working in the same and other areas. We also met Mr. Faridul Islam, a lawyer by profession and the present chairman of Kutubdia upazilla. He also emphasised immediate provision of food, pumps and shelters for the surviving people. Mr. Faridul Islam and Mr. Shahabuddin Ahmed insisted that we must arrange pumps to pumpout saline water from ponds and install a good number of hand operated deep and shallow tubewells.

When we went out of the UNO office we saw whole place had been turned into a battle ground. The soldiers are openning each of the packets of the Norwegian biscuits and distributing two bars to each. But the ration was very limited. The deprived crowd were angry.

While I was discussing with the local people about the availability of necessary commodities **they complained about quite a high price for many essential items. Akkas bought 100gm of wire to rebuild his house. He paid 10 taka for it while it was only 1.50 to .2 taka before the cyclone. Many people told that Shakerullah, Chairman of Boroghope Union was not allowing any one to bring any materials to sell in Kutubdia. He is the most powerful trawler owner of the area. As a consequence he enjoys monopoly over the movement of commopdities and trade in the island.** Shakerullah was present when we were talking with the UNO.

From Kutubdia we went to Mongnama. There were dead bodies lying all over the places here as well. Near the embankment, half a kilometer far from the water we met Moulavi Zahurul Islam, Imam of the Zame Masjid (mosque) of Sharatguna. He with three other persons was pulling a dead cow by a rope to the river. He wanted to remove the bodies at least from main walking strip to the ghat.

Islam had lost 21 members of his family, he was the only surviver. I explained him that the body should be buried for health reasons. **If he pushed the body back to ocean it will float back again to Mongnama or to other banks causing health hazards for others. Despite his sad and emotionless face he listened to what I said. He was concerned for those who are still alive.**

Suddenly I noticed that he is carrying in his hand a jute bag which GK had been using for relief. For environmental reason we are trying our best to avoid the plastic bags. I asked him from where he received the relief. It was army, he replied, which was quite surprising for me. I reached inside his bag and found the slip that says "Gonoshasthaya Sheba" (means Gonoshyasthaya Service). He also said that

the relief was given to him with the promise that he will help to bury the dead bodies and carcasses for his own good. I was sure that GK relief team was operating near by.

Soon we met two soldiers who were trying to convince a group of people to bury the dead bodies and animal debris. We asked them who was distributing the relief in the area. They replied that GK relief team was here and they were helping them in distribution, because local Union and Chairman and members wanted to get the relief mostly for their favourite few. This is not a new information anyway.

The soldiers also reported that there was airdrop of food in the area. However, they complained that one bag fell in the water and another one on the piles of dead bodies and carcasses. People were so hungry that they recovered the bag from the piles of decomposed bodies. The bag in the water could not be recovered.

We returned to Cox's Bazar around 5 in the evening. Shafi and Shiraz had also returned from Chokoria. We sat with the Abhigyan group and explained the need for community participation to face a disaster of such a huge magnitude. They agreed to set up a roti production centre to reach a capacity of at least 20,000 a day. We were also informed that despite the damage caused to trawlers and the boats transporting rotis to Kutubdia or nearer places is feasible. The bakery was not available even if we pay a better price to rent. But more exploration was necessary.

We went back to Red Crescent Office to finalize our immediate plan after consultation with Sharif. I decided discussing with Farhad, Shafi and Shiraz that Gonoshasthaya should run its relief operation in Cox's Bazar and Kutubdia. For the time being the roti from Cox's Bazar will be transported to Kutubdia until we can set up a centre there. The medical team will also be working in these places. GK will also co-ordinate with the UBINIG relief activity at Badarkhali in their project area. If resources are available UBINIG may create condition for Gonoshasthaya Kendra for a larger operation in Badarkhali-Mongnama area.

We went back to Chittagong at night. Next day Shafi and Shiraz went back to Cox's Bazar to organize the roti production centre.

PRACTICAL CONCLUSIONS

a. Transportation of immediate relief material

1. Despite the severe disruption of the communication remotest areas were accessible. Transportation of relief

> Transportation of relief materials will be difficult but not at all impossible as is generally assumed.

materials will be difficult but not at all impossible as is generally assumed. The distribution of GK relief in Mongnama Union clearly shows we can operate fairly well by land in Chokona.

2. Kutubdia can be approached from Cox's Bazar using trawlers, fishing boats or large carrier vessel for immediate operation. It is quite possible set up a relief centre in Kutubdia.

3. Relief activities for Cox's Bazar and Moheshkhali can be operated from Cox's Bazar

4. The donors should realize that a significant portion of the relief fund will have to be spent for transportation.

b. Food pack and Roti production

1. Though the initial programme was for 4 weeks feeding; from our intensive visit of the island, it became imperative that we must continue modified free rationing in the form of family pack for 2 months (May & June). Second help with specified quantity of wheat flour would help maintaining minimum nutrition.

2. Distribution of food bags containing rice potatoes and pulses will continue in Chokoria, Cox's Bazar and Kutubdia. We are providing 6Kg rice, 3 Kg potatoes, 1 kg lentil (pulse), some onions and chilli in a family pack. Family pack ensures better distribution. Besides family pack of rice, potato and pulse, we distribute Pushti (nutritious) biscuits - 2 biscuits provide 500 calone for children.

3. Roti production can be immediately started in Cox's Bazar. Part of it will be distributed around Cox's Bazar area but in the beginning a major portion will be distributed in Kutubdia.

c. Housing must be treated as a relief rather than as rehabilitation only.

1. It is often assumed that housing comes under the rehabilitation programme and not as a component of emergency relief. But information shows that people are not only hungry, they are living under the open sky without any shelter. Something must be done immediately.

2. The cost of repairing a house may exceed Tk. 2000/= per family.

d. Task of the medical team

1. The burial of the dead bodies and the caracasses should be the primary concern of the medical team

2. In many places we found dead bodies could not be buried because a shovel was not available. Medical team must carry shovel with them. GK team always carry shovel and few other similar instruments In a post-disaster situation a shovel must be considered as an essential device of preventive health care.

3. To pump out the stagnant and polluted water at least 50 pumps will have to be sent to the area. Once the polluted water is drained out the ponds will retain the sweet water from the rain

e. Drinking Water

1. Most of the areas will need deep tubewell. With support from Public Health department of GOB, GK intends to provide deep tubewells. It may be costly but it is imperative.

2. For necessary arrangement we had met there Mr. Kaderuzzaman, with the Superintendent Engineer of the Public Health Engineering, who travelled from Dhaka to inspect situation of drinking water and sanitation.

f. Monitoring and Reporting

1. For efficiency in operation monitoring and reporting is extremely necessary. Given the experience UBINiG has in this field they will be entrusted to collect necessary data from the field to help the GK team to properly identify the right beneficiaries.

2. UBINIG will also provide a midterm report before providing the final report of relief operation.

3. A joint GK-UBINIG team will be working for a quick survey primarily to identify the households to receive housing relief and families who will require long time relief. The survey will be the preliminery basis to plan and concretize the post-relief rehabilitattion programme. A one-day training and orientation will be required was conducted by UBINIG.

Dr. Zafrullah Chowdhury is a prominant leader at the NGO level. After the cyclone he had been to some of the worst hit areas. Sunday Express brings readers an abridged version of the essay he wrote on his return to the capital. The views expressed by Dr. Chowdhury are of his own and not necessarily shared by the Sunday Express Editorial Board.

WAVE OF DEATH

Inadequate relief goods

The government version is that relief is enough and reaching the affected people. Is it so? Reports however speak quite different things.

Till the writing of this report the scarcity of life saving and essential materials in the cyclone-hit areas, according to different sources, has become acute. Most of the airdroppings are getting wasted after falling into water. Rice, wheat are of no use to those who neither have utensils nor firewood to cook them. Dressing materials like sari, lungi are not priorities now. What they need most of all now is drinking water. The attempts at private or non-government levels to make up for the pathetic failure of the government to tackle the post-cyclone situation have not met with success because of the failure of the communication system. Specially it has not yet been possible to reach the islands because of the rough sea and the strong wind blowing at 70/75 km/ph. Helicopter is the only means. But they are unavoidable for that purpose.

Although the government is trying to restrict the figure of deaths within lakh the Leader of the Opposition has claimed it to be more than five lakhs. Many more are almost certain to die from diarrhoea, lack of food and water and medicare. Mentionably, more than one lakh people died in diarrhoea and from the want of relief material following the great cyclone in 1970. Diarrhoea has already broken out as an epidemic. A field worker of an NGO, Babul Chowdhury on his return from Sandwip said, "Loose motion started in some of them while they were talking with us." On returning Dhaka on May 8, he said, 'Four days after the disaster 16 sacks of chira (beaten rice) were dropped at Sandwip. Elsewhere there was no relief materials'. On May 6, a government and two private vessels reached the shore braving inclement weather and rough sea. But how far they progressed it was not known. Relief materials have reached in plenty at Banshkhali because the communication system is alright there.

Rice	Wheat	Biscuit	Sari	Lungi
4,700 mt	21,050 mt	600 cartons 2,000 tin	5,000 pieces	5,000 pieces

According to government source, four deputy secretaries and eight assistant secretaries have been drafted in the relief cell at Airport, President's Secretariat, and Central Relief Control Room. The government relief fund is totally empty now. Till the budget for the new year is announced there will be no change in the situation. What has been spent so on, the government level far have come from prime ministers' relief fund. The fund has been drawn from the finance department through special allotment. The relief fund of the deposed president Ershad has now been changed into Prime Minister Khaleda Zia's fund. The break-up of dispatched government relief materials from April 29 to May 6 in the affected areas Chittagong, Cox's Bazar, Noakhali, Feni, Laxmipur, Bhola, Patuakhali, Barguna, Barisal, Bagerhat, Satkhira, Khulna is given below:

Comparatively Chittagong and Cox's Bazar got more relief materials than other places. In Chittagong 300 metric tonnes of rice, 100 mt of wheat, 400 pieces of sari, at Cox's Bazar 450 mt of rice, 200 mt of wheat, 500 pieces of sari were distributed. Apart from these only 5,000 jerry cans of water were given. Taka one crore was given to different district administrators for cash distribution and another 50 lakh was given to buy relief materials for the afflicted people. Every year the bulk of the government relief fund is spent on the renovation of different institution or historical places. Although natural calamities are a yearly phenomenon here, the government relief fund is like a drop of water in a desert. At present at least Taka 10 crore is needed on emergency basis for relief operations. Also manpower is needed to reach the relief materials to the afflicted people. The government performance so far has been very disappointing.

--Shehabuddin Kisslu

WAVE OF DEATH

" This is not a time to be over critical, it is a time to pull together....."

Julian Francis

The cyclone struck Bangladesh on my birthday so it is unlikely that I will ever forget this one. In fact as I write this in Dhaka on 9th May the wind is howling outside and the driving rain has forced its way in to the house. I am lucky to have one !

Half my life has been spent in the Indian Sub-continent and I have been personally involved in many disaster situations starting with the aftermath of the Bihar (India) Famine in 1966/67. After that the Bangladesh Refugee Relief Programme in India in 1971, drought and floods in Western India in 1972, an earthquake in northern India in 1975, and more recently the floods in Bangladesh in 1987 and 1988.

The lessons I have learnt have been many. One of the most important is to have respect for indigenous and local wisdom which is something that most "foreign" experts totally disregard. They believe that *they* are the experts. I disagree. Local people often have a sensible solution to most problems however difficult they may be. In Bangladesh, for instance, local people *are* the experts as far as re-afforestation is concerned but rarely are their voices heard. Even if they are illiterate, that does not mean they are uneducated. They know the right mixture of tree species that should be grown in their local soil. No foreign expertise can improve on this.

And in the floods of 1988 or at the time of the 29th April tidal surge what did local wisdom organize? Banana trees saved many an animal by being tied on either side of the animal to make them buoyant; handpumps were unbolted from tubewells and thick long bamboos were jammed in the pipes to prevent sea water from ruining the drinking water supply. Children were tied to upper branches of trees and some survived; NGO development workers on Sandwip tied themselves together with ropes and tied the ropes to their project office building and managed to ride out the fury of the cyclone so successfully, in fact, that they were able to go out with the same ropes and rescue people in the dark of the night. They are the experts and they are right here. Foreigners with their often untried disaster-preparedness plans may have worked out theories in some air-conditioned room but they do not have the essential practical experience.

SPARRSO and other meteorologists gave all the right information and many people must surely survived because of their warnings. The question the weathermen and others must have been asking is why the Air Force and the Navy were not able to take some action to prevent the heavy damage caused to planes and ships all of which would have been pressed into service now?

There may be many other questions and criticisms. It is easy to criticise the Government and the official machinery. It is often very convenient to do so. However, based on my past experience, **I wonder how many of us have spared a thought for the many Government and local officials posted and living in the devastated areas. They may have lost members of their own families. They, at least for a few days, will have been in a state of shock just like many others. This one of the human reasons that may have delayed a quick response.**

This is not a time to be over critical, it is a time to pull together and help keep people alive bearing in mind that the monsoon is round the corner and the next few months will be very difficult. As far as the NGOs are concerned it is clear that the larger ones, particularly those with ongoing development projects and staff in the affected areas, moved swiftly and according to their own emergency plans. The large NGOs like BRAC, PROSHIKA, GK, CARITAS, CCDB, CARE, RDRS,OXFAM were able to deploy large numbers of staff and materials quickly. Others such as CONCERN and SCF(UK) who have highly skilled staff experienced in disaster work were able to move quickly and have an immediate impact in conjunction with other organizations more locally based. However, coordination of NGOs at any time is always a headache because all of us want to do our own thing and keep our independence and we want our independence to be visible so that the donors can identify us. Many smaller NGOs, not based in the disaster area, have, quite naturally, wanted to rush with personnel and cash. It would be more useful if these NGOs linked up with the bigger ones to have a more meaningful impact. Now that ADAB has an office in Chittagong and Cox's Bazar, it is hoped that such arrangements would be possible. All resources available-cash, appropriate materials, transport etc.- are limited and must be used judiciously and efficiently. This needs strong and diplomatic coordination at all levels but through all the work that is done a lot of attention must be paid to the felt needs of the affected communities and to local wisdom.

Julian Francis works for the Canadian International Development Organisation, CUSO and has been based in Dhaka since 1985.

Reconstruction of Chittagong Port cannot wait

The Chittagong Port is the country's principal port, which--on an annual basis--handles nearly three quarters of its foreign trade. The April 29 cyclone has rendered the heart of the country's foreign trade totally inopetative. Our Financial Analyst analyses the situation and suggests remedies:

The damages caused by the 29-30 April cyclone and accompanying tidal bore are still to be fully ascertained. The preliminary assessments already indicate that in terms of the trail of destruction it has left behind--this cyclone is one of the severest calamities faced by any nation in recorded history. Why should this over-populated and impoverished land where people are continuously struggling to eke out a living should face on a regular basis such wrath of nature? It is a question that is reverberating in the minds of people across the world. But, nature does not have to answer this question. Perhaps it is the mankind that bears the responsibility of coming up with an answer. It is the mankind which has through ages abused the nature--it is human greed that causes the ocean to rise in anger and the wind to blow in fury. Geographically small and economically insignificant, Bangladesh just happens to be in the longitudinal and latitudinal coordinates where the wrath of nature slighted by humans assume demonic proportions.

Now, when a stunned government--and a nation--is starting to pick up the pieces and getting on the long and uphill journey towards restoration of normalcy, the cyclone's trail of devastation is slowly, but surely, assuming another dimension which will be felt by the economy of Bangladesh within a very short time. This devastation will not be accompanied with the crashing sound of a cyclone but will spread with the quite stealth of a malignant cancer--with a crippled Chittagong Port as the point of origin.

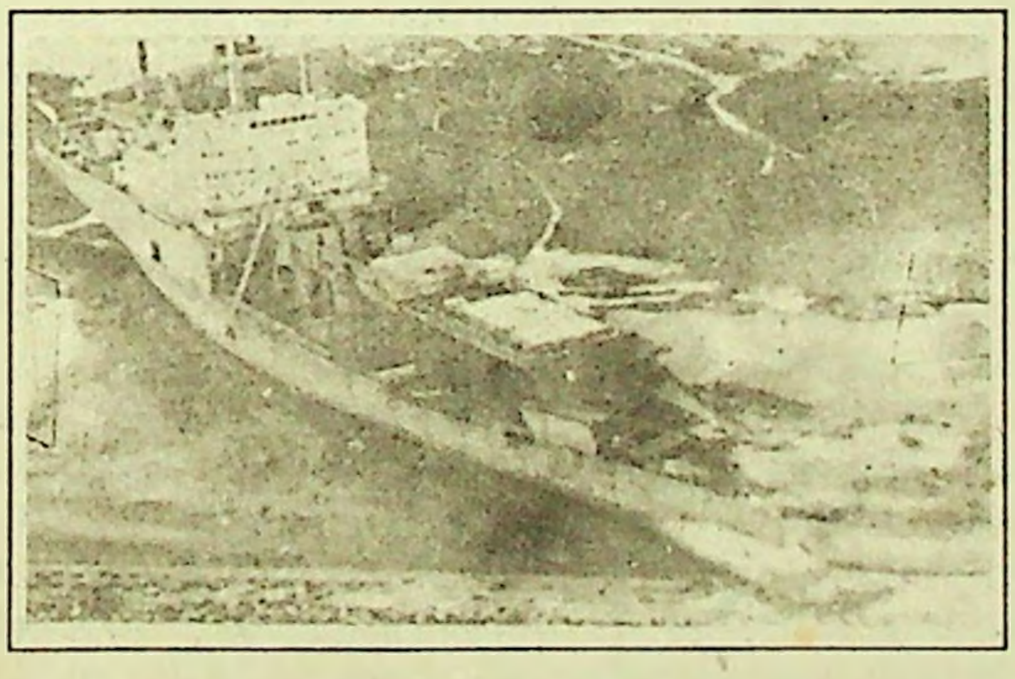
The Chittagong Port is the country's principal port which, on an annual basis, handles nearly three-quarters of its foreign trade. In the six-month period ending in December 1990, the Chittagong Port handled 3.4 million tons of import cargo and 575,000 tons of export cargo. The port has 19 jetties for berthing of ocean-going vessels of which 15 are permanent concrete jetties, two are pontoon jetties, one is a timber-jetty and another one is a light concrete jetty. Two of the jetties are multipurpose jetties used for container handling. In addition, the port has eight mooring berths, one lighterage jetty and four public sector jetties.

Between the port and the confluence of Karnaphuli with the Bay of Bengal there is an approach channel of about 16 kilometres while the port jetties are designed to accommodate vessels of draft upto 9.14 metres, the limiting factor for permissible vessel draft is the depth of water of the "Outer", "Inner" and "Gupta" Bars on the approach channel. The port authority has very little dredging capacity which is less than enough for maintenance dredging. 'Karnaphuli' which is a 375 cubic meter capacity dredger was procured in 1954 and has long outlined its economic life. The only other dredger that the port authority owns is 'Al- Amanat' which has a hopper capacity of 1150 cubic meters. As a result of limited dredging capacity Chittagong Port has a normal draft limit of 8.5 meters.

This cyclone has been specially cruel to Chittagong Port and it is not going to be a 'normal time' for the port for a long time-- how long

depends on a number of critical factors. Most of the mobile gantries have been made inoperative by the cyclone and storage sheds damaged. Fifteen ships have sunk in the approach channel which will make navigation along the channel extremely hazardous. Furthermore, silt and debris have raised the channel bed.

Given the economy's overwhelming dependence on imports, the Chittagong Port can be compared to the heart of a human. It it does not function well and imports and exports are restricted, economic activities throughout the country will a suffer serious setback. The port's reduced operational capacity is already a matter of immediate concern as it is linked with the inflow of foodgrains into the country. The government has a 800,000 ton foodgrain stock which is being used up very quickly to meet food required by the people in the cyclone affected areas. Given the foodcrop loss caused by



the cyclone there is little prospect that the draw-down of government foodgrains stock can be replenished from local procurement. While Bangladesh will qualify for significantly enhanced levels of food aid from donors, the country's major port does not have sufficient operational capacity at present to handle the incoming food shipments. According to a report, two ships carrying foodgrain from Australia are already waiting in the outer anchorage while the port authority is working hard to restore as much operational capability as it can.

The port authority and the government have already done a commendable job in making the port operational--albeit to a limited extent. Power systems have been repaired and the mobile gantries are now operational. The points where the 15 ships have submerged have been charted and the approach channel has been made operational. The port, however, can only work the during daytime and take in vessels with upto 7.5 meter draft.

There is a limit to which traffic can be diverted from the Chittagong to the Chalna Port. Thus, unless immediate steps are taken to increase channel navigability through dredging and salvage operations the economy will experience severe supply shortages. Such steps should include immediate repair and rehabilitation of the floating crane which submerged partially after the striking of Karnaphuli Bridge. In case of rehabilitation and reconstruction of Chittagong Port, the immediate should mean 'now' and the government should not hesitate using its own cash resources for this purpose since case getting financial assistance from donors take time. The overriding consideration in this case should

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be that if Chittagong Port cannot be made fully operational within the shortest possible time, the country's capability to import much needed relief materials--including food and medicine and building materials as well as critical raw materials e.g., petroleum--will be constrained which will bear high cost, perhaps even in terms of human lives. That is the short term dimension of the problem. In the medium to long term framework Bangladesh will have to think of starting a cyclone rehabilitation and reconstruction programme. The inputs for this programme e.g., cement, machinery, etc., will have to be imported and transported to the cyclone affected areas before the onset of the next monsoon. Otherwise the duration of the misery of the people in the coastal belt of Bangladesh will be unduly long.

–Express Report

Catastrophe as Pornogrpahy and Public Relations

Wilma Van Berkel

Wilma Van Berkel is a Canadian freelance management consultant. For the past two years she has been on a sabbatical journey--largely across Asia. Her incisive comment on journalism demands attention. WVB writes for Sunday Express.

Since coming to Bangladesh, I have been taken aback by the newspaper "journalism" in this country. The obsession with printing photographs of corpses--be they from traffic accidents, industrial fires or natural catastrophe--and the blatant tendency of the newspapers to play a public relations role for selected groups and individuals seem to have no limits whatsoever. For example, listing of all of the participants at a meeting is done without mentioning what was said.

The recent tragic cyclone has raised these tendencies to a still newer, and in my view, completely irresponsible level which must be acknowledged and challenged.

Pornography

Last week, I was appalled and horrified when i picked up the Saturday, May 4 edition of "The Daily Ittefaq" to see two extremely chilling and graphic photographs of corpses on the front cover. I tossed it down. Picking up some of the other papers, I noticed that they were only slightly less obscene. I forced myself to look at the Ittefaq again and I felt my anger growing.

Let me describe the pictures for those who missed them. One is the picture of a dead woman with a baby hanging from her abdomen. Both corpses are swollen and disfigured. The exact centre and focus of the photograph is one exposed and disfigured breast of the woman with the nipple swollen and erect. The other is of a completely naked, swollen female corpse hanging from a tree branch with a man in the corner of the frame looking up at her.

What can possibly be the purpose of printing such pictures? It might be argued that they highlight the tragedy of the people who were caught and perished in the cyclone. For me, this does not capture the tragedy of their suffering. Rather, it is the degradation of a corpse which should be buried, not photographed. Although those of us who did not experience this cyclone firsthand have some difficulty comprehending the scale of this disaster-- such photos do not help. They numb us further.

I contend that these photographs have only one purpose--to capitalize on the tragedy of people in order to sell newspapers. Because unfortunately, some people are drawn to such things. But responsible journalists rise above such temptation. Such photos which degrade the victims are a disgrace. It is not journalism. It is obscene pornography, and the Ittefaq, and others who follow this path, are functioning as pornographers!

Public Relations

Throughout the cyclone and its aftermath, the tendency towards journalism as public relations continues. When there is a section on relief it reads like an organizational directory--such and such a

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group gave relief to this and that fund. Pieces about international and non-governmental organizations are the same-- often not listing the area where relief is going. The most important part of the articles clearly are the headings or sub- headings listing the donors. Or there are articles about relief coordination meetings which use this "so and so spoke" or "so and so reported" style without providing the salient and important points.

The need for concrete information

Too much valuable text in newspapers is being spent on public relations for certain individuals, groups and agencies. Too much valuable space is being used on appalling pictures which numb or unfortunately, titillate the viewers.

In this time of crisis in Bangladesh, what is needed most is solid information--where is the damage? What are transport conditions? What materials and help are needed? What are the specific relief operations? Where is information being gathered? Who is doing what and who is not doing what they should be doing? This is concrete information that will help with the relief and rehabilitation works which are going on at this moment. People need to be mobilized to concrete action!

In order that I cannot rightly be accused of merely complaining about the situation and not offering any alternatives, here are two specific suggestions:

Photographs about the tragedy could show the physical devastation and could highlight the personal situation of the survivors but they could also highlight the relief and rehabilitation work which is going on. Not the Armed Forces Officer ceremoniously handing over a sack of wheat, not another picture of P.M. Khaleda Zia looking distressed but photos of individual initiative, courage and resourcefulness the affected people attempting to put their lives back together, the spontaneous generosity of the unaffected people in gathering food, clothing and medicines which is going on all around. Photos which inspire people to join in the effort to provide relief on the ground.

It would be utopian, I suppose, to suggest that all of the public relations stop, as perhaps some groups require mention in the newspaper as a payment for their generosity. But I would suggest a major addition to each and every paper. Cries for coordination to the relief have been coming from every quarter and various groups from within government, in the private sector and in the NGO sector are not very effectively trying to fill this role. I contend that in such a situation the newspapers have a valuable role to play in helping to fill this gap.

All newsppaer reporters, correspondents etc who report from various areas must be instructed to find out as much concrete information as possible about aspects which will assist the relief and rehabilitation. Answers to some of the questions which are listed above--what is the extent of the damage in an area?

how many survivors are there and what is the extent of their need? what relief is on its way to a particular area? what groups are assisting?--this information should be collated and presented in a manner which will assist with the relief work. Listed perphas by upazila so that it will become clear which areas are being served and which are not.

Newspapers should open their phone lines and encourage groups and individuals to report concrete information they have to any of the papers and this information should be shared between all papers. Perhaps a team of writers, one from each paper could do the work together. I imagine a situation where, whenever such a disaster occurs, each of the daily Bengali and English papers will have an entire page--or more if needed--devoted to this type of solid, concrete and absolutely necessary information. As well, free classified advertisements from people offering transport or goods, highlights of urgent requests in different areas and pieces celebrating the small victories.

One might ask if this is really the role of newspapers--or the role of other groups or government? Perhaps in time--but it is an important gap now and the daily newspapers are already in the business of collecting and reporting information and getting this out in a short space of time to the widest possible number of people. It is a natural extension of this role.

Focussing on the dead is degrading and demoralizing. Focussing on the donors is public relations. What is needed is a focus on the survivors and how all available resources can be mobilized to unite with their efforts to recover from natural catastrophe which human effort can overcome.

Photographs about the tragedy could show the physical devastation and could highlight the personal situation of the survivors but they could also highlight the relief and rehabilitation work which is going on. Not the Armed Forces Officer ceremoniously handing over a sack of wheat, not another picture of P.M. Khaleda Zia looking distressed but photos of individual initiative, courage and resourcefulness the affected people attempting to put their lives back together, the spontaneous generosity of the unaffected people in gathering food, clothing and medicines which is going on all around. Photos which inspire people to join in the effort to provide relief on the ground.

NGO as Pornographer

Recently the Voluntary Health Services Society of Dhaka has printed a very large poster. The major part of the poster was covered by the two horrifying pictures of disfigured and naked corpses of women from the May 4, 1991 edition of "Daily Ittefaq" newspaper. The only printed information of the poster were the name, address and phone number of the VHSS.

Appalled, I called up VHSS and spoke to a Doctor Shabnam. What is the purpose of this poster? Are you asking for something? No, No was the response. It is only to publicize this disaster and to encourage people to help. Why did you choose these pictures? They were chosen at random. They are not our photographs, we got them out of the newspaper.

I then explained my perception of these pictures as pornographic and that I was shocked and appalled to see an organization highlight them in this way. If an organization is going to spend money on a poster at this time, I said, better they printed one listing materials required and groups to contact. I demanded that the poster be withdrawn immediately.

Dr. Shabnam responded that they certainly did not think the pictures were pornographic and they were not chosen for this purpose but that she would discuss the issue with her seniors. #

Communications problem halts relief operation

Those who have survived the battering of the cyclone and tidal surge are experiencing a death-in-life situation in the affected areas. Without food and drinking water under the open sky. Relief operations of the government has left a lot to be desired. Specially a remark by the communications minister Col (Retd) Oli Ahmed has raised question in the minds of people. Ahmed said, "Nothing has happened at Sandwip. There is no need for relief in that place." Those engaged in the relief operations can testify to this appalling situation. Various NGOs and voluntary organisations are continuing their relief operations in full swing in the affected areas. Khushi Kabir is the managing director of one such NGO named 'Nijera Kori'. On May 3, she went to Chittagong to stand by the helpless people. She could not go beyond the perimeter of Chittagong for some unavoidable reasons. Back in the capital, she talks to *Sunday Express:*

Tell us of your experiences in the affected areas.

I reached Chittagong on May 3. Our workers had already been working there. Chittagong looked like a haunted city. No electricity. Corpses and the carrion everywhere. The air was filled with stench. No food, no potable water. People stopped our car and asked for food. People irrespective of their class, status have been levelled by the storm. This is what I saw in Chittagong city. We could not elsewhere for the disruption of communication system. The intensity of this cyclone was greater than that of 1970. You simply cannot imagine it from here.

What measures have you seen on the government level?

I did not see anything in the five days I stayed there. However a local ADM helped me a lot in the relief operations.

Do you t hink that relief operations now going on is enough?

I do not know exactly what is happening now. But things, as I have heard, have improved considerably. I gained bitter experiences during my sojourn there. Apart from the activists of the All Party Students Unity, I saw no one there. No government activities. Many people asked me why the relief and rehabilitation work was not started right away. No attempt was made to remove the dead bodies. "As the head of the government the president should have been there before anyone else. Whether they were being intentionally neglected; I could not answer their queries. One of my colleagues from Sandwip told me that the communications minister, Oli Ahmed said "Nothing happened at Sandwip. You give your aid and relief materials to us. We will make arrangements for proper distribution".

According to them the Haramia field of Sandwip upazila head quarters was high and dry enough for the landing of helicopter. But the helicopter on April 30 circled over the field but did not land. Hatiya is also severely affected. The way they are dropping food stuffs from air is not serving the purpose. Most of the food stuffs are landing in water. Rather they should go among the afflicted and start working.

The members of the armed forces were not very active initially. The reason is not known to me. Things have improved after high powered relief coordinator were sent to the affected areas. It would have been better had they kept all types of people in the relief committee--non-government and private. People have raised questions over this. However there is one bright sign. The government, opposition and the student alliance have held meeting with us. This is an encouraging sign for the new-found democracy.

What steps according to you should be taken to overcome the present crisis?

Well, it would have boosted the confidence of the people of Chittagong if the city could be cleaned and some drinking water be managed. The people in Chittagong are very disappointed and confused. They have a feeling of being neglected. They were not prepared for this. But I think the following measures should be taken immediately.

*** All concerned should be assembled to gear up the relief operations.**

*** The helpless afflicted should be moved to safer places.**

*** Arrangements should be made to send the volunteers in the affected areas.**

*** Instead of air-dropping the food stuffs people should taken those themselves.**

*** Instead of chira (beaten rice) and gur (molasses), rice should be provided.**

*** People of importance should refrain from making statements like Oli Ahmed so that volunteers can work in full throttle.**

*** The corpses and carrion should be cleared up immediately.@**

Shehabuddin Kisslu

The govt has admitted its failure says an NGO official

Jeffrey S. Pereira, executive director of 'Caritas', a leading NGO in the country, had recently been to the cyclone affected areas. On his return he talked to the *Sunday Express* correspondent on the relief operation of government and private voluntary organization.

On the overall situation in the affected areas.

The present crisis is unprecedented. Normally after a cyclone the weather becomes normal and the relief operations can be started immediately after the catastrophe. But this time the sea is yet very rough. Strong wind is blowing accompained with heavy rain. Relief work is severely hampered by these things. Diarrhoea has already broken out and with the rainy season in the offing. I am afraid things will soon go out of control. Mere supply of food will not serve any purpose. At the moment we are trying to implement five things. First we have to deal with the problem of drinking water. Water is being pumped out of the ponds and I don't think it is possible for us to carry out the whole plan, still we are trying to pump one or two ponds for each area. Water will be naturally purified by June-July.

You need a crop after such calamities. Maize and vegetables could be planted. But it is not possible for the saline water poured all over the place by the tidal surge. Cash for work will be a more effective measure under the present circumstances. Because with food for work programme.

You have a store of food in godowns and silos--a very lengthy process. The government should take up project of building dykes on priority basis. There is no other way of checking the rush of saline water from the sea.

The government has not taken up cash for work programme...

No. It has not but we the NGOs have already started it although the possibility of success in very slim.

Are you carrying out survey on your own?

Nothing in black and white. We are trying to make do with the reports of our workers and their correspondences. It is not always possible to go to the spot. More so when the extent of damage is so vast and enormous. We have made base camps in the affected areas. Workers there will carry out a house to house survey. That is how we are trying to do it.

On the bureaucratic snags and bottlenecks in the distribution of relief materials by the government?

The government has already admitted its failure in this area. They made it clear that it is not possible for them to rise to the occasion.

On the sort of relief work the affected areas need most right now.

Firstly, dry food, something which you don't have to cook can be distributed readily. There are some foreign high protein biscuits, two or three of which is enough to provide calories for a day. The local biscuits Cookies, Bela will do also. In short you have to give them cooked or readily edible food stuff. After that comes the question of rehabilitation.

WAVE OF DEATH

It has been complained that the distribution of relief materials is not going on properly. What is the remedy?

It is happening because proper coordination has not been established yet. Suppose at one place 10 NGOs are working and none elsewhere. We will unitedly submit a plan to the government. Crop, cash for work, having will be there. We will give emphasis on the question of professional rehabilitation.

(After this he took this correspondent in the operation room to show their chart plan. That showed the things below:)

Supply of potable water in cans, repairing or pumping the ponds, dry food first aid antibiotic etc.

Diarrhoea at many places has broken in epidemic form. We are trying to check it.

Also supply of clothing like sari, lungi must be continued. Then housing. We are the only people who have built cyclone shelter. We have made twelve such shelters after the cyclone in '70. We have undertaken the plan of installing another 50. Apart from this we have a project of making tin-shed houses which cannot be started before September (He showed model of the tin shed house). By June we have to give a ration card to every family. We also have to ensure regular and weekly distribution. For the first phase of the plan we have allocated 12.5 million dollar and another 50 million taka for the second phase. Manpower is no problem at the moment.

What else the NGOs can do?

JP: It will be a great help to the suffering millions if we can accomplish the five point mentioned. We have to carry out a study on the recurring trend of such calamities. Asian Institute of Technology in Bangladesh can do this and we will take this responsibility but you must remember our ability is limited. We have more contacts then government.

How far is the relief work pragmatic? Is it sufficient?

I have been to different affected areas except Sandwip and Hatiya. Our ship will start for these place with relief goods on Monday or Tuesday. So far it has been impossible to reach these places because of inclement weather and rough sea. But one thing the relief operation has to be continued for a long time.

How, this cyclone is going to tell on the socio-economic condition of the country?

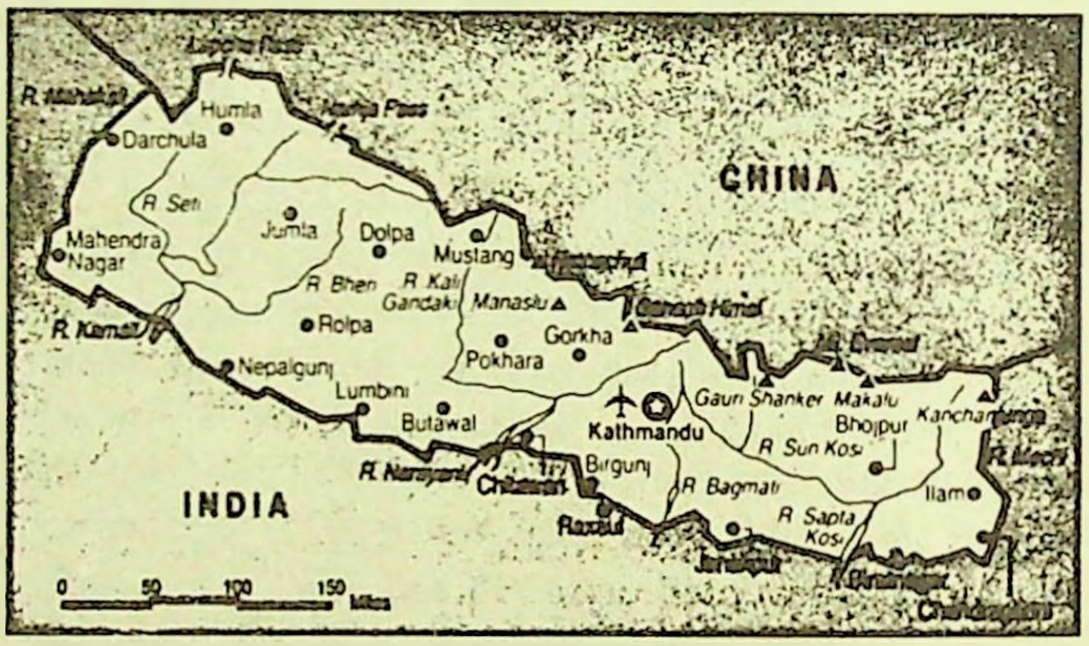
Had our's been a developed country. I would have said, we were finished. But this has become a regular phanomenon and time and again we have shown some kind of resilience and grit in overcoming such crises. Salt plants for example are finished. Many industries have been destroyed. Saline barriers are totally damaged and cannot be built again easily. All in all, I think the cyclone will have a catastrophic impact on the socio-economic condition of the country.

—Monirul Islam Nipu

Nepal's tortuous journey to democracy

Nepal is going democratic way. But still the country is under the monarchical shadow.

Nepal's nascent democracy faces a tough test on May 12 as the Himalayan Kingdom goes to polls, first of its kind in 32 years. The polls are to complete the process of a grand transition, from an absolute morarchy to a Westminister-type parliamentary democracy, which began last year when a popular uprising forced the all-powerful monarch, King Birendra Bir Bikram Shah Dev, to agree to reduce himself only to a constitutional one.



In 1959, under King Tribhuvan, the only previous such poll was held and Nepal experienced a brief spell of democracy. Hardly a year could be passed, King Mahendra, Trbhuvan's son and successor, banned party politics to introduce a partyless system which ensured his absolute powers in administrating the affairs of the state. King Birendra, son and successor of Mahendra, preferred to follow the footsteps of his father rather than to his grandfather.

Conceding to the pressures from the pro-democracy activists who took to the streets to oppose his role as the absolute ruler, King Birendra had to give consent to the formation of an interim administration to guide the nation through the process of transition. A coalition of the Nepali Congress and the Nepal Communist Party--the parties instrumental to the pro-democracy movement, the interim government was sworn in April 1990 with two prime responsibilities: 1) framing a democratic constitution and 2) holding general elections within a year.

Within six months or so, the interim government, headed by Congress leader Krishna Prasad Bhattarai, presented the country with a constitution that guarantees multi-party democracy, fundamental human and civil rights, and also reduces King's

status to constitutional monarch and vests sovereignty in the people. A successful holding of the May 12 elections will complete the Bhattarai administration's job.

1345 candidates in 205 constituencies will seek people's verdicts to form the new powerful legislature styled as the House of Representatives. Barring a very few independents, all of them are nominees of different political parties and 10.7 million eligible voters in a population of twenty million are to exercise their right to franchise.

The 11-member interim administration has promised a free, fair and impartial election. A National Election Observation Committee comprising the country's prominent personlities has been set up with the government's approval. Observers from 23 countries have already arrived to oversee the polling. In addition to 30,000 permanent security force, 42,000 temporary security personnel have been recruited to be deployed at 14,000 polling centres. The Election Commission has formulated a code of conduct which all parties agreed to abide by.

Though there are reports of sporadic electoral violence throughout the country, mainly due to the lack of democratic tolerance among party workers and activists who never had had the opportunity to practise it, most Nepalese are optimistic about fair election.

Some 24 small parties registered with the EC, are boycotting the polls alleging irregularities by the government and ruling parties. Many of these parties are believed to be the agents of such quarters who oppose the inauguration of democracy. There are speculations that these parties, who have no substantial popular support, might attempt to destabilize and discredit the democratic system. Another reason being cited is that some of the boycotting parties fear of being trapped in a constitutional provision requiring parties to secure at least three percent of the total votes cast as a precondition to get recognition as a national party.

The centrist Nepali Congress, which won a two-thirds majority in the 1959 polls, hopes to repeat its performance 32 years ago. Though opponents rule out such a possibility, very few dispute about its chances to emerge as the single largest party. In such a case, the Congress-Communist coalition is likely to continue. The leader of the Nepal Communist Party or the United Marxists and Leninists (UML) has already spoken of such an idea.

Political analysts in Nepal fear that if any of the parties fails to win an absolute majority, and a coalition does not follow to ensure stability, the King will have the opportunity to reassert his role. The King is still considered by the majority of his subjects, 70 percent of whom are illiterates, as the symbol of unity. Many of them even believe in the divinity of Kingship. The King may take the advantage of a hung parliament, manipulating the people's ignorance. The country's progressive intellingentia foresees such a situation. The leaders of the two major political parties have realised this and already urged the conscious segment of the society to keep guarding against any conspiracy of what they call the "revivalists". Successful holding of elections and transfer of power to

the elected government will not only institutionalise the new order, but also mark the world's only Hindu state's stepping into modern age.

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-- Toufique Imrose Khalidi

New JP equation in leadership

JP, the party Ershad floated some years ago to prop up his illegal regime, far from being disintegrated still moves on.

Contrary to speculations, the Jatiya Party (JP), the party of deposed autocrat Ershad is not going to be disintegrated in the near future. The main problem of the leaderless party is the grouping among its stalwarts. With Mizan Chowdhury in jail and Moazzem reluctant to join opposition politics, Moudud Ahmed, acting chairman and parliamentary party leader of the JP, is emerging as the lone star in the party. A firm believer in individual image than party image, Moudud has already cancelled any possibility of staging movement in next two years. In a recent meeting of the JP at Tongi Hasanuddin Sarkar said "In the event of punishment of our leader Ershad, we will go into the presidential polls with present party chairman Moudud Ahmed." Moudud's release from jail added a new dimension to JP politics. He did not go to Mizan Chowdhury's house, the make-shift office of the party immediately after his release. Interestingly, his first visit to that place coincided with the arrest of former acting chairman, Mizan Chowdhury. Moudud, it is learnt, was quite displeased with Mizan because his wife Hasna Moudud was insulted by some of Mizan's supporters. Moudud slowly assumed control of the party after Mizan's arrest. Moudud seems to have decided to proceed slowly. He has kept his options open for joining the BNP, the party now in power in a suitable time.

Among his possible rivals, Shah Moazzem is now a changed man. Like some of the so-called leftists he is now more intent on sharing power with the government than opposing it. Known as the most foul-mouthed politician, Moazzem was earlier fed up with Mizan Chowdhury. However Mizan never disturbed him and Moazzem formed a new committee with people like Amina Bari whom Ershad ousted from the party on Kazi Zafar's advice. Holding portfolios in seven of the nine years of Ershad regime, Moazzem no longer says, "I am honest"--an assertion he made after his release from jail where he was thrown into on charges of misappropriation of wheat.

Mizanur Rahman Chowdhury, who last went to jail in 1966 is now behind the bars in Jessore because of his political genosity, weakness and carelessness. Many blame his political secretary Sayeed Tareq for the downfall of the veteran JP leader. Once a JSD member, he got close to Mizan Chowdhury at the time of formation of Janadal. Recently he was taken in the fold of the JP although he did hardly any work for the party. More recently, he tried to incite the army by spreading leaflets. But they were seized before distribution. Wittingly or unwittingly, he courted disaster by associating himself with this mysterious figure. Many secrets about Ershad and the JP are known to this person. It will not be surprising if he tries to blackmail Ershad and others in the party.

Interestingly, his first visit to that place coincided with the arrest of former acting chairman, Mizan Chowdhury. Moudud, it is learnt, was quite displeased with Mizan because his wife Hasna Moudud was insulted by some of Mizan's supporters. Moudud slowly assumed control of the party after Mizan's arrest. Moudud seems to have decided to proceed slowly. He has kept his options open for joining the BNP, the party now in power in a suitable time.

Under the circumstances Moudud Ahmed looks most fortified. He has already drawn ex-BNP and NSF members around him. The leader of the parliamentary party of JP has already established himself as the only substitute to Ershad in the absence of Mizan, Zafar and Moazzem from the scene.

--Mahbub Chowdhury

Unmitigated tragedy

Nilratan Halder

A part of Bangladesh in the south has perished. Like it did in 1970. But the similarity should end there at least on one vital count. In the 20 years since, the world has come a long way so far as technological and scientific advancement is concerned. Monitoring of weather by satellites is almost precise today and this hapless country can confidently count on weather reports now received by the highly sensitive equipment at its ground centres. The advance warning system worked. But alas the warning is yet to be well in advance to help people to make it to a safer place in time.

That points to the fact that the people in the coastal belt, except perhaps at a few places, remained as unready--and therefore at the mercy of nature's one of the fiercest forces--as ever. Ferrying people out of the danger zones and on so short a notice is an impracticable proposition. Does it mean that the tens of millions in the coastal areas should be left exposed to elemental fruies? In the intervening period between batterings by natural forces must people and the government assume a Buddhist resignation to meet their fate with no glimmer of hope?

Such a prospect is likelier than not. But still questions remain. And the questions are rather more disturbing than intriguing. Disturbing because it amounts to facing an unpleasant truth. The truth manifestly is tangled in the national wrong policies and priorities in relation to complicated geopolitics. This low terrain is a venue of such visitations for centuries and it is time that the loose ends of the tangle were sorted out. As long as the living standard of people in the disaster-prone areas remains so low, they are expected to be the most ill-prepared to face such natural calamities. Some of the islands and coastal areas are simply uninhabitable and the administration has hardly cared to tell the people living there so. If that is not enough callousness, the administration over the years has been known to back out from the projects it devised for itself to carry out in the areas in question.

To raise the quality of lives and that too in areas coming under frequent batterings by cyclonic storms is to entertain an unrealistic thought. But something practical can still be done. Considering the massive pouring in of resources after each such disaster, the rationale for investment in normal time looks very strong. An investment of such a nature may have double the benefits than the ones achieved in disaster time. The overriding need is to build up some physical infrastructures of public uses. Apart from the cyclone shelters, the schools, colleges, mosques, temples and community centres can be integrated into such centres. Not only will they serve as the shelters in emergency, but also provide the necessary thrust to the much needed area of education.

But again the scarce resource will be referred to. And there indeed the role of geopolitics makes, albeit subtly, its presence felt. There is no conclusive proof that environmental degeneration directly leads to this or that natural calamity, but what is certain is that they have over the decades heavily contributed to ecological instability. Release of chemical effluences and experiment with nuclear devices have made the earth more convulsive than it had been before. Add to this the prompt reaction to Saddam's occupation of Kuwait. The Western powers embarked on a crusade against one man's army to save a tiny Sheikhdom. That earned them a few kudos. But look, the engagement in the desert called for millions of men and billions of dollars in armament and many other daily expenditures.

After two weeks, the few living in the cyclone-hit areas hopelessly wait for such a god-like rescuer. But no luck this time. Only a fraction of what perished in the sand could be enough to give them a new lease of life. But the civilised world knows its priority better. This is no war, nor there is oil here. So let the hapless men, women and children suffer the worst and the magnanimity of the great powers take a monetary leave. The people in the poor countries are thus fated to endlessly suffer. Could not it be different had the nations posing to be protectors of and/or saviours the weak really been true to their words?

Kaladarshi's column

'*Aposh-hin*'-- arrogance game on the lakhs of dead- -

Fifteen million people have been affected by the April 29 elemental swoop of the coastal belt. This is the official figure. Unofficially it is feared that as many as ten lakh people might have perished on that doomsday night. That leaves us with 14 million people in dire straits. The task is now to ensure that not many of these survivors die in consequence of the April 29 disaster.

How to ensure that? You want to help each of them with one chapati-ruti? You will need 14 million of them requiring more than a million kilograms of wheat--that is 1000 tons of wheat. Want to help them with a light? You will need thirty lakh of them. Where can you get that? The official figure for the houses completely destroyed, although very much incomplete, is around seven lakh. Want to help them with a bamboo each? Very tough indeed. Food and water are recurring daily needs. If this number of people have to be helped with that for any span of time--it will take all power of the government.

Now how to reach them and see that these reach proper hands and before people start dying? The support, if distributed through proper official procedure, will reach people only after another million will have died. Government, or whoever wants these people to live, will need at least 50,000 selfless dedicated relief workers to reach the first essentials to the needy. Wherefrom will such people come?

Nothing on this scale will be realised. People will die uncared, unhelped. People will live uncared, unhelped. And government will go on boasting about its wonderful relief operation. But this shouldn't have been so. The first democratically elected government in 16 years should have proved they are different. The least they should have done is to show that they have comprehended the size of the challenge and the nature of it-- which goes far beyond saving the 14 million surviving souls. The challenge is to save the whole of the national economy from an overall collapse.

The prospect of grappling the challenge as it should be is bleak indeed. There are very many reasons for that. The overriding one is a new phenomenon--a non-soldier, elected and female autocrat in the making.

Kaladarshi's column

Government, till May 7, did own up a 125,000-plus figure for those killed in April 29's elemental strike on the eastern offshore region. This was arrived at through official body-count. This is going to radically rise when the main hit areas in the three big islands--Sandwip, Hatya and Kutubdia--will be connected by effective administrative machinery.

This figure does not include those that have been washed away to the sea. Which again can very drastically change the. present. And add to this the conjectural figure of 100,000 fishermen being lost. This is staggering. Please divide the tally by the square kilometres where more than a hundred have died. You will, Madam Prime Minister, arrive at a figure that will mock at your insistence that deaths have been minimised by the government's early warnings and other preparations. This figure--and the dead behind this--will, till your last day in this world go on telling you not only you have been foolish In playing that 'aposh-hin' arrogance game on the lakhs of dead--you have simply been mindless.

Exactly as you won your election, you have won this time also and are carrying the nation with you. With your mindlessness. The six million people in the capital city go about their usual daily business--not one of them has shed one little tear. How you have succeeded to box in the nation's mind--to the size and nature congenial to your and your party's limited capacities in the matter of having a mind, an intellect, something transcending immediate personal gain and personal prejudices.

The dead of April 29 are gone and no one would-blame any of that on you. More three lakh was saved by the less than 300 hundred cyclone shelters and Mujib-Kella's on April 29. Most of the dead could have lived had there been all of those projected 3000 such. The late lamented Ziaur Rahman stopped the project in his inordinate wisdom. Although you wish very much to be as if Zia was again born, the blame of the six or ten lakh dead is squarely his, and not even Sheikh Hasina would hold you responsible for any one of the deaths on April 29.

But let it be said very clearly, and understood as such that every death of the survivors is on you. How should one describe your performance? Colossal mismanagement? No, that would presuppose someone tried to manage but bungled. The powers of the Bangladesh Government are puny--but whatever there is to it, is being held back from being pressed into play. Madam, the command over to that hated creeper of a man, and the nation will see the difference. And Ershad was always an actor--a supreme one in going through the motions. Even a thing like him,--he sure would have minted some goodly money out of his electrifying performance in the islands--would have in minutes committed the whole of the army and all of its wherewithal. Even he--a liar and a lecher to his bones--would have got his mission right--to the islands and to the inaccessible interiors without a day's delay. Thousands of jawans and sappers would be there interring the bodies and

She has done unfairly for the body of the nation. What about the nation's soul? Well, she has taken care of that too by welcoming the chief of a state which was responsible for killing--by shooting and bayonetting and burning and torturing--millions of Bengalees in only nine months. Have they repented? Are they on record to have accepted that their 1971 performance fell outside of civilised behaviour? All they have said to date is that the bloody nine months were a case of misunderstanding between brothers and both sides were equally to blame for it. You welcome him--and your press goes very warm and chummy and gives him all space and prominence in the world--in order that he can again throw the 'brother' business on our face and promise to do all that in Pakistan's power.

carcasses--in Patenga and Banshkhali, in Dhalghat and Kutubdia, a veritble mini-government would be there in that old and civilised and literate island of Sandwip in two day's time. And Ershad is decidedly a bad man and not an efficient one either. Even he would have--and could have--reached succour to the needy before the exertions becoming quite unnecessary and hollow.

It is painful to compare anyone with Ershad. It is more painful to think of the death of the lakhs that will be on Prime Minister Khaleda's conscience. What is she doing at the moment to alloy the suffering of the millions that haven't as yet been reached-- and to avert any further death down there? One thing is as clear as a sunny tropical day--1. the armed forces have very marginally been involved; 2. less than a speck of what government could mobilize by way men and material and service--and as it is--has been brought into play; 3. the ruling party and its lakhs of cadres cannot be found anywhere even by using an electron microscope--where have they so magically vanished? ; 4. intentions and attempts by other parties to share in the governmental response to the crisis has been very rudely brow-beaten; 5. every attempt has been made to make the disaster as not a nation-sized problem and to show that government alone was more than sufficient to cope with the challenge; 6. as a result of this and also as a result of a deliberate attempt to see that people at large do not feel, take the disaster as their very own and rise to express solidarity with the victims in symbolic gestures as well as by action--the atmosphere throughout the nation is one of disinterested aloofness--might be the cyclone had hit Hawaii and not Chittagong and perhaps 50 people have been killed.

Every death in the hit areas will be on the Prime Minister's conscience because of the above and not because utmost efforts were made but as the problem was too big and the capacity of government and society too limited, many could not be saved.

If she has messed up the first and the most response by woody and dolly insensitivity, her persistence in the same spells terrifying things for Bangladesh's future. Ordinarily it would be unfair to hold this inexperienced domestic character responsible for all stately bunglings, but the truth is there only Khaleda in Bangladesh, and no government. If the nation has to choose between two one-person shows, it would do well to choose the man inside the cell rather than the woman in the helicopter specially for spells of crisis management.

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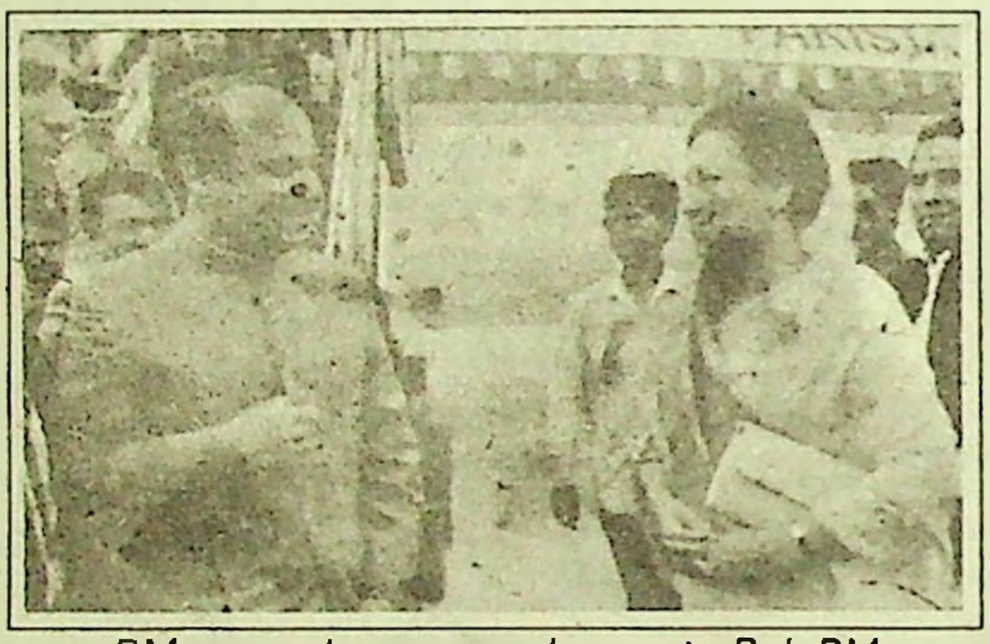


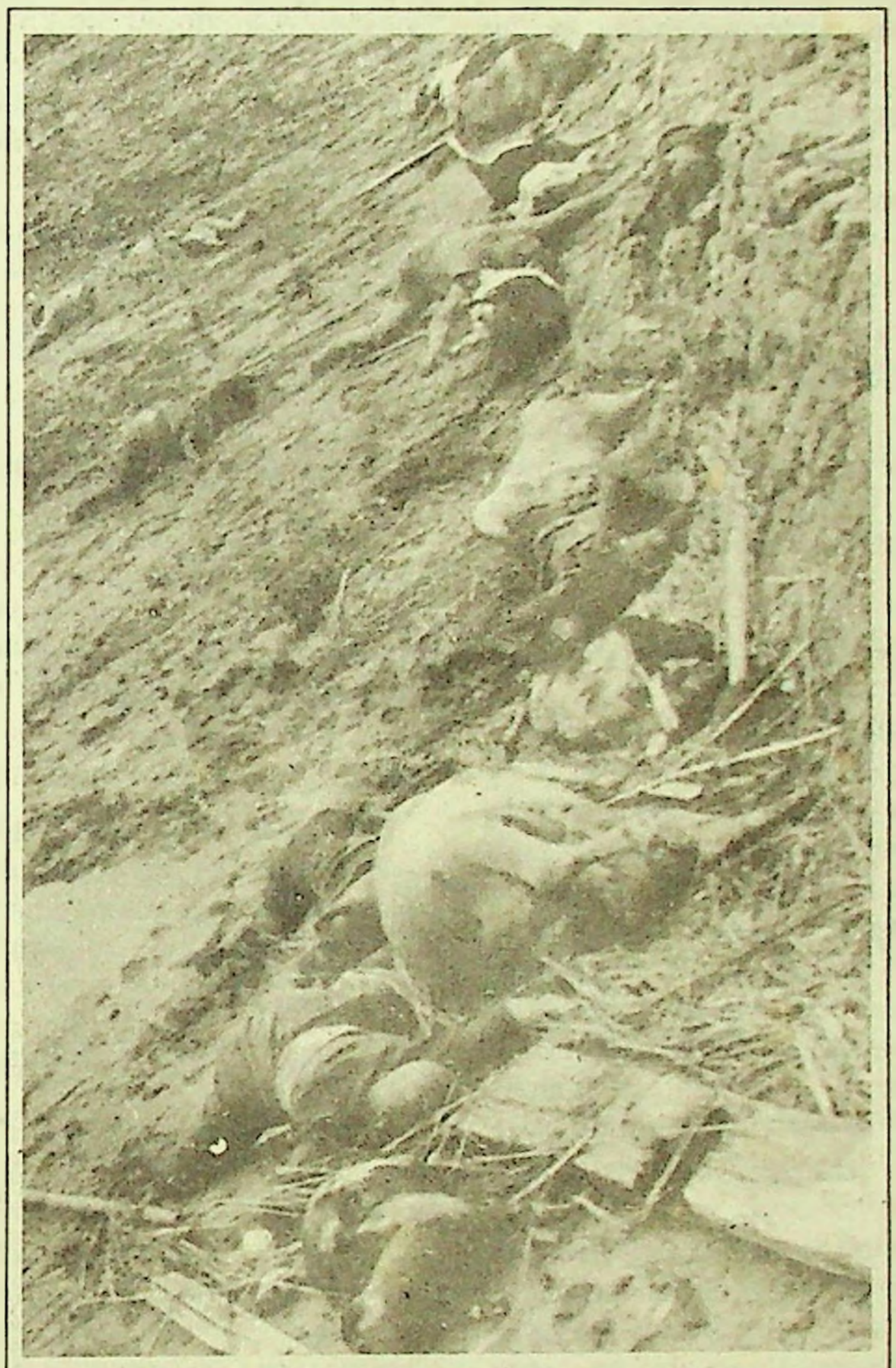
PM accords warm welcome to Pak PM

you choose to do this at such a time as this.

The Prime Minister met with the Press on Tuesday--first time after the catastrophic swoop. What she said could be gotten from the texts of what the British, the Pakistani and the Ershadi varieties of rulers have said. Everything under control. Things going just fine. Reports of snags and problems baseless. There was nothing from which to construe that she has at all understood the nature of the challenge.

But she was apologetic about one thing. A delay in presenting the Master Plan for rehabilitating the cyclone affected people. She pledged that the plan would be ready the next day--Wednesday.

Now who are the idiots who told her that the nation was dying for a 'Master Plan' right at this moment? What is a 'Master Plan'? You formulate a 'Master Plan' in three days about things whose parameters would take months and months to reach you? You talk of a 'Master Plan' of rehabilitating people whom you have not been able to reach with a chapati? And before the bodies of the fathers and mothers and brothers and sisters and children have been removed and interred--you present them with a 'Master Plan'? Storage. It is going to be the 'Master Bluff' of the century. But no one would hold it against you. It shows only your gullibility and lack of comprehension of the challenge.



Bodies waiting to be buried

You are a democratically elected Prime Minister. And you are avoiding your people in this grave national challenge. Why have you chosen not to involve people--which includes men and women of political persuasions? Are they not your people? Are your the Prime Minister of BNP and not of the nation?

What happened in Parliament in the name of discussing the disaster and consequent crisis--was dishonouring the dead and nothing beside. You had more than a major share in it. The cyclone, the tidal bore, the devastation, the deaths--everything failed to make you talk a little softly. Those were things in the language of which God often chooses to talk to the mortals. Even that couldn't make you shed a flake from your body of unflinching arrogance.

Dear Lord, forgive her arrogance. Will it be right for Him to do that? But He is above right and wrong. Are we right in beseeching such? We are not sure. But how we wanted the first woman Prime Minister of our nation to succeed and further the cause not only of democracy but also of setting right the many social injustices including the gravest of them: the gender inequality.

Begum Zia did not speak truth

Begum Khaleda Zia has not spoken the truth. She is on the record to have told the Parliament that Ziaur Rahman built a number of cyclone shelter in the coastal areas.

But the fact unfortunately is otherwise. The need for 2,000 cyclone shelters and forts (centre for animals) was felt after the devastating cyclone of November 12, 1970.

After independence the Awami League government built 238 cyclone centres and 137 forts. Another 42 forts were under construction and made complete later on.

During the reign of Ershad, after 1985, 62 more cyclone centres were constructed. But Zia government did not construct a single one.

Bravo Major Mannan !

State minister for textiles, Major (Retd) Abdul Mannan went to see for himself the condition of cyclone affected people of Chittagong. His arrival at the port city was widely announced over mikes in Kalurghat Commercial area. The workers of the area waited in long queues for his arrival. One reason was that Kalurghat was badly battered. The workers expected of the state minister to bring for them relief materials. But alas, their wait turned into frustration. Escorted by police, the state minister for textiles arrived there but not to stop to talk to the workers. He drove straight to his own garments factory "Azim-Manman Garments". His factory too was damaged. After visiting his factory, he left Kalurghat. Somewhat surprised, the owners and employees of the area consoled themselves: 'perhaps the minister was too moved seeing the damage to his factory to remember that he was not only an owner of a factory but also a minister as well. The minister however was quick to follow his chairperson Khaleda's footsteps and announced he would not receive his salary but donate to people's welfare.

PM has no respite with guests

The prime minister has to receive too many visitors these days. On the list of guests were Pakistani prime minister, Newaz Sharif, French Minister for Humanitarian Actions Bernard Konchner and Nobel Prize winner philanthropist Mother Teresa who visited Dhaka at the same time recently. The PM accompained by them went on a visit to the cyclone-hit areas. At the time of their return flight, the already rough weather turned further foul. The helicopter carrying them was forced to land at Munshiganj. All felt relieved that the dignitaries were safe and sound.

But what transpired is that the weather too grew a little nasty because that is how it thought it could play prank on them. Quite a way to make them realise how helpless people are before nature here.

Pak PM's nightly stay

Newaz Sharif, Prime Minister of Pakistan came to Bangladesh to express his solidarity with the cyclone-affected people on May 5. He was supposed to return to Pakistan that very evening. But the Press was contacted at night with the message that the Pak PM had to halt his journey home because of foul weather. He left next morning alright.

But a reliable source informed on the night of May 5, the Biman flights continued as scheduled in the so called rough weather. The question is: was there anything mysterious behind Sharif's overnight stay?

PM's business

Prime Minister Khaleda Zia, while busy with relief operations, found herself caught in awful circumstances. As the chief of the government's Relief Co-ordination Committee, the premier over the past few days has been shuttling between the capital and the port city Chittagong and other coastal districts to monitor and supervise the relief operations. During this period, she chaired several meetings in Chittagong, to discuss relief activities. Informed sources say the meetings were held in different venues in accordance with the premier's intentions. These sources speak of at least three venues: 1) Circuit House, 2) BJMC Rest House and 3) The residence of late Mr. A.K. Khan, father of Ershad's alleged paramour Zeenat Mosharraf. However, the sources could not say anything about the reasons behind the PM's whims.

--Hasan Iftekhar

DM 2.6

REPORT OF CYCLONE RELIEF WORK DONE IN ANDHRA PRADESH

Thelma Narayan, Intern
St.Johns Medical College

SUMMARY

We worked in association with the Catholic Cyclone Relief Organization (H.Q. - Vijayawada), as the Medical team. Both aspects of medicine- preventive and curative were practised.

INTRODUCTION

The first Medical team of volunteers left on 1/12/77. They joined the above organization and started Medical relief. The 2nd team (with 10 members) led by Dr. Padmini Urs, of which we were a part worked from 12/12/77 to 29/12/77. We worked in the 4th team with 2 members from 9/1/77 to 31/1/77.

DATA REGARDING TIDAL WAVE AND CYCLONE ON 19/11/77

1. Tidal wave - 25 feet high, 60 km long, penetrated 12 km into coastal Andhra and lasted for 6-8 hours. It changed direction 4 times
2. Speed of cyclone - 120 - 200 km per hour
3. area hit by cyclone - 8,453 sq. km
4. Population affected by cyclone - 25,00,000
5. Krishna and Guntur Districts were severly affected and adjoining districts to a lesser extent.

   In Krishna Dist - 53 villages affected

   Guntur Dist. - 24 vilages

   West Godawari dist. - 4 vilages

...2.

6. In the catastrophic zone covering Diviseema and part of Bandar taluq's over 50,000 people are feared dead and also 100,000 heads of cattle lost.

7. Havoc caused by cyclone related mostly to property. Tidal wave related to human lives, livestock, houses, property crops.

Camp and organization

Our camp was based at Nagayalanka, Divi Taluk Krishna dist, on the frunge of the tidal wave affected area. It consisted of 60-70 people divided into 3 teams - i Relief team
ii Rehabilitation Team
iii Medical team

The aims was to take up certain areas for development which would consist of 3 phases - i Immediate relief
ii Intermediate phase
iii Long term development phase

at first an exploratory team with a representative from the medical want to survey a village as regards amount of destruction of life and property, and relief measures already taken by other agencies to avoid overlap of work. Information was obtained by meeting the village president/Sarpanch and by going around the village. The villages chosen were those in which no organization was working with a long term project. 6 villages with surrounding hamlets were taken up and alloted by the Govt. to this organization.

Method of work in a village :-

Immediate relief consisted of providing food, clothing and shelter ie building long community huts.

a statistical team went around collecting baseline data viz

I Census number of living Male
Female
Number of dead

...3.

II Socioeconomic survey regarding

- Housing
- Occupation
- Property
- Education

(see charts)

on the basis of this, requirements were calculated and plans drawn up.

Medical work (during first stay)

When wex arived, there were 3 clinics established

i) At Nagayalanka population - 9000
It also covered surrounding villages

ii) At Mandapakala population - 1,311

iii) Mobile clinic - going from village to village covering a population of - 2,458

clinical work was done during the day. Daily statistics of cases were kept with a graph showing of the distribution pattern of diseases

This was classifed as follows:

1) Total number of cases
2) Diarrhoea and Dysentry
3) Gastroenteritis
4) Respiratory Tract Infections
5) Other Infections
6) Miscellaneous

Our team leader kept in contact with the D.M.O. at the nearest P.H.C. at Avanigadda 18 km away. They were very helpful and supplied us with DDT, bleaching powder, lime and drugs to supplement our own stocks of medicine.

...4

Most of the population were already innoculated against typhoid and Cholera and there were no epidemics.

Preventive work done included - Remaining TABC innoculations, Tetvac innoculations, Chlorination of wells, spraying of bleaching powder/ lime constructions of trench latrines for the camps, health education to the villagers regarding environmental sanitations, nutrition, boiling of water for children etc.

Observations/Discussion

1. The population covered was not a normal population having first suffered an enourmous loss of life and property.

2. Most people had returned or had to be coaxed back to their own villages as all they had left was their land without which they would become beggars or slum dwellers in same town.

3. These people were building life afresh and were ideal ground for community development.

4. Every family had been disrupted due to loss of same or other or many members causing a large social problem.

5. The mental health problem was large and acute, the people still dazed or depressed.

6. These people were fairly well-off prior to the cyclone/and poverty is new to them (see charts regarding property). To avoid them getting used to obtaining things easily first for the begging, some sort of cooperative venture where they provide at least the labour is desirable.

   A team of village leaders could be the decision making and negotiating body. A system was noted in one village (Etimaga) which was divided into 10 divisions, each of which had a leader who would put up the requirements of that area and get the work done. They themselves a had completed the harvesting and started rebuilding.

7. Illiteracy and ignorance were found to be very widespread ' (See charts) only 2-3 persone are educated above the 10th std. These could be involved in the development programme.

...5

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...5

8. The social problem of the Harijans was noted. They worked as coolies as they did not own any land. In one area they had land but without any irrigation facilities.

9. Health

- as this was a food growing area the gneral health of the people was good without much protein-calorie malnutritions. Anaemia were found to a acute mainly in women and children.
- There were no epidemics of cholera, typhoid or gastroenteritis due to early and complete innoculations. The reamining few were caused by us.

- There were no epidemics of cholera,
- Initially the graph showed a high incidence of respiratory disease especially U.R.T.I This was due to -
  - i) exposure during tidal wave and cyclone
  - ii) Lack of adequate shelter and clothing
  - iii) Cold weather expecially at night
  - iv) Dust and fumes

  This fact was brought to the notice of the organizers and priority was given to providing clothing and shelter. Large community huts were built immediately. Individual families also started building huts from palmyre leaves and bamboo provided by Govt.

  Water was obtained mainly from tube wells. The few open wells were cleaned out by the army and chlorinated by the PHC staff. subsequent chlornation was done by us. Tube well water was used without purification generally. Some of the tubewells were located close to drains/canals and were probably sucking in water from them.. In one area an outbreak of Gastroenteritis was found among users of water of one such well. Cases presenting with diarrhoea and dysentry were advised to boil water, expecially for children -not very practical suggestion for whole families. Two cases of infective helpatitis were seen.

- Enviornmental Sanitation was very poor following the havoc were additional factors viz occasional corpses and carcasses uprooted trees, debris, stagnant saline water. This combined with the ignorance of villages concerning the subject. Towards the latter half of out stay, there was a marked increase in the number of flies with a corresponding gradual increase in the incidence of diarrhoea and dysentry.

...6

Only sporadic cases of gastreenteritis were seen who responded to treatment. On follow up no furthur cases were found in the surrounding areas.

The D.M.O. at Avanigadda was informed of the fly menace. Bleaching powder and lime were obtained and sprayed around the villages by teams from the PHC and our camp.

A fairly significant number of evening fevers with chills presented to us. a few clinical cases of filaria with swelling were seen. The rest were ? Malaria ? Filaria. Mosquitoes were more around Nagagalanka and the canals of the Krishna river. Nearer the coast there were pools of salt water brought in by the tidal wave.

- Mental Health

The majority of cases needed only a sympathetic ear, as everyone in the area has a story to tell. 4-5 cases of hysteria were seen. it is impossible to rub out the experience these people have had and mamy of them have told us that they wish that they too were dead. But the most important thing is to give them same hope to start life again and so the programme was called "Operation Hope". Two priests stayed at Gorgepetta to encourage people to return to their land. In that village not a single house remained, 100 people had died and 146 were living comprising 40 families, in one large hut a kitchen garden was planted to prove that the soil could still be productive. Fowls were kept to bring back same semblance of normalcy and to provide eggs for the villagers.

DM 2.7

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FAMINE AND CIVIL WAR IN EAST PAKISTAN

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Within a year, East Pakistan has been struck by severe flooding, a devastating [illegible] and civil war. Food production has fallen [illegible] successive years, and the food deficit is the [illegible] since the Bengal famine of 1943. Imports of [illegible] million tons of grain will be needed to give an [illegible] per-caput consumption of 1600 calories, which [illegible] just enough to prevent frank starvation. In [illegible] present situation, with transport services much [illegible]ted, the chances of achieving this seem poor. [illegible]utrition, in a normal year, reaches its worst in [illegible]ember; this year the food shortage may affect [illegible] million people. The Pakistan Government has [illegible] acknowledged this crisis, and the opportunity [illegible]revent a major famine is fast slipping away. An [illegible]national, neutral team is required in East Pakistan [illegible]ess the relief supplies required, to supervise the [illegible] of transport facilities, and to ensure the fair [illegible] efficient distribution of food.

Introduction

[illegible] most common medical problem in the world [illegible] is hunger. In this century we have witnessed [illegible] extreme form of this condition in the many [illegible]ities which have struck Asia (flood and drought), [illegible] Middle East (locust and earthquake), and Africa [illegible]golese and Nigerian civil wars). With accelerating [illegible]pulation growth, mankind will repeatedly face [illegible]ine for years to come. Nevertheless, early recog[illegible]n and treatment can, as with most medical prob[illegible]m, lessen and greatly alleviate the impact of famine. [illegible] a challenge exists today in East Pakistan, where [illegible] of the most disastrous man-made tragedies of this [illegible]ury is unfolding. On March 25, 1971, a civil war [illegible]ted in East Pakistan, and the agricultural and [illegible]nomic dislocation following this conflict has pro[illegible]ded unimpeded. Although hunger has not yet [illegible]ched famine proportions, mass starvation threatens. [illegible] following report will focus on the rationale for [illegible]mediate international intervention if we are to [illegible]id one of the most severe famines in history.

Background

[illegible]ocated in the Ganges Delta, East Pakistan was joined [illegible] time of partition of India in 1947 to a geographically [illegible] culturally dissimilar West Pakistan some 1200 miles [illegible]. Although West Pakistan has 80% of the country's total area, East Pakistan's 78 million people constitute 56% of the total population. The annual rate of population growth is uncertain but is about 3%. The population density of the region is amongst the highest in the world, averaging near 1500 people per square mile. The abundant rainfall of the monsoon and the fertile silt soil carried down the Ganges, Meghna, and Brahmaputra rivers provide ideal conditions for an agricultural economy. Rice is the major crop, and smaller amounts of cultivable land are used to grow jute, tea, and sugar.

Despite the agricultural orientation of the economy, hunger and malnutrition are endemic to East Pakistan.[1] The basic diet consists of rice supplemented by curries made from vegetables, fish, and lentils. Meat and dairy products are a rare luxury, and fruit consumption is entirely seasonal. Intake of cooking fats and oils is scanty. Cooking practices often lead to substantial loss of essential nutrients such as vitamin C, thiamine, and niacin. Social customs further exacerbate the dietary imbalance. The best food is reserved for the adult working men while women and children receive the left-overs. This practice may provide the necessary energy for the wage-earner to support his family but neglects those who require special nutritional consideration.

In 1970, the average daily per-caput cereal consumption was 16·1 oz.—consisting of 14·8 oz. of rice and 1·3 oz. of wheat.[2] This provided only 1700 kilocalories (C.) per person per day compared to a U.S. and West European average of 2700 C. Owing predominantly to economic restraints, the consumption of essential proteins and vitamins is insufficient. In a recent survey, the average protein intake was considered inadequate in 85% of the rural population.[1] Borderline malnutrition affects over 50% of preschool-age children. Approximately 3% of children in this age-group suffer from frank malnutrition, traditionally classified as kwashiorkor and marasmus. These deficiencies are reflected in child-mortality and growth-retardation statistics. The death-rate among all liveborn children is 26% before their fifth birthday, compared with a European average of 2·4%. Although birth-weights in East Pakistan are not significantly different from the European average, disparity in weight gain becomes striking from nine to twenty-four months. Thereafter, child growth in East Pakistan parallels growth of European children, although remaining well below the latter in absolute terms. Despite the uncertain contribution of genetic factors to this disparity, it can be assumed that malnutrition plays a significant role in the retarded growth observed in the average East Pakistan child.

Health problems relating to specific deficiencies also reflect inadequate nutrition. Vitamin-A deficiency, leading to keratomalacia and blindness, affects 4 children out of 500 under the age of five years. Similarly, riboflavine deficiency, anæmia, goitre, and vitamin-C deficiency are common. Epidemic outbreaks of cholera, tuberculosis, diphtheria, and smallpox occur regularly. Although spread of these diseases is predominantly due to poor sanitation and health practices, undernutrition may also play a significant role. Diarrhœa associated with malnutrition, often resulting in death, is not uncommon.

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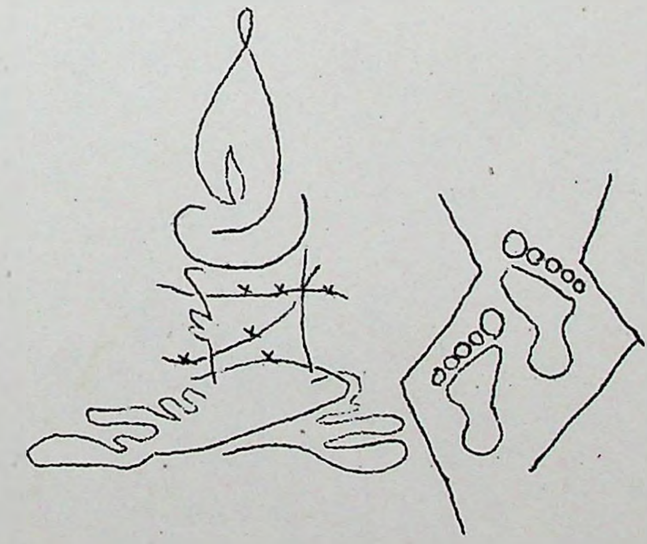
Notes on a year of Travel and reflection - 1982



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"ashirvad" : 30 St Marks Road : Bangalore 1.

TABLE I—EAST PAKISTAN: SUMMARY OF PRODUCTION OF RICE [3]

Fiscal year	Production (million tons)			
	Aus	*Aman*	*Boro*	Total
1960	2·09	5·99	0·40	8·48
1965	2·50	7·26	0·57	10·33
1970	2·96	6·95	1·90	11·82
1971	2·86	5·91*	2·20	10·97
1972†	2·47	5·67	1·50‡	9·64

Aus (April–August), *aman* (July–November), and *boro* (December–May) refer to three different cultivation times.
* The *aman* crop of 1971 was affected by flooding, cyclone, and civil war.
† Projected production for 1972.
‡ Yield of the *boro* crop depends heavily on fertiliser, irrigation, and pesticides.

Impact of Civil War

The civil war in East Pakistan has crippled agricultural production. From 1966 to 1970 East Pakistan produced an average of 10·8 million tons of grain per year but still required a yearly import of 1·2 million tons to offset chronic deficits.[2] Even if the Fourth Five Year Plan of increasing production to 16·7 million tons were realised, East Pakistan would still require importation of an additional 1·4 million tons in fiscal 1975 to feed its expanding population. However, anticipated growth of food production did not materialise in fiscal 1970. East Pakistan was struck, in succession, by the severest flood in a decade during September, 1970, the worst cyclone of this century, which devastated the coastal, rice-producing region in November, 1970, and a massive military campaign sweeping across the countryside beginning in March, 1971. Thus rice production fell to 10·97 million tons —680,000 tons short of expected yield.[3] Because strife continues, projections for this coming year suggest that indigenous food production will not exceed 9·64 million tons (table I). This represents a shortfall of 2·28 million tons below pre-civil-war estimates, and a reduction of 20% in crop yield. East Pakistan now faces, for the first time in recent memory, reduced production in two consecutive years, and the largest food deficit since the Bengal famine of 1943.

Many factors have contributed to this rather bleak prospect. Hundreds of thousands of farmers have fled into India to escape injury and death arising from military actions against civilians.[1] Farming operations have been crippled in many rural areas, especially in those border regions adjacent to India. Lack of fertiliser, pesticides, seed, and fuel for irrigation pumps has contributed to the lowered output. There has been a total collapse of the agricultural credit structure. Cessation of public works programmes has resulted in widespread rural unemployment and shortage of [illegible]. Governmental and private business activities [illegible] been at a virtual standstill.

Urban location of existing imported foodstocks [illegible] further exacerbate the food deficit in rural [illegible]. Because approximately 90%of the populat[illegible] and an estimated 60% of the urban popul[illegible] fled into the villages, most of the food re[illegible] will be in the countryside. Yet over 40[illegible] grain storage is found in three major urban [illegible] Dacca, Chittagong, and Khulna.[2] In addition, [illegible] activities have disrupted food markets.[4] H[illegible] traders who anticipate an impending shor[illegible] larger profits has already raised the free-mar[illegible] of rice.

Prospects of Famine

Although the total food gap is uncertain, it [illegible] mated that some 2·9 million tons of grain [illegible] required to supplement indigenous production [illegible] to maintain the population at an average con[illegible] of 15·0 oz. per caput per day (1600 C.).[5] 1600 C. [illegible] be considered marginal to prevent frank [illegible]. As shown in table II, even the sedentary adult [illegible] 1600–1900 C. per day to arrest nutritional [illegible] tion.[6] The calculation of 15·0 oz. assumes that [illegible] 7·5 million refugees who have fled into India [illegible] at least partially replaced by predicted popul[illegible] gains (table III). The maximum import of [illegible] grains in any normal year thus far was 1·5 milli[illegible] in 1970; thus the prospect of importing and dist[illegible] ing 2·9 million tons under present circumst[illegible] poor. Chittagong, the largest port, is operat[illegible] well below capacity, due primarily to the fact [illegible] many of the workers have fled. The smaller ports [illegible] Khulna and Narayanganj are similarly handicapped.

Even if large quantities of grain could be deliv[illegible] and offloaded, the ability to transport these [illegible]

TABLE III—AVERAGE AVAILABILITY OF FOODGRAINS [illegible] IN FISCAL YEAR 1972 AT VARIOUS LEVELS OF FOODGRAIN [illegible] AND POPULATION [3]

Foodgrain imports (million tons)	Foodgrains per person (oz.) assuming population (millions) of:			
	78·2	77·2	76·1	75·1
2·9	14·6	14·8	15·0	15·2
2·5	14·1	14·3	14·5	14·7
2·1	13·6	13·8	14·0	14·2
1·7	13·1	13·3	13·5	13·7
1·3	12·6	12·8	13·0	13·2

If one were to assume that all of the refugees were to return immediately (population 78·2 million), 2·9 million tons of [illegible] imports would provide an average of 14·6 oz. per caput per [illegible]
If the number of refugees who do not return to East Pakistan is [illegible] tially replaced by the expected increase in population [illegible] greater than 2 million), 2·9 million tons of imports would [illegible] an average of 15·0 oz. per day for 76·1 million people.

TABLE II—CALORIC ALLOWANCE IN FAMINE AREA (C.) [6]

Age group (yr.)	Emergency* subsistence	Temporary† maintenance
0–2	1000	1000
3– 5	1250	1500
6– 9	1500	1750
10–17	2000	2500
Pregnant or nursing women	2000	2500
Sedentary men	1900	2200
Sedentary women	1600	1800
Moderate labour	2000	2500
Heavy labour	2500	3000
Very heavy labour	3000	3500

* To arrest the downward progress of undernutrition.
† To permit slow recovery.

deficit areas is severely limited. In 1970, [illegible] imported goods were transported from Ch[illegible] inland by rail, 38% by water, and 24% by [illegible] Recent reports indicate that many rail acces[illegible] roadways, ferries, bridges, and trucks have [illegible] destroyed or severely damaged. Thus rail capa[illegible] estimated to be no greater than 20% and road [illegible] 30% of normal.[7] Water transport, although [illegible] feasible, has also been curtailed by the conflict

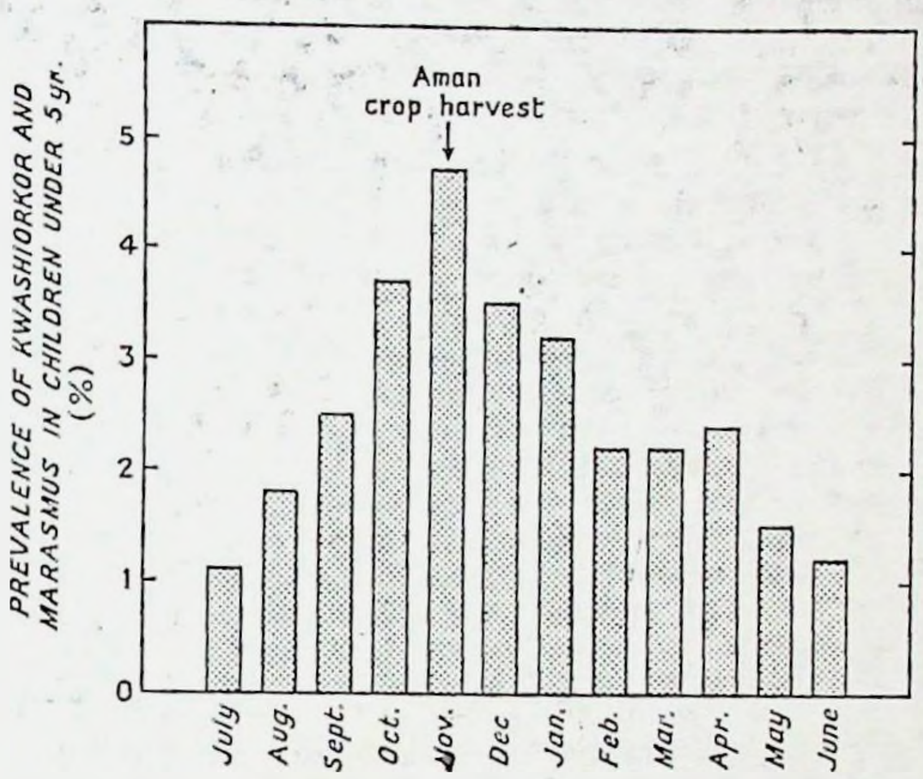
...ion of an impending famine is hazar- ...historical perspectives will add to our ... of current trends in East Pakistan. ...ical food shortage can be divided into ...tegories [8]: drought accompanied by ...d loss of seed; diseases such as fungus ...nd locusts; war and civil disturbances; ... earthquakes. Other contributing factors ...ption of normal communication and ...ities, which can lead to starvation even in ...s which are relatively close to food- ... More striking still is the presence of ...t adequate food supply, caused by the ... the local economy and complete loss of ...power by the poor. Small-scale hoarding ...level can turn a marginal food deficit into ... Although famines can usually be ... one major factor, often the simultaneous ... several factors exacerbates the situa-

...lly, the first and most obvious effect of ... wasting of adipose tissue.[8] Abdominal ... viscera become reduced in size, and ... atrophies, leading to poor absorptive ... diarrhœa. "Brown atrophy" of heart ...ciated with falling blood-pressure and ... Hair becomes dull, and the skin acquires ...y of paper. "Famine œdema" develops ... body water does not decrease correspon- ...body tissue mass declines. Psychologically, ...s or apathy accompanies an obsession ... Death is usually due to intractable diar- ... victims are found amongst the weak, ... young; surprisingly, women and adoles- ... better than adult men.

... greatest famine in our lifetime was the ... of 1943. It is estimated that some 3 million ... starvation. Ghosh has described the horror ...: "... mere skeletons covered simply with ...ing for their last breath; mothers hugging ... dead children, unable, having no strength ...; some practically in delirium precedent to ... minutes or a few hours after crying for a ... Haggard, half naked women worn out ... carrying rickety babies with dried up limbs ... faces; small children with bloated bellies ...g out...".

...in Bengal during 1943 was accompanied ...al disintegration; suicide, selling of chil- ... into slavery, banditry, and disruption of ... structure prevailed. Those who did not ...tion faced epidemics of cholera, smallpox, ...ntery, spread by the breakdown of sanita- ... villages, thousands of starving people ...an centres such as Calcutta in search of ...ea route or to meet with continued starva-

... of the Bengal famine in 1943 was short- ...tal policy. The British Administration ... insufficient attention to reports of food ... 1943.[9] Despite the virtually complete ...od imports from war-torn Burma, exports ... not decrease proportionately. In addition, ...gramme of purchasing foodgrain for the ...d. In response to rising prices and food ..., profiteering, and speculation increased ...tion. The entire problem was further



Seasonal variation of kwashiorkor and marasmus in East Pakistan.

exacerbated by the "denial policy" aimed at denying foodgrains and transport facilities to the enemy should they attack India. The impounding of some 25,000 boats handicapped the cultivation of the small islands in the Bay of Bengal, curtailed the fishing industry, and prevented adequate transport of food from excess to deficit regions within Bengal.

The similarities between the famine of 1943 with present trends in East Pakistan are striking. Some 2·9 million tons of imports will be required to offset the deficit in indigenous production, but the Pakistan Government has failed to acknowledge this crisis, much less initiate effective programmes. Already, hoarding is taking place, and the market price of rice has risen sharply. Much of the existing food stocks have been taken to the military cantonments to feed the army. The malnourished state of the 7·5 million refugees who have fled into India attests to the deteriorating situation within East Pakistan.

The critical period lies immediately ahead. Reliable estimates project that the current food shortage will affect approximately 25 million people: the landless labourer, deficit farmer, craftsman, factory worker, and urban poor [3]; the number that will die of starvation is unknown. In any normal year, the prevalence of malnutrition increases progressively until harvesting of the major crop (*aman*) in November (see figure). The present crisis compounding this seasonal variation of malnutrition may precipitate a famine of unprecedented proportions over the next three months.

What Can Be Done ?

Experience in Biafra[10] and current practices in East Pakistan [11] have shown that military control of food supplies can be a powerful weapon of suppression. Bacteriological and biological warfare have been renounced by international convention. Starvation should similarly be outlawed on the grounds that it selectively affects innocent children and the elderly. International opinion should demand that opposing parties in East Pakistan permit sufficient food to reach all affected civilians, regardless of their loyalties. Food distribution under close, impartial, third-party supervision can alleviate suffering and diminish, if not

prevent, widespread starvation.[10] A sizeable, neutral, international assessment and surveillance team should be permitted to enter East Pakistan:

(1) To determine the geographical distribution of the population in the light of recent migrations;
(2) to assess current stocks of foodgrains in both Government and commercial storage facilities;
(3) to determine the quantity and type of relief supplies required;
(4) to evaluate the extent of damage;
(5) to supervise the repair of communication and transportation facilities to be used for non-military purposes only;
(6) to establish distribution centres accessible to water and air transport throughout East Pakistan; and
(7) to formulate equitable procedures of rationing and distribution.

Lessons learned from the international relief effort after the cyclone of November, 1970, in East Pakistan can be extended to the present situation. From East Pakistan's nine operational airfields, existing food stocks should be flown to local distribution centres to cover immediate needs. Air transport must be supplemented by seagoing vessels, equipped to transfer foodgrains directly to smaller craft while standing offshore. These small craft can utilise the extensive waterway system to deliver supplies to regional centres. These procedures would circumvent the problems of congested ports and decreased rail and road capacity.

The opportunity to prevent a major famine is rapidly slipping away. Responsible members of the world community, concerned with human welfare, must insist that strong action be taken now. Unless we respond, the reports of famine in East Pakistan during the next few months will weigh heavily on our conscience.

" There they stand, heads bowed,
Mute; on their pale faces chronicled the sufferings
Of many centuries; on their shoulders they bear burdens
Which grow; carrying on, slowly, till life holds,
And then they pass them on to the children, for generations.
Fate they do not curse, nor complain, remembering the gods;
Men they do not blame, nor cherish any pity of love
For themselves; only a few grains of food they glean,
And their tormented lives, somehow, keep alive.
When even that meagre food someone robs,
Or hurts their life in blind might's cruel oppression,
They know not to whose door they will turn for justice;
Calling on the God of the Poor, for once, in their heaving sighs,
Silently they die."—RABINDRANATH TAGORE.

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11th August 1972

S E C T I O N IV

HEALTH

138. The refugees faced specially grave health hazards. Many were wounded by bullets or shrapnel when they reached India and had to be hospitalized and operated upon. They were weakened by a long and tiring march, and the rations they received did not always meet fully their caloric and protein needs. This gave rise in course of time to protein deficiency diseases, particularly amongst the children. On the way to India, some of them fell victim to cholera and carried this disease with them to the camps. There, over-crowding, the lack of safe drinking water and generally unsanitary conditions not only compounded the risk of cholera, but also produced gastro-enteritis and skin diseases. With the arrival of the cold season, diphtheria and diseases of the respiratory tract added a new threat. The sheer number of the refugees made it a gigantic task to keep the health situation under control. Some of the major problems involved are discussed in this section.

A. MEDICINES AND MEDICAL SUPPLIES

139. One of the main dangers encountered in the early days of the influx was the spread of cholera. In the beginning, efforts were focussed on preventing the outbreak from turning into a major epidemic which would have affected not only the refugees, but also the local population. The threat was particularly ominous in West Bengal where an outbreak of cholera in the urban conglomeration of Calcutta could turn into a major disaster if preventive measures were not promptly taken.

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140. When it became clear in April 1971 that the refugee influx was going to swell, the Central Health Ministry of the Government of India began to plan for the stock-piling of basic drugs, for issue to the various states involved. The two Central Medical Stores Depots at Calcutta and Gauhati were instructed to undertake emergency purchases of medicines. However, apart from considerations of cost, the massive quantities of medicines required were not available in the country, particularly to combat cholera. The Government of India turned to the United Nations for assistance.

141. The first estimated requirements of medicines for the refugees were submitted to the U.N. Focal Point by the Department of Rehabilitation of the Government of India in May 1971. The note stated that the Ministry of Health planned to build up stocks of medicines in a value of $ 2.5 million. However, after detailed technical discussions between the World Health Organization and the Ministry of Health, the immediate requirements of medical supplies and equipment were reassessed. On 4 June 1971, the Directorate General of Health Services conveyed the following list of urgent requirements to WHO, with a request that these medicines and equipment be airlifted:-

1.	Rehydration fluid for cholera with giving sets	250,000 litres
2.	Anti-cholera vaccine	500,000 doses
3.	Jet gun injectors	50
4.	Disposable syringes	100,000
5.	Tetracycline tablets 50 mg.	1,000,000

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6.	Choloroquine tablets	10,000,000
7.	Paramquine tablets	1,000,000
8.	Daraprin tablets	200,000

142. Other requirements were subsequently formulated for the second phase of the programme.

143. WHO immediately started to procure and airlift the most urgent drugs. Table 2 at the end of this section which shows the medical supplies and equipment provided through the United Nations system, reflects the truly international character of this effort.

144. Subsequently, requirements were periodically reviewed by the Health Sub-Committee of the Central Coordinating Committee, consisting of Representatives of the Ministry of Health, the Indian Red Cross, the World Health Organization, UNICEF, and the United Nations Focal Point. In the Ministry of Health itself, a special unit was eventually established to deal exclusively with the refugee situation.

145. As mentioned above, medicines in the very early days of the emergency came from Government stocks held in Calcutta and Gauhati. As the refugee influx continued and the Central Health Ministry undertook to build up considerable stocks of drugs, it opened four additional sub-depots at Agartala (Tripura), Dhubri and Karimganj (in Assam) and at Tura (in Meghalaya). The Central Government also appointed liaison officers at Calcutta, Shillong and Agartala to help in the speedy issue of medicines to the State Governments from the Central and Sub-Depots.

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146. As will be shown in Table 2 at the end of the present section, medicines and medical supplies contributed in cash and kind through the United Nations Focal Point amounted to $3,976,345.

D. HOSPITALS AND CLINICS

147. Although the existing medical facilities of the states where the refugees had sought asylum were soon strained to the maximum, they were obviously unable to meet even the most urgent medical requirements. The Central Ministry of Health therefore endeavoured to create new health facilities in the camps themselves. The norms laid down provided for one bed for every 2,000 refugees at a cost of Rs.3,500/- by way of initial construction and equipment costs and Rs.2,000/- on maintenance for a period of 6 months. Thus for a camp of 50,000 refugees, which was the planned size, for instance, of the "Central" camps, it was planned to have a 25-bed hospital; in addition two health centres, or dispensaries, were also planned for such camps. A typical design approved by the Government of India for a 25-bed camp hospital is shown on page 73

148. As was the case in other sectors of the relief programme, and as is evidenced by the data shown in Table 1 at the end of this section, these norms were not uniformly applied in practice. This was due to a number of reasons: shortage of time, the existence in certain areas of local hospitals and clinics where the refugees could be treated (sometimes at the cost of building some temporary extensions), or the existence in the vicinity of the camps of medical facilities established by various voluntary agencies, which made construction by the Government redundant. However, over 1,700 new hospital beds were provided in existing or new hospitals,

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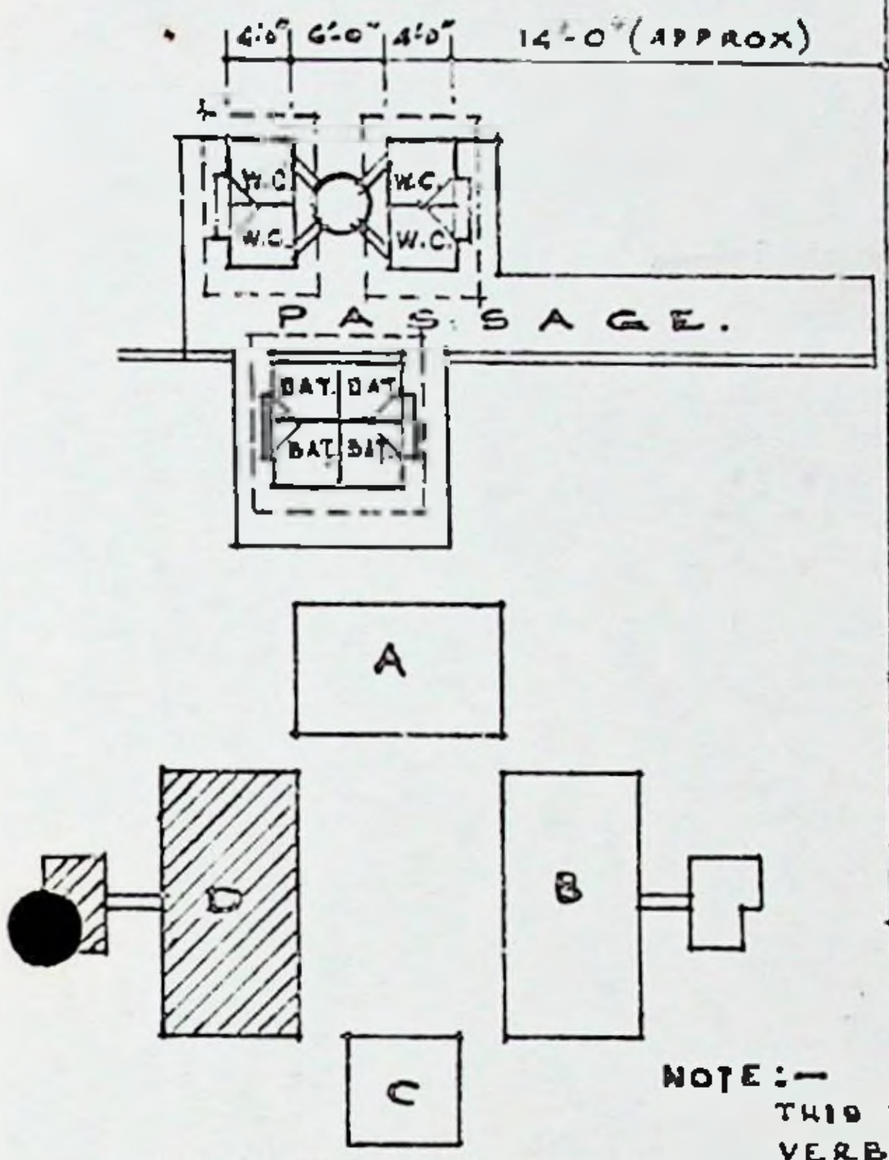
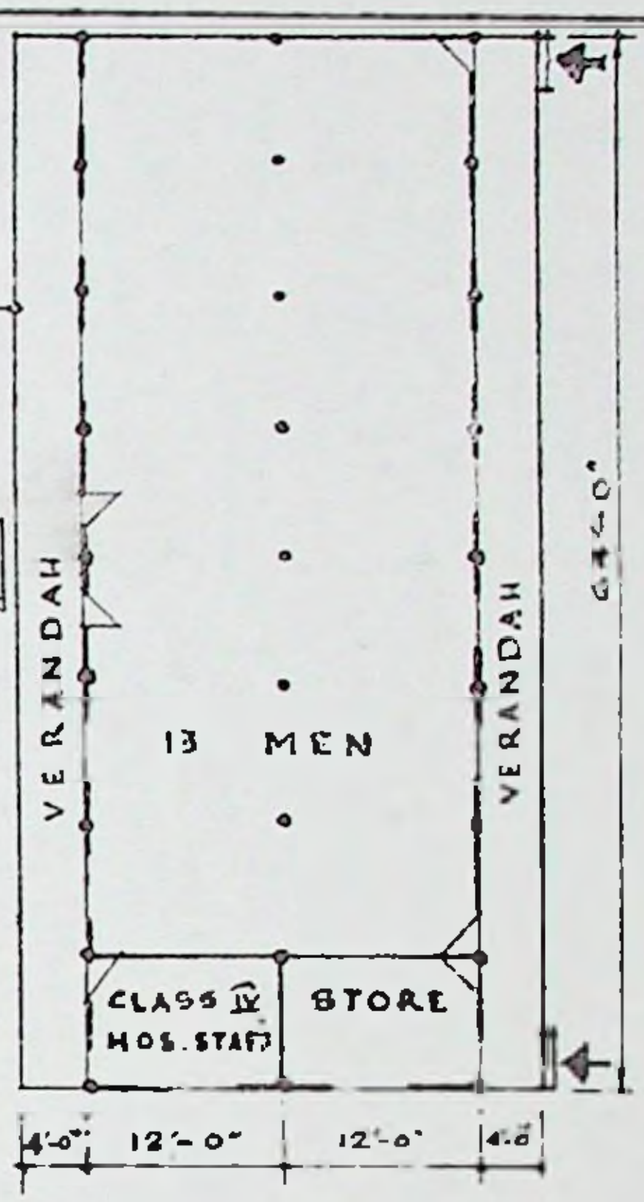
APPENDIX-V



KEY PLAN.



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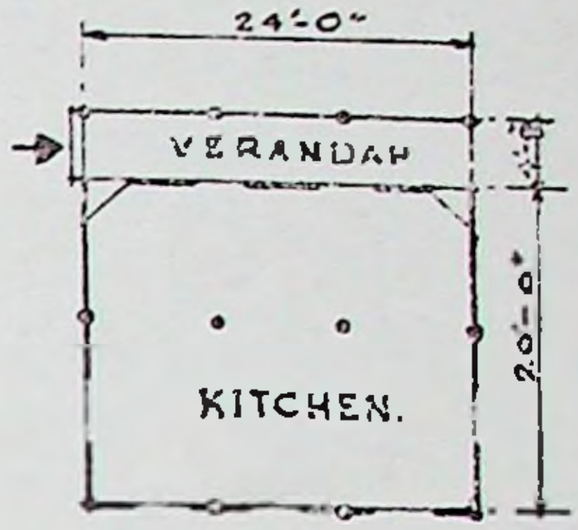
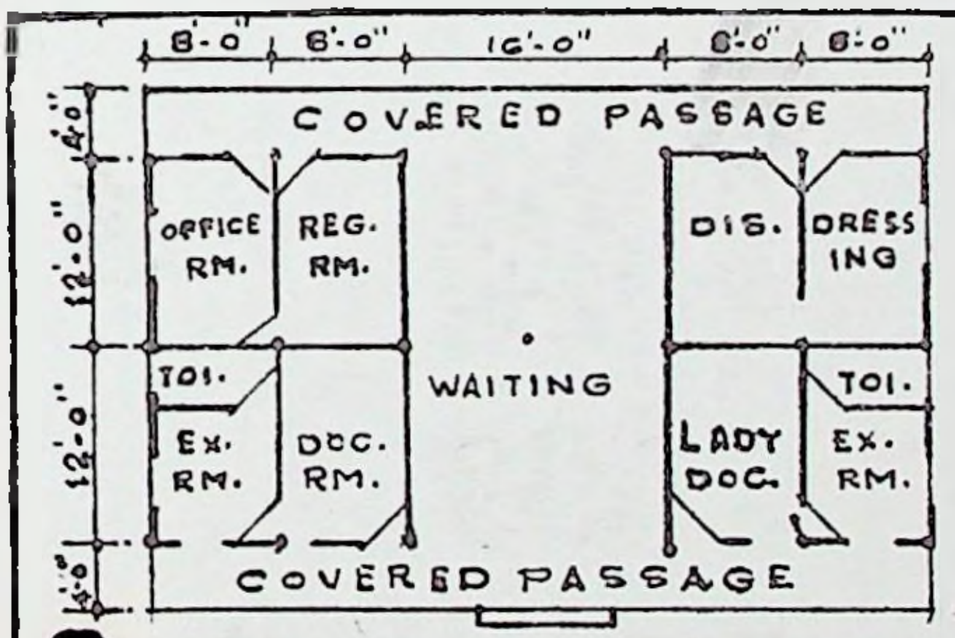


NO. C.

NOTE :—
THIS DRG. HAS BEEN PREPARED AS PER THE VERBAL INSTRUCTIONS BY- SRI K VUDAYACHALAM C.E. (E.Z.) TO THE ARCHITECT SRI T.K.D. BARMAN

TYPICAL HOSP. DESIGN FOR ACCOMMODATION OF DISPLACED PERSONS		
DRG. NO. SA(C)/637	SCALE- 1"=16'-0"	
DEALT BY- P. CHAKRAVERTI	DATED SEPT '71.	
SD/- M. CHAKRAVERTI ASST. ARCH.	SD/- T.K.D. BARMAN ARCHITECT.	SD/- K.N. NIGAM SR. ARCHITECT
SENIOR ARCHITECT 'C'		
C.P.W.D. CALCUTTA.		

APPENDIX - VI.



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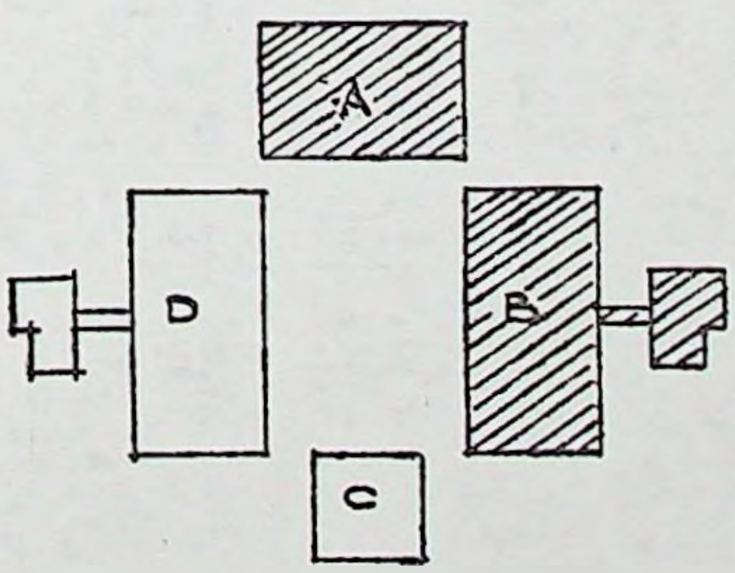
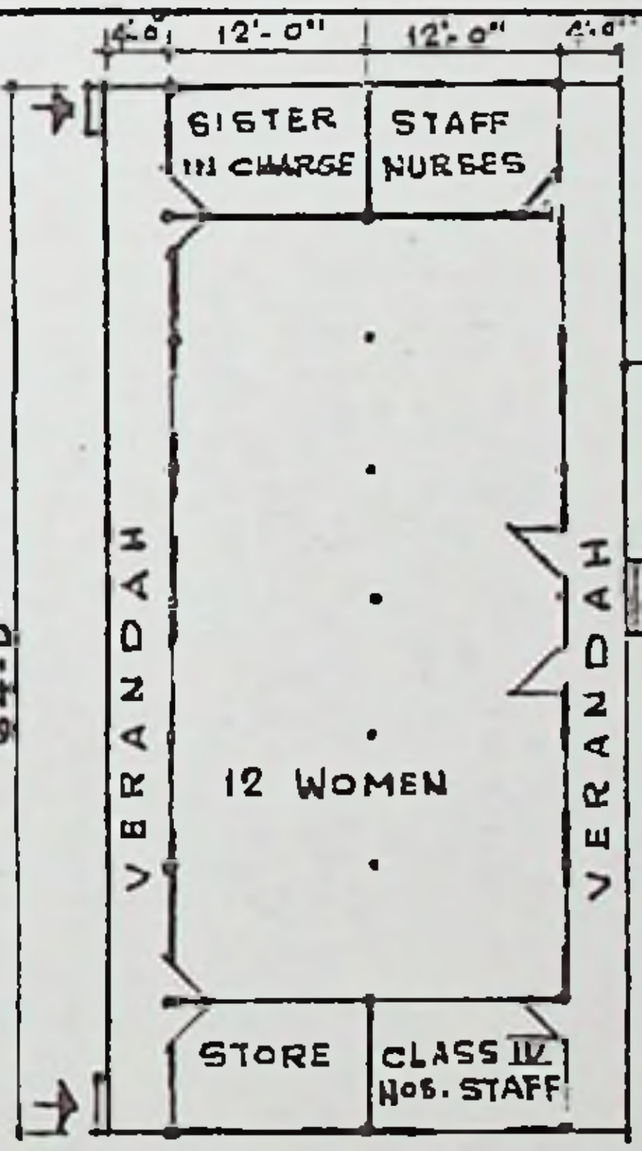
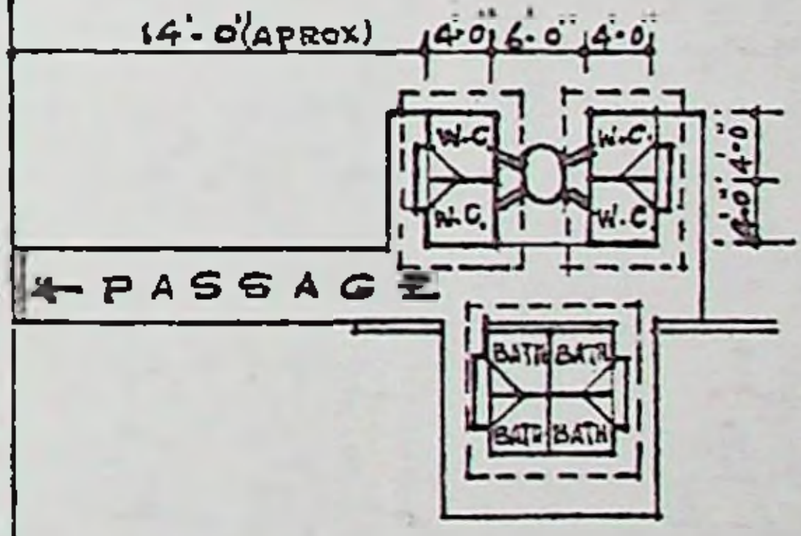


KEY PLAN.
HOSPITAL FOR 25 PERSONS.



NO. B.

NOTES:-
THIS DRG. HAS BEEN PREPARED AS PER THE VERBAL INSTRUCTION BY SRI K VUDAYACHALAM C.E. (E.Z.) TO THE ARCHITECT T.K.D. BARMAN.



TYPICAL HOSP. DESIGN FOR ACCOMODATION OF DISPLACED PERSONS		
DRG. NO. SA(C)/638	SCALE:- 1"=16'-0"	
DEALT BY. P. CHAKRAVERTI	DATE SEP.' 71	
M. CHAKRAVERTI ASST. ARCH.	T.K.D. BARMAN ARCHITECT	K.N. NIGAM SR. ARCH.
SENIOR ARCHITECT C		
C.P.W.D., CALCUTTA.		

and nearly 700 dispensaries were erected in the areas of refugee concentrations (see Table 1).

149. The medical equipment contributed by the United Nations system consisted of a field hospital, valued at about $60,300, 1,304 hospital tents valued at $568,304, 80 barracks and hospital tents valued at $94,700, and an equipped mobile unit (trailer) valued at $2,970.

C. MEDICAL PERSONNEL

150. In the early days of the crisis, the Government of India decided, as a matter of policy, that medical and para-medical personnel for the refugee assistance programme would be provided by the Central and the State Governments from their existing medical establishments or arranged by them from medical colleges and other institutions. The presence in the camps of non-Indian doctors and other medical personnel working individually or on behalf of voluntary agencies was discouraged. The same restriction applied to the United Nations organizations, including WHO.

151. This decision caused some surprise in international opinion, particularly among non-governmental organizations, who were keenly aware of the health hazards which threatened both the refugees and the local population, and were eager to help with all the resources at their disposal. The Indian authorities based their position on the following reasons:

a) There were in India a large number of doctors and medical assistants who were not gainfully employed and could be hired for the purpose, thus acquiring a valuable field experience.

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b) The cost of travel and the generally short duration of the missions made the employment of foreign personnel uneconomical.

c) Foreign volunteers were generally not used to work under the rough conditions of the camps in a tropical climate. They would require comfortable accommodation, which would be costly.

d) Finally, the language barrier: foreign workers would have to be assisted by interpreters, which was complicated and expensive.

52. In practice, some foreign teams did accomplish excellent work in ome specialized fields such as pediatrics, as long as they were allowed to ontinue their activity, but the Government's decision appears to have een, on the whole, well founded, and probably helped to prevent confusion nd overlapping. In the course of time, as the pattern of medical ssistance became more or less settled, the Government welcomed the ooperation of foreign voluntary agencies and designated camps where they arried out their programmes. To mention a few instances, Save the hildren Fund opened the first children's hospital in Salt Lake Camp, which ater became a model for other such facilities set up to cure advanced rotein malnutrition amongst children. Caritas-India also ran dispensaries nd hospitals for women and children in Salt Lake and other places in West engal. Among the Indian voluntary agencies, the Rama Krishna Mission and he Bharat Sevashram Sangh, to name only two, opened dispensaries in a number of camps in West Bengal.

53. Apart from strengthening the regular staff of the State Health Services n the areas of refugee concentration, which involved the employment of 853

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doctors, 142 nurses and midwives, and over 3,000 other workers, and from the work of the voluntary agencies, the Government also found it necessary to recruit for a short period special medical teams, generally consisting of a doctor, a nurse and two assistants paid on a daily basis. The expenditure incurred to hire these teams was $ 280,000.

The United Nations Focal Point provided a contribution in cash of $250,000 towards this expenditure.

D. REMARKS ON SOME OF THE MAIN INFECTIOUS DISEASES

154. The following remarks are only intended to highlight some of the specific health problems which arose amongst the refugee population and not as an exhaustive report on morbidity. Table 3 at the end of this section shows inoculations, number of cases and deaths from some of the major diseases which affected the refugee population, according to the records of the Government of India. A separate sub-section will be devoted to malnutrition among the children and to the measures taken to combat it.

a) Cholera

155. The first cases of cholera were reported among the refugees towards the end of April 1971 from the Cachar district in Assam. When these were followed in May by similar reports from the districts of Malda, 24 Parganas and Nadia in West Bengal, it was clear that these were not sporadic cases and that an epidemic was emerging. Although cholera is endemic in parts of the eastern region of India, laboratory tests indicated that the disease was carried from East Bengal by the refugees and had not started in the camps. However, in view of the over-crowding, the poor sanitary

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conditions and the state of exhaustion of the refugees after a long march, the whole camp population was exposed to the disease. Local hospitals and dispensaries treated the early cases, but the local stocks of anti-cholera vaccine and fluid were soon exhausted. The Government of India, therefore, requested the United Nations to airlift anti-cholera drugs. The request reached Geneva on 4 June 1971, and the first consignments of 2.5 tons of drugs left Geneva for Delhi on 5 and 6 June. During the month of June alone, WHO flew to India and placed at the disposal of the Government over 9 million doses of vaccine, 54,050 litres of rehydration fluid, 1.3 million injection needles and 70 automatic "pedojet" injectors. The air-lift continued unabated from June through August at the rate of 40 or 50 tons a week, and involved not only anti-cholera equipment and drugs, but other vitally required medical supplies. In addition to special flights, a number of commercial airlines also carried supplies free to India on a "space available" basis. The League of Red Cross Societies and the Indian Red Cross played a major role in the effort.

156. Anti-cholera vaccination became part of the compulsory process which refugees had to go through, crossing the border into India, when they were also given a temporary registration document and a high-calorie ration to sustain themselves during the journey inland from the border areas to the camps. Throughout the duration of the influx, teams of Indian doctors and nurses worked round the clock with admirable devotion to carry out this vaccination programme. In all, nearly 21 million doses of anti-cholera vaccine were provided through the United Nations system,

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which were used to inoculate both the refugees and the local population in the surrounding areas.

157. According to statistics computed by the Government of India, there were 49,840 seizures of cholera among the refugees, resulting in 6,144 deaths. As tragic as these figures are, the incidence of the disease was lower than could have been feared in the circumstances, and the percentage of fatalities itself was kept exceptionally low.

158. What can be regarded in retrospect as the success of the anti-cholera drive was due to the massive preventive action taken. The large-scale immunization programme was made possible by the constant flow of anti-cholera drugs from abroad, covering not only the refugees but the local population livin within a five-mile radius of the refugee camps. The use of the "pedojet" injectors in the inoculation campaigns was a revolutionary novelty which enabled the teams to cover all the vulnerable groups in time. Simultaneously, a sanitation and cleanliness drive was launched in all the camps by the health authorities, as well as by the Indian Red Cross and the various Indian and foreign voluntary agencies.

b) Smallpox

159. Two outbreaks of smallpox were reported among the refugees, the first one towards the end of April 1971, and the second one in January 1972.

160. In the first outbreak in West Bengal, 764 cases were reported, of whom 392 died. Some 200 cases were reported in other states, apparently none of them fatal. The states in the eastern region were asked to undertake a mass vaccination programme in the course of which 5.1 million persons were vaccinated and the disease was kept in check.

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161. The second outbreak was reported from the Salt Lake Camp near Calcutta, in the last week of January 1972. The situation was kept under close watch. Mass vaccination was undertaken. Vaccination squads were posted at the exit points from the camps to ensure that nobody left the camp unvaccinated and no refugee was allowed to leave the camp and return to Bangladesh before 10 days from the date of the vaccination. The situation quickly became normal again.

E. MALNUTRITION

162. In a population of displaced persons already exceptionally exposed to various diseases, children are a particularly vulnerable group. Apart from the hazards of living in an unhealthy environment and under poor shelter, calorie deficiency affects them more than it does adults. Furthermore the only attention many refugee children received was from their mothers, whose affection could not make up for their ignorance of the symptoms of disease and of the action to be taken.

163. The daily ration laid down by the Government of India for children below 8 years of age provided in principle for a calorie content of just over 1,000, with 26 grammes of proteins. However, a high incidence of severe forms of protein-calorie malnutrition was observed amongst the refugee children by the UNICEF staff in June 1971. This was confirmed in July by a team from the All India Institute of Medical Sciences, New Delhi, consisting of Dr. V. Ramalingaswami, its Director, and Dr. B. N. Tandon, who had been commissioned by the Government of India to report on the state of nutribion and health of refugee children. UNICEF reports

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described many of the malnutrition cases as fitting the description of the late stages of Kwashiorkor.

164. The team visited six districts of West Bengal for nine days and assessed by anthropometric measurements and clinical examination 800 infants and children below 5 years of age. According to its report, nearly 50% of the infants and pre-school children examined suffered from more or less severe degrees of protein malnutrition. The authors were careful to point out that these findings, based on a small sampling, might not reflect the actual incidence of malnutrition among the refugee population as a whole; nevertheless, the report said, the results provided a rough approximation of the magnitude of the problem. From their observations, the team gathered the impression that many of the children did not receive the quantity of food provided for them in the rations. This uneven distribution of food within a family was further borne out by the general good state of health of adult males, compared to the poor health of infants and children. The situation was made worse by poor environmental sanitation, which exposed the children to repeated gastro-intestinal infections, and by the common practice among Bengali families to withhold all solid food from a child sick with fever or diarrhoea, and to feed him only on "sago" (a local tapioca) and barley water.

165. In these circumstances, any acute infection could prove fatal, and the current treatment of the infection itself was insufficient. The team therefore suggested the launching of an emergency supplementary feeding operation for an estimated 300,000 infants and pre-school children who, to quote from the report, were "at the edge of a precipice, nutritionally speaking".

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166. The action suggested was two-fold, both steps having to be taken simultaneously:

i) establishment of large-scale milk feeding centres to protect those children who were suffering from early stages of nutritional deprivation from more serious forms of malnutrition;

ii) establishment of nutritional therapy centres as a life-saving operation for children under 5 years who exhibited signs of moderate and severe protein-calorie malnutrition.

167. The establishment of nutritional therapy centres, although conceived as an independent operation for seriously sick children, was to be closely related to the establishment of the supplementary feeding centres where, apart from milk, such protein-rich foods as Balahar (wheat flour, peanut flour, chick-pea flour), CSM (Corn mixture of Soya Milk), and WSB (mixture of Wheat and Soya beans) could be distributed.

168. These recommendations were considered by a specially constituted Technical Working Group at the end of July and the beginning of August 1971, and led to the formulation of detailed plans which were submitted for approval to the Government of India. The Government accepted the proposals of the Technical Working Group and on 9 September requested the United Nations Focal Point to make available the necessary funds. The Focal Point had, in anticipation already placed $3.5 million at the disposal of UNICEF for the purpose.

Mass Supplementary Feeding.

169. Supplementary feeding schemes had been a feature of the relief programme since its inception and children and lactating mothers were given

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milk powder as an additional item of ration. In addition, the Indian Red Cross and the voluntary agencies also issued milk powder to these vulnerable categories of refugees. As mentioned in Section II (Food), the Government had in fact included milk powder and children's food in its first requests. However, these operations remained very limited, and covered only a small minority of the vulnerable groups. On the basis of the recommendations of the Technical Working Group, the Government of India approved the setting up of 1,000 feeding centres, to cover about two million beneficiaries, i.e. all children under 5 years of age, part of the children between 5 to 8 years of age and pregnant and lactating mothers, who needed a high protein diet in addition to their normal ration.

170. An important feature of the scheme was that all the wherewithal, i.e. food and other supplies, as well as the equipment for the reconstitution and preparation of milk, storage facilities, record cards, transportation, and funds for staff salaries, were to be provided in a complete package, so as to avoid break-downs which could have resulted from the lack of any of the essential ingredients of the operation.

171. The overall responsibility for implementing the scheme was entrusted to the Indian Red Cross and, where it was unable to take up this work, to the local camp authorities. The Indian Red Cross office in Calcutta undertook this programme in consultation with various voluntary agencies and a Coordinating Committee earmarked camps for various agencies to run the feeding centres. At the peak of this coordinated programme almost 1,000 supplementary feeding centres were being run in the camps. In accordance with a detailed plan of operations prepared by UNICEF,

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an amount of approximately $ 187,000 was provided as an advance to the Indian Red Cross in October to meet cash expenditures. The League of Red Cross Societies had financed a sizeable part of the cash expenditures involved.

172. As the refugees started to return home, feeding centres were closed down. Consequently there was a surplus of protein-enriched food (CSM, WSB) and of milk powder. After consultations with the Government of India and the donors, it was decided that the bulk of such surplus stocks would be transferred to Bangladesh. A part of the stocks was also diverted to Orissa for distribution among the victims of the cyclone there. About 6,000 tons of these supplies has been transferred to Bangladesh and over 5,000 tons to Orissa by 30 April 1972.

Nutritional Therapy Centres:

173. Whereas a supplementary feeding programme, even though on a limited scale, was in operation from the very beginning, the medical treatment of children suffering from advanced protein malnutrition posed entirely new problems. The conclusions and recommendations of the Technical Working Group would have to be tested in the field and would be subject to modifications in the light of experience.

174. The Group prepared a detailed plan of operations which included a suggested layout of the proposed therapy centres, listed the equipment required, and recommended several alternative recipes for ready-mix high protein feeds. It also recommended that 500 nutrition therapy centres be opened, each centre to take care of over 200 children. The children were to be given four feeds a day of a specially prepared high protein

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diet under the supervision of medical and para-medical staff at the centre itself. The diet finally agreed upon consisted of Calcium Caseinate, Skim Milk Powder and Castor Sugar, which came to be known as K-Mix-2, and was prepared in Aligarh, Uttar Pradesh, and sent to the refugee camps. Each group of 15 centres was to be supervised by a doctor (physician, pediatrician or nutritionist). From the $3.5 million made available to UNICEF and previously mentioned, an advance of $ 217,000 was made to the Department of Rehabilitation on 4 November to cover the cost of the scheme till 31 December.

175. It was decided that the centres would be established according to a phased programme, the first phase to begin with 100 centres, so that the experience gained could be used in setting up the other centres. However, the implementation of the plan was overtaken by the hostilities, followed by the mass repatriation of the refugees, and eventually only 88 centres were established.

176. The work was reviewed by the All-India Institute of Medical Science in December. The report took note of a remarkable improvement in the health of the children treated, who showed a significant weight gain. The incidence of acute infections (diarrhoea, upper respiratory diseases) had been reduced. Mortality fell to a very low 1% of the cases, and that mostly during the first few days of activity of the centres. An important finding was the effectiveness and acceptability of K-Mix-2, which caused a marked improvement even by the end of the first week of treatment. The nutritional therapy centres and K-Mix-2 have proved to be important breakthroughs. Their effectiveness was so widely accepted that the Government of India is planning to introduce the technique as part of its regular health programmes.

OVERALL EXPENDITURE INCURRED TOWARDS THE PROVISION OF HEALTH SERVICES

(Source : Government of India)

State	Number of Medical Units		Number of Staff					Total Expenditure incurred (in US $)
	Hospitals	Dispensaries	Doctors	Staff nurses Midwives	Other para-medical and clerical staff	Ancillary staff	Total	
West Bengal	1,000 additional beds in 25 existing hospitals	500	570	...	1,550	...	2,120	6,466,667
Assam	...	...	54	...	395	...	449	413,333
Meghalaya	250 beds	37	69	70	136	71	346	666,666
Tripura	100 beds	123	126	32	399	134	691	1,400,000
Central camps in other states	375 beds	19	34	40	69	319	462	880,000
Total	1,725 beds	679	853	142	2,549	524	4,068	9,826,666

Notes: (a) Conversion into dollars done at the official UN rate of $1 = Rs 7.5, valid in 1971.

(b) The total expenditure incurred includes the cost of medicines and medical equipments received from abroad.

(c) The above figures are provisional.

(d) The totals are partial, since some data from West Bengal and Assam are missing.

SECTION IV HEALTH
TABLE 2

Contributions towards Health Services
through the United Nations System
(valued in US $)

	Purchased from Cash	Received in Kind	Total
1) Basic Medical Equipment			
1 Field hospital	60,286.00		60,286.00
40 Marquees	30,957.00		30,957.00
37 Hospital tents		20,000.00	20,000.00
1,804 Hospital tents	611,718.00		611,718.00
1 Mobile Unit (trailer)	2,970.00		2,970.00
2) Medicines and Medical Supplies			
a) Provided or purchased abroad	2,910,251.00	466,094.00	3,376,345.00
b) Purchased by G.O.I.	300,000.00		300,000.00
3) Medical Personnel			
Towards costs of medical teams employed by G.O.I.	250,000.00		250,000.00
Total	4,166,182.00	486,094.00	4,652,276.00

SECTION IV: HEALTH

Table 3

INCIDENCE OF MAJOR DISEASES AMONGST THE REFUGEE POPULATION AND INOCULATION CAMPAIGNS

(1 April 1971 to 31 March 1972)

(Source: Government of India)

State	CHOLERA			SMALLPOX			DIPHTHERIA			Scabies (cases)	Respiratory Diseases (cases)
	Inoculations	Cases	Deaths	Inoculations	Cases	Deaths	Inoculations	Cases	Deaths		
W. Bengal	5,387,374	49,840	6,144	3,404,033	764	392	6,982	324	30	176,828	78,186
Assam	249,000	-	-	249,000	-	-	-	-	-	-	1,154
Meghalaya	548,780	-	-	343,984	144	-	-	-	-	-	384
Tripura	1,256,628	-	-	850,357	-	-	18,432	442	116	-	-
Central Camps in Madhya Pradesh, Bihar and Uttar Pradesh	257,682	-	-	257,682	50	-	150	-	-	22,000	2,300
TOTAL	7,699,464	49,840	6,144	5,105,056	958	392	25,564	766	146	198,828	82,024

Note: (a) Provisional figures

Contributions in cash and kind through the United Nations system for Mass Supplementary Feeding and Nutritional Therapy Centres.

Section IV
HEALTH
Table 4.

Item	Alpha (1000 centres)	Beta (88 Centres)	Total (in US $)
Contributions in kind			
a) Equipment: Utensils for milk preparation and distribution, lanterns, furniture, but excluding hospital-size tents accounted for under Health.	99,492	165,492	264,984
b) Supplies: Mainly protein enriched food; CSM, WBS, Balahar, in therapy centres, "K-mix-II"	3,657,766	1,179,046	4,836,812
Contributions in cash			403,600
a) To the Indian Red Cross for cash expenditures	186,667		
b) To the Government of India		216,933	
Total:	3,943,925	1,561,471	5,505,396

Notes: (a) Conversion into US dollars done at the official United Nations rate of $1 = Rs 7.5, valid in 1971.

(b) In agreement with the Government of India, substantial quantities of CSM and WBS were diverted to Bangladesh after the return of the refugees.

(c) Provisional figures.

Statistics - From Report of UNHCR on Activities of UN Focal point for assistance to refugees from East Bengal in India

A/8662/Add.3 S/10539/Add.3

11th August 1972

SECTION VII

General Statistics

TABLE I

Refugee population by State
Subdivided between refugees in camp and out of camp
on 1 December 1971

(Source Government of India)

State	Number of camps	Number of Refugees		
		Living in camps	Living with friends and relatives	Total
West Bengal	492	4,849,786	2,386,130	7,235,916
Tripura	276	834,098	547,551	1,381,649
Meghalaya	17	591,520	76,466	667,986
Assam	28	255,642	91,913	347,555
Bihar	8	36,732	-	36,732
Madhya Pradesh	3	219,298	-	219,298
Uttar Pradesh	1	10,169	-	10,169
TOTAL	825	6,797,245	3,102,060	9,899,305

Statements of Expenditure on Relief to Refugees from Bangladesh

(Source: Government of India)

	Indian Rs (in millions)	US $ (in millions)
Basic Food Rations, Value of other items in cash or kind including daily cash allowance	1,348.2	179.76
Shelter	579.7	77.29
Beddings	0.4	5
Water supply and sanitation	62.5	8.33
Vehicles	71.0	9.47
Transport charges (running expenses)	30.0	4.00
Blankets	36.0	4.80
Utensils	14.3	1.91
Clothing	43.2	5.76
Medicines	73.7	9.83
Baby food, milk powder, CSM/WSB, tinned stuffs and other food items	150.0	20.00
Operation Life Line	26.7	3.56
Repatriation expenses	409.3	54.57
Miscellaneous (including administrative expenses)	185.4	24.72
	3,030.4	404.05
Outstanding liabilities	200.0	26.67
	3,230.4	430.72

Notes: a) Provisional figures.

b) Conversion into US $ at the official UN rate of US $1 = I.Rs. 7.5, valid in 1971.

STATUS OF CONTRIBUTIONS THROUGH THE UN SYSTEM

SITUATION AS OF 21 JUNE 1972

IN US DOLLARS

DONOR GOVERNMENTS	PLEDGED			CASH RECEIVED
	CASH	KIND	TOTAL	
Argentina (1)	-	00.00	00.00	
Australia	595,521.68	1,760,145.18	2,355,666.86	501,293.48
Austria	164,789.58	-	164,789.58	99,789.58
Barbados	2,500.00	-	2,500.00	2,500.00
Belgium	1,082,110.00	62,553.19	1,144,663.19	1,082,110.00
Botswana	8,333.33	-	8,333.33	8,333.33
Brazil	-	17,204.23	17,204.23	.
Canada & Provinces	4,806,930.69	4,096,930.69	8,903,861.38	4,806,930.69
Ceylon	-	336,134.45	336,134.45	.
Chile	3,000.00		3,000.00	3,000.00
Colombia	-	3,000.00	3,000.00	.
Cyprus	11,999.04	-	11,999.04	11,999.04
Denmark	4,680,893.62	-	4,680,893.62	4,680,893.62
Dahomey	3,968.25	-	3,968.25	3,968.25
Fiji	5,000.00	-	5,000.00	5,000.00
Finland	577,783.09	-	577,783.09	577,783.09
France	2,908,114.91	-	2,908,114.91	2,908,114.91
Gambia	235.00	-	235.00	235.00
Germany (Fed.Rep.)(2)	17,471,226.25	200,000.00	17,671,226.25	17,471,226.25
Ghana	25,009.80	-	25,009.80	25,009.80
Guinea	-	20,000.00	20,000.00	.
Guyana	2,500.00	5,180.00	7,680.00	2,500.00
Holy See	5,000.00	-	5,000.00	5,000.00
Iceland	8,594.79	-	8,594.79	8,594.79
Iran	-	183,606.56	183,606.56	.
Ireland	134,852.42	119,990.40	254,842.82	134,852.42
Italy	23,828.97	-	23,828.97	23,828.97
Jamaica	12,745.10	-	12,745.10	12,745.10
Japan	-	4,891,700.00	4,891,700.00	.
Kenya	27,678.22	-	27,678.22	27,678.22
Khmer Republic	1,000.00	-	1,000.00	-
Kuwait	60,000.00	-	60,000.00	60,000.00
Liberia	30,000.00	-	30,000.00	30,000.00
Libya	200,204.15	-	200,204.15	200,204.15
Liechtenstein	10,037.77	-	10,037.77	10,037.77
Luxembourg	15,957.45	-	15,957.45	15,957.45
Malaysia	27,099.60	-	27,099.60	27,099.60
Mauritius	1,869.16	50,000.00	51,869.16	1,869.16
Monaco	5,434.78	-	5,434.78	5,434.78

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(1) The original pledge from Argentina (4,000 metric tons of wheat) has been transferred to UNRCD, Dacca.

(2) Not including DM 7,200,000 (US $2,168,674.70) utilized by German voluntary agencies in Bangladesh.

DONOR / GOVERNMENTS cont'd	PLEDGED CASH	PLEDGED KIND	PLEDGED TOTAL	CASH RECEIVED
Nepal	2,450.98	-	2,450.98	2,450.98
Netherlands	4,423,318.12	1,332,312.59	5,755,630.71	4,423,318.12
New Zealand	115,170.79	-	115,170.79	115,170.79
Nigeria	70,000.00	-	70,000.00	70,000.00
Norway	3,781,804.96	-	3,781,804.96	3,781,804.96
Oman (Sultarate of)	25,000.00	-	25,000.00	25,000.00
Peru	-	184,898.15	184,898.15	-
San Marino	1,602.56	-	1,602.56	1,602.56
Senegal	7,194.24	-	7,194.24	7,194.24
Singapore	13,147.08	-	13,147.08	13,147.08
Spain	-	42,857.00	42,857.00	-
Swaziland	1,199.90	-	1,199.90	1,199.90
Sweden	9,559,836.05	-	9,559,836.05	9,559,836.05
Switzerland	2,258,665.29	-	2,258,665.29	2,258,665.29
Tanzania (United Rep.of)	8,403.36	-	8,403.36	8,403.36
Thailand	-	24,800.00	24,800.00	-
Togo	1,167.31	-	1,167.31	1,167.31
Tonga	282.61	-	282.61	282.61
Trinidad & Tobago	10,058.44	-	10,058.44	10,058.44
Uganda	14,005.60	-	14,005.60	14,005.60
United Kingdom	25,663,411.98	-	25,663,411.98	25,663,411.98
United States (3)	35,700,000.00	46,425,000.00	82,175,000.00	35,444,887.30
Uruguay	2,000.00	-	2,000.00	-
Vietnam (Rep. of)	15,000.00	-	15,000.00	15,000.00
Yugoslavia	-	20,000.00	20,000.00	-
Zambia	28,003.36	-	28,003.36	-
Sov.Order of Malta	10,801.28	-	10,801.28	10,801.28
SUB TOTAL	114,876,741.56	59,776,312.44	174,653,054.00	114,381,397.30
NON GOVERNMENTAL ORGANIZATIONS:				
Australia	453,764.75	76,822.30	535,587.05	453,764.75
Belgium	105,803.19	13,285.53	119,088.72	105,803.19
Canada	97,212.01	-	97,212.01	97,212.01
Cyprus	783.30	-	783.30	783.30
France	1,130,006.66	-	1,130,006.66	1,130,006.66
Germany (Fed.Rep.)	1,535,607.66	-	1,535,607.66	1,535,607.66
Guyana	-	2,500.00	2,500.00	-
Ireland	1,199.60	-	1,199.60	1,199.60
Israel	1,226.19	-	1,226.19	1,226.19
Italy	849.61	-	849.61	849.61

(3) Not including US $ 10,232,000 i.c. the value of metric tons 40,000 sweetened CSM/WSB sent directly to Bangladesh. ../.

DONOR	P L E D G E D			CASH RECEIVED
	CASH	KIND	TOTAL	
NON GOVERNMENTAL ORGANIZATIONS cont.:				
Japan	55,454.54	61,609.03	117,063.57	55,454.54
Luxembourg	1,004.98	-	1,004.98	1,004.98
Netherlands	1,592,722.27	-	1,592,722.27	1,592,722.27
New Zealand	143,082.29	30,374.00	173,456.29	143,082.29
Norway	153,996.92	-	153,996.92	153,996.92
Sweden	124,740.12	-	124,740.12	124,740.12
United Kingdom	13,120.84	49,504.95	62,625.79	13,120.84
United States	304,522.26	-	304,522.26	304,522.26
SUB TOTAL	5,720,097.19	234,095.81	5,954,193.00	5,720,097.19
OTHER DONORS:				
- Air Companies	-	235,116.90	235,116.90	
- Gift Coupon Progr. UNESCO	9,730.00	-	9,730.00	9,730.00
- I.C.F.T.U.	1,463.02	-	1,463.02	1,463.02
- UN Staff Ass.	29,740.69	-	29,740.69	29,740.69
SUB TOTAL	40,933.71	235,116.90	276,050.61	40,933 71
PRIVATE DONORS:				
Canada	1,885.23	-	1,885.23	1,885.23
Malaysia	1,308.26	-	1,308.26	1,308.26
Switzerland	2,518.59	-	2,518.59	2,518.59
United States	20,986.34	-	20,986.34	20,986.34
Zaire	13,539.72	-	13,539.72	13,539.72
Other countries	3,707.98	-	3,707.98	3,707.98
SUB TOTAL	43,946.12	-	43,946.12	43,946.12
UN AGENCIES:				
- UNHCR	500,000.00	-	500,000.00	500,000.00
- UNICEF	-	600,000.00	600,000.00	.
- WHO	-	166,540.00	166,540.00	.
- WFP	-	2,782,111.00	2,782,111.00	.
SUB TOTAL	500,000.00	3,548,651.00	4,048,651.00	500,000.00
GRAND TOTAL (4)	119,476,338.59	63,794,176.15	183,270,514.74	118,580,994.33

(4) After substraction of US $ 1,705,379.99, as certain contributions transited through more than one donor.

SECTION VII
GENERAL STATISTICS

PLEDGES IN KIND THROUGH THE UN SYSTEM Table 4

21 JUNE 1972

DONOR	DESCRIPTION	QUANTITY	VALUE IN US $
GOVERNMENTS:			
Australia	Rice	9,775 mt	1,135,012.84
	Sugar	5,111 mt	625,132.34
Belgium	Air transport	3 flights	62,553.19
Brazil	Milk powder	18.5 mt	17,204.23
Canada:			
- Government	Rapeseed	24,897 mt	3,715,346.53
- Government	Air transport	10 flights	282,574.26
- Province of Saskatchewan	Rapeseed	642 mt	99,009.90
Ceylon	Clothing	250,000 sarongs	336,134.45
Colombia	Sugar	15 mt	3,000.00
Germany (Fed.Rep.)	Skim milk powder	300 mt	200,000.00
Guinea	Small pox vaccine	2 million units	20,000.00
Guyana	Rice	37 mt	5,180.00
Iran	Cholera vaccines	1 million doses	183,606.56
Ireland	Skim milk powder	227 mt	119.990.40
Japan	Rice	27,585 mt	3,691,700.00
	Skim milk powder	1,110 mt	1,000,000.00
Mauritius	Sugar	502 mt	50,000.00
Netherlands	Dried skim milk	272 mt	192,695.22
	Canned fish	100 mt	59,039.55
	Biscuits	870 mt	252,116.53
	Peas	2,590 mt	444,416.32
	Sugar	2,000 mt	354,948.46
	Under negotiation	---	29,096.51
Peru	Rice	1,000 mt	184,898.15
Spain	Medical supplies	...	42,857.00
Thailand	Rice	200 mt	23,000.00
	Sugar	10 mt	1,800.00
United States	Rice	96,632 mt	13,305,000.00
	Soy fortified bulgur	4,483 mt	935,000.00
	Vegetable oil	50,832 mt	15,950,000.00
	Food through voluntary agencies:	...	6,920,000.00
	WSB/CSI unsweetened	15,406 mt	4,315,000.00
Yugoslavia	Tents	37 units	20,000.00
SUB TOTAL		-	59,776,312.44

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DONOR	DESCRIPTION	QUANTITY	VALUE IN US $
OTHER DONORS:			
Australia	Blankets	21,500 units	76,822.30
Belgium	Blankets (Red Cross)	3,250 units	10,638.30
	Blankets (Secours Adven.)	1,600 units	2,647.23
Guyana	Rice	20 mt	2,500.00
Japan	Milk powder	7.5 mt	5,000.00
	Baby food	11.0 mt	23,761.90
	Medical supplies	100 cases	31,847.13
New Zealand	Whole milk biscuits	...	20,131.00
	Acriflavin	...	112.00
	Multi vitamin tablets	...	1,019.00
	Medical supplies	...	112.00
United Kingdom	Clothing	200,000 units	49,504.95
Air Companies	Air freight	118.1 mt	235,116.90
SUB TOTAL	-	-	469,212.71
UN AGENCIES:			
UNICEF	Equipment and supplies	...	500,000.00
WHO	Medical supplies	...	166,540.00
WFP	Milk powder	5,929 mt	1,871,149.00
	Edible oil	1,348 mt	852,981.00
	Pulses	193 mt	57,981.00
SUB TOTAL	-	-	3,548,651.00
GRAND TOTAL	-	-	63,794,176.15

SECTION VII - General Statistics Table 5

GLOBAL ANALYSIS OF ASSISTANCE FROM AID THROUGH THE UK SYSTEM AS OF 31 MAY 1972

	Million US$	Million US$
Paid in cash to the Government of India	60.29[a]	
Delivered in kind or processed for delivery to India, including value of overseas transportation	99.52	159.81
Contributions in cash and kind earmarked for, or paid by donor governments, to voluntary agencies		14.50
Cash under process of final allocation and cash receivable		7.07
Funds set aside for administrative expenditure and contingencies		1.89
Total		183.27

Note: a) of which 6.5 million for transfer to Bangladesh

DM 2.9

URGENT

SUMMARY REPORT ON THE STATE OF NUTRITION AND HEALTH OF INFANTS AND PRESCHOOL CHILDREN AMONG REFUGEES FROM EAST PAKISTAN

By

B.N. Tandon
and V. Ramalingaswami
All India Institute of Medical Sciences
New Delhi.

MESSAGE OF THE REPORT

The state of nutrition of infants and pre-school children among the refugees is serious. Urgent remedial action is needed.

24th July 1971

1. In 9 continuous days from the 14th to the 22nd of July, 1971, we studied the state of nutrition and health of infants and preschool children among refugees from East Pakistan in 6 districts of West Bengal through rapid methods of assessment. 13 camps were visited in these six districts and 800 infants and preschool children were assessed for prevalence of malnutrition by anthropometric measurements and clinical criteria. Rapid impressionistic surveys of nutrition and health in the camps in general were made involving a larger number of refugees.

2. <u>General Background</u>: A massive and highly impressive relief operation has been mounted. A vast network of camps totalling 1150 in number have been established. Some are transitory, others fixed. They are dotted all over the countryside in the districts bordering East Pakistan - in open fields, by the road side, along tank bunds, in temporary buildings and even under the cover of big banyan trees. Regrouping of camps is going on from time to time and the whole picture is in a state of flux. More evacuees are still arriving. Although there is much overcrowding, majority have some kind of shelter.

A remarkably successful operation for the distribution of food rations has been organised. Every family gets a card for rations according to a prescribed scale and rations are distributed weekly.

A large-scale operation for the control of cholera has been launched. Judging by the massive scale by which the influx of refugees took place bringing with them strains of cholera vibrio which are not now endemic in West Bengal, a halocaust could have taken place. But cholera has been tamed and the millions of Calcutta saved. Cholera and gastro enteritis treating centres have used the results of recent researches on cholera. 30 lakhs of refugees out of 34 in West Bengal alone have been inocculated against cholera. Although the death rates from cholera attacks vary considerably, they have generally been reasonably low. Smallpox has not shown up on any significant scale. 20 lakhs of refugees have been vaccinated against smallpox in the West Bengal sector alone. Other diseases such as infectious hepatitis and typhoid fever have not shown up as major problems. Conjunctivitis, measles and chickenpox have broken out in some camps.

Measures for the improvement of environmental sanitation can never be adequate in a catastrophe of this magnitude. Nevertheless, an impressive set of measures has been taken in the form of sinking of tubewells, disinfection of water sources and anti-malarial measures. At this time of the year, in rural West Bengal with the heavy monsoon showers, there is so much stagnant water all around that pollution of environmental waters presents great many difficulties for control.

3. <u>Nutrition of Infants and Children</u>: The major nutritional problem of infants and children was Protein Calorie Malnutrition. Nearly 50 per cent

of the infants and preschool children studied fell into the categories of either moderate or severe degrees of protein calorie malnutrition. Diarrhoea, obviously related to the state of environmental sanitation and lowered resistance to infection, is a nearly universal accompaniment of malnutrition. Even minor infections would tip the scales in such deprived children and unless urgent remedial measures are taken, substantial loss of infant and child population may occur quite apart from developmental retardation that is bound to afflict this group widely.

We were informed that by the 10th of July 1971, 6.7 million refugees have crossed over from East Pakistan, of which 5.1 millions have crossed into West Bengal alone. There are believed to be 1.1 million children below the age of 8 years in this population and 0.3 million lactating mothers. It is possible that children below 5 years would be approximately 0.6 millions (6 lakhs) in numbers.

Our finding that 50 per cent of children below 5 years of age show moderately severe and advanced stages of Protein-Calorie Malnutrition in a study of 800 children in this age group in the 6 districts of West Bengal may not be applicable to the actual prevalence of these forms of malnutrition in the refugee population as a whole. Our sample is very small and not representative; nevertheless, we believe that the results provide a rough approximation of the magnitude of the problem. Undoubtedly there are camps where the picture is a good deal worse and others better.

We estimate that 0.3 million (3 lakhs) of infants and preschool children under 5 years of age may be suffering from moderately severe and extreme forms of malnutrition among the entire refugee population. Their rehabilitation is a matter of great urgency as any acute infection can prove fatal in a majority of them. Current efforts of treating the infection alone cannot save the lives of these children.

4. Food: Every person above the age of 8 gets the following ration per day, those below 8 years of age get one-half of this ration.

Ration		Calorie content	Protein content (Gm)
Rice (white)	400 gms	1392	30 gm.
Pulses (Bengal gram dal)	100 gms.	372	20.8 gms.
Vegetables (Potato and onion) 3:1	300gms.	240	3.0 gms.
Oil	250gms/week/family 3	-	
Total/adult unit		2036	53.0 gms.

This provision would provide approximately 2000 calories and 53 gms. of protein of vegetable origin derived from rice and pulses mainly. While it does not fulfill all the nutrient needs of an adult, it goes a long way towards meeting them with particular reference to calories and proteins.

Any child under the age of 8 is provided with one-half of this quantity. Thus, theoretically

each child under 5 gets approximately 1000 calories and 27 gms. of protein. Despite this, however, there is wide prevalence of severe forms of protein calorie malnutrition among the refugee children. The impression we gather from observing a number of children in the camps is that many of them do not receive the quantities of food provided for them in the ration. This, coupled with the state of environmental sanitation which exposes them to repeated gastrointestinal infections, aggravates the situation. Furthermore, it is a common practice among the refugee families, as it is in the rest of India, that whenever a child falls sick with fever or diarrhoea, all solid food is withheld and 'sago' and barley water are given. Indeed we have come across instances where the regular rations have been sold in order to buy sago or barley for feeding sick children. This can only make the already bad nutritional situation worse. That there is an uneven distribution of food within the family is further borne out by the fact that while the state of health and physique of adult males in many of the camps is in general quite good, that of their infants and children is serious.

5. Remedial Measures:

Nutritional Therapy Centres and Large-scale Milk Feeding Centres: The enormous numbers of infants and preschool children estimated at 3 lakhs that are at the edge of a precipice, nutritionally speaking, calls for an emergency relief operation of supplementary feeding with proteins and calories. Time is of the essence. We do not think that increasing the rations would

make a significant impact on this problem, in the immediate future, although, logistically, this would be a far simpler operation. The relative availability of food grains in the huts and tents alongside extreme hunger and starvation of infants and children is an indication for rapid remedial action through supplementary feeding.

We recommend that two steps be taken simultaneously and immediately - 1) Establishment of Nutritional Therapy Centres for all children under the age of 5 who exhibit signs of moderate and severe forms of protein calorie malnutrition as a life saving operation and 2) Establishment of large-scale milk feeding centres for all infants and children under 5 years of age mainly as a measure for preventing those children who are in the early stages of nutritional deprivation and are beginning to falter, from getting into graver forms of malnutrition.

Children between 1 and 3 years of age are in most urgent need of nutritional therapy and rehabilitation. Highest possible priority should be given to this group.

Organisational Setup: The general administrative framework of the districts under the supervision of the District Magistrate and the health teams under the District Chief Medical Officer of Health are doing a splendid job but they are presently greatly overworked, many are tired and exhausted. It would be unfair to expect this group to share the additional burden for the twin activities proposed here - Nutritional Therapy of seriously sick children and Mass Feeding of Milk to the not-so-sick without giving them additional full-time

support; and yet it is important that this nutritional work be closely integrated with the health effort in the area - medical relief, environmental sanitation, preventive inocculation etc.

We suggest the setting up of a Nutritional Relief Agency for the refugees with a Co-ordinating and Policy Committee controlling it at the highest level. The Committee would have the authority to direct the relief operation and to sequester personnel and resources and to make all decisions relating to the relief effort. An executive secretary, a dynamic person preferably a technical person, could function on behalf of the Committee. The composition of the Committee may be such as to provide for a co-ordinated approach by the Central Government and the State Governments of West Bengal, Tripura, Meghalaya and Assam. Representatives of international organisations that are deeply involved in the relief effort such as UNICEF, The World Food Programme and the Red Cross should be closely associated with the Committee. Voluntary agencies which have a significant role to play in the implementation of the programme should also be connected. The Committee would serve as a contact point with all national and international bodies connected with the relief effort. It would centralise resources, localise areas where disaster is impending and mobilise effort for dealing with it rapidly. It would have surveillance teams which provide an assessment of the nutritional situation in the camps from time to time.

This Committee through its executive secretary functions in the districts through District Co-ordination Committees which already exist on which the District Magistrate and the Chief Medical Officer of Health and others are represented. At the operational level, full-time personnel would be employed for the preparation of food and on-the-spot feeding and transport and equipment needed for the operation should be provided.

It is understood that a plan has been drawn up recently by the UNICEF in association with the Red Cross for the feeding of approximately 2 million children below the age of 8 years and nearly 400,000 lactating mothers through the establishment of 1000 feeding centres each of which will feed 2000 beneficiaries. The foods for this purpose would come from the Red Cross, the UNICEF and the World Food Programme. The Plan also envisages the commitments that the Red Cross and UNICEF would undertake in the implementation of this programme with the Red Cross as the main executive agency.

While we are in agreement in principle with this programme and support it entirely, we believe that this alone where children would be collected at a feeding centre, would not take care of children seriously ill with moderate and advanced forms of protein calorie malnutrition who lie in the tents and huts and whose feeding requires individual effort and whose rehabilitation involves in addition to feeding special foods other measures for the control of infection and correction of fluid and electrolyte disturbances.

We, therefore, recommend the establishment of Nutritional Therapy Centres for the care of these sick children as an operation by itself but in close relationships with the milk feeding programme. In addition to milk, a number of other processed foods of proved value may be used in the Therapy and Feeding Centres - Balahar, CSM, PKFM etc.

Unless urgent remedial measures are taken to improve the nutrition of infants and children, much of the effort already made and the future effort in preventive inocculations and environmental sanitation would be greatly frustrated for the full benefits of such activities cannot be realised without a complementary improvement in the state of nutrition.

. Rations: As an emergency subsistence, the scale of ration provided meets the bulk of the caloric and protein needs of adults. In actual practice, we observed that in some of the camps we visited, what is theoretically provided is not fully distributed. In all camps 400 gm of cereals are being given. In some camps, 100 gm of pulses are being distributed as in the scale of rations, in some 50 gm only and in others none at all. We urge strongly that all measures should be taken to see that 100 gm. of pulses should be distributed in all camps.

We observed in one camp that in place of pulses, Kesari Dal was being distributed. This is dangerous and should be suspended. We don't think, however, that Kesari Dal is being distributed on any large scale.

The scale of rations provides for 300 gms. of vegetables. In no camp did we find this provision fulfilled. In some, 100 gm. of potato is being given; in others none. Every effort should be made to provide the full amount of 300 gms. for this would greatly improve the nutritive value of the ration. The countryside of West Bengal abounds in green leafy vegetables at this time. All edible and available green leaves should be utilised to the extent of 100 gms. a day per adult unit.

The scale of ration provides for oil although the exact quantity is not specified. Its distribution is erratic. We recommend that 50 gms. of oil be supplied per adult per day. This would be welcomed by the population and would confer nutritional benefits upon them.

In many camps, in lieu of either vegetables, or oil or salt and condiments, cash is being given. We realise that this is being done because of non-availability. We strongly discourage this practice of provision of cash in place of food materials.

The replacement of rice by wheat flour to the extent of 100-200 gm. per adult unit per day should present no problem and we recommend it to the extent that the exigency of cereal supplies dictates.

Children between 5 and 8 years of age suffer quite a marked deficit in their caloric needs under the existing scale of ration. Stepping up of the scale to this group from one-half to two-thirds of the adult scale may be considered.

Two meetings of the Technical Working Group of the Co-ordination Committee was held on Saturday, the 31st July, at 4.00 P.M. and on Monday the 2nd of August, 1971 at 11.30 A.M. in the Board Room of the All-India Institute of Medical Sciences. Prof. V. Ramalingaswami was in the Chair and the following were present:-

Dr. Raghunath Sahai Chawla
Shri Anupam Dhar (Present only on 31st July)
Shri K.K.N.P. Rao
Mr. H.K. Kuloy
Mr. W. Keller
Dr. F.J. Loven
Dr. G.V. Foll
Mr. T. Page
General Moitra (Present only on 31st July)
Col. Bhatia (" " " ")
Mr. Emil Erla (" " " ")
Dr. Banwari Lal
Dr. B.N. Tandon
Dr. L.M. Nath.
Prof. O.P. Ghai (Present only on 2nd August)
Mrs. P. Kaushik (" " " ")

The Chairman welcomed the members and appointed Dr. L.M. Nath as rapporteur. Dr. B.N. Tandon and Shri K. Ramachandran presented a draft plan for Nutritional Therapy Centres and Mass Supplementary Feeding Centres.

The plan was designed to deal with the urgent nutritional problems of infants and preschool children among the refugees as brought out in the recent study of Drs. Ramalingaswami and Tandon. Children under 5 years of age suffering from severe forms of protein-calorie malnutrition (Grade III) needed to be treated and rehabilitated in Nutritional Therapy Centres. The rest of the children under 5 years would be given supplementary feeds on a mass scale at supplementary Feeding Centres. Children between 5 to 8 years, pregnant women and lactating mothers would be supplied along with their ration - supplementary foods.

Highest priority would be given to the treatment of children under 5 years of age with severe protein-calorie malnutrition, whose lives are in peril. Next in order of priority would be supplementary feeding of the other children under 5 years who are not so sick, followed by preventive supplementary feeding of older children, pregnant women and lactating mothers.

The Plan was discussed in detail and as a result, the proposals attached herewith have emerged.

The Group urges the Chairman of the Central Co-ordination Committee to give his urgent consideration to the measures suggested here.

The Group desired to record their appreciation of the help and co-operation given by the All-India Institute of Medical Sciences in focussing attention on the problem and in devising methods for its amelioration.

EQUIPMENT PER CENTRE:

Hospital tents	- 4 to 5 of size 30'x20'
Small tents	- 5 of size 12'x12'
Degchis	- 4
Buckets	- 10
Stirrers	- 6
Measures	- 8
Spoons	- 30
Feeding cups with spouts	-100
Plastic sheets	- 30 of size $4\frac{1}{2}$'x$2\frac{1}{2}$'
Flooring-Tarpaulin	- 6 of size 30'x$2\frac{1}{2}$'
Registration Cards	- 2000
Nasal feeding tubes	100
Normal saline	- 5 bottles
Glucose saline 5%	- 15 bottles
Syringes-5CC	- 10 (If disposable 50)
Needles Transfusion Sets	- 6
Medicines	- Kaolin Powder 5 kg. Sulphadimidine 1000 tabs.
Cut-down sets	- 2
Small container for boiling(sauce-pan type)	- 1
Soap	- 10 bars
Disinfectant (Dettol)	- 1 can of 5 litre.

STAFF PER CENTRE.

Interns	- 2	
Paramedical Workers	- 4	
Helpers	- 3	(1+2)
Supervisors	- 2	(1+1)
Cooks	- 2	
Sweepers	- 2	
Washerman	- 1	

As many of these as possible may be recruited locally.

There will be one Doctor (Physician, Pediatrician or Nutritionist) for 15 Centres. He will be stationed at the PHC or SHC and will be provided with a Jeep. A total of about 35 Jeeps would be needed.

READY-MIX HIGH PROTEIN FEEDS:	DRY-WEIGHT (GM.)	CALORIES	PROTEINS (GM.)
1) Dried Skimmed Milk.	100	357	38.0
2) PKFM:	100	388	21.5
Corn meal	40		
Full fat soya flour	38		
Dry skimmed milk	5		
Sugar	15		
Vanila	2		
3) BALAHAR:	100	392	19.0
Whole Wheat flour	65		
Pea-nut flour	25		
Chick-pea flour	10		
4) CSM:	100	373	20.0
Processed (pre-cooked) corn meal	64		
Toasted defatted soya flour	24		

5)	WSB:	100	373	20.0
	Wheat fractions	73.4		
	Toasted, defatted soy flour	20.0		
	Soy oil, stabilized	4.0		
	Vitamins & Minerals	2.6		
6)	KM-2:	100	352	21.1
	Calcium caseinate	16.5		
	Dry skimmed milk	27.5		
	Sugar (Sucrose)	55.0		

RECIPES FOR NUTRITIONAL THERAPY CENTRES:

1. Dry skimmed milk 100 gms.
Semolina (suji) 100 "
Butter oil 80 "
Sugar 175 "

Water added 1750 ml.

Total volume on final preparation: 2050 ml.

Food values of final preparation: Calories: 2125
Proteins: 48.0 gm.
Fats : 84.0 gm.
CHO : 236.0 gm.

2) Dry skimmed milk 125 gms.
Corn starch 100 gms.
Butter oil 80 gms
Sugar 150 gms.

Water added 2500 ml.

Total volume on final preparation: 2500 ml.

Food values of final preparation : Calories: 2225
Proteins: 47.5 gm.
Fats : 80.0 gm.
CHO : 320.0 gm.

3) Modified KM-2:

Use Calcium Caseinate (75 gm.) in place of Dry Skimmed milk powder (100 gm.) in Recipe (2) above, retaining the other constituents in the same quantity. Water to be added to be decided by actual cooking-not done yet.

Food values of final preparation (volume to be worked out)

Calories: 1981
Protein : 47.5 gm.
Fats : 80.0 gm.
CHO : 250.0 gm.

Note: As Balahar and CSM are readily available in substantial quantities, the group recommended that recipes may be evolved using these with a view to enhancing their caloric contents. They can then be used in the feeding programmes.

contd.....4/-

ALTERNATIVE NUTRITIONAL THERAPY SCHEDULES USING THE ABOVE 3 RECIPES:

Schedule I:

Modified KM-2 for first 10 days followed by Recipe No.(I) or combination of Recipe No.(I) and Recipe No.(2) as alternate feeds (on the same day) till the patient is fit to join the supplementary feeding groups-approximately 6 weeks. The choice to use Recipe (I) only or both may be decided on the availability of corn starch and Semolina (Suji).

The Modified KM-2 schedule has to be worked out in detail after cooking trials with this mix.

Schedule II:

Use Recipe I only from the beginning as detailed below:

Age	Quantity per feed (ml.)	Total Quantity/day (4 feeds)	Calories/ day	Proteins/ day
under 2 yrs.	200	800	900	20
2 - 3 yrs.	250	1000	1100	25
4 - 5 yrs.	300	1200	1320	30

Schedule III.

Age	Quantity per feed (ml.)	Quantity/day (2 feeds)
Under 2 yrs.	250	500
2-3 years	300	600
4-5 years	350	700

Age	Calories/day			Proteins/day		
	Recipe I	Recipe II	Total	Recipe I	Recipe II	Total
Under 2 yrs.	550	450	1000	12.5	9.5	22.0
2-3 years	660	540	1200	15.0	11.4	26.4
4-5 years	770	630	1400	17.5	13.3	30.8

ESTIMATES OF QUANTITIES OF FOOD REQUIRED:

The recent study of Dr. Ramalingaswami and Tandon revealed that of children under 5 years of age, approximately 36% are under 2 years of age, 39% between 2 and 3 years and the remaining 25% between 4 and 5 years of age On this basis, it is estimated that to feed the 1,15,000 infants and children under 5 years, suffering severe grades of protein-caloric malnutrition, the following quantities of food will be required for one month.

(a) Using schedule II above (Recipe (I) only - four feeds a day):

Dry skimmed Milk	168.0 tons
Semolina (Suji)	168.0 tons
Butter Oil	134.0 tons
Sugar	294.0 tons

contd.....5/-

5)	WSB:	100	373	20.0
	Wheat fractions	73.4		
	Toasted, defatted soy flour	20.0		
	Soy oil, stabilized	4.0		
	Vitamins & Minerals	2.6		
6)	KM-2:	100	352	21.1
	Calcium caseinate	16.5		
	Dry skimmed milk	27.5		
	Sugar (Sucrose)	55.0		

RECIPES FOR NUTRITIONAL THERAPY CENTRES:

1. Dry skimmed milk 100 gms.
Semolina (suji) 100 "
Butter oil 80 "
Sugar 175 "

Water added 1750 ml.

Total volume on final preparation: 2050 ml.

Food values of final preparation: Calories: 2125
Proteins: 48.0 gm.
Fats : 84.0 gm.
CHO : 236.0 gm.

2) Dry skimmed milk 125 gms.
Corn starch 100 gms.
Butter oil 80 gms
Sugar 150 gms.

Water added 2500 ml.

Total volume on final preparation: 2500 ml.

Food values of final preparation : Calories: 2225
Proteins: 47.5 gm.
Fats : 80.0 gm.
CHO : 320.0 gm.

3) Modified KM-2:

Use Calcium Caseinate (75 gm.) in place of Dry Skimmed milk powder (100 gm.) in Recipe (2) above, retaining the other constituents in the same quantity. Water to be added to be decided by actual cooking-not done yet.

Food values of final preparation (volume to be worked out)

Calories: 1981
Protein : 47.5 gm.
Fats : 80.0 gm.
CHO : 250.0 gm.

Note: As Balahar and CSM are readily available in substantial quantities, the group recommended that recipes may be evolved using these with a view to enhancing their caloric contents. They can then be used in the feeding programmes.

contd...../-

(b) Using Schedule III above (Recipe (I) two feeds and Recipe (II) two feeds a day):

Dry Skimmed Milk	-	202.5 tons
Butter Oil	-	145.8 tons
Sugar	-	298.5 tons
Semolina (Suji)	-	101.25 tons
Corn Starch	-	81.0 tons.

SUPPLEMENTARY FEEDING PROGRAMME:

It is suggested that this programme be subdivided into two portions. The first may be for children under 5 years and the second for children between 5 and 8 years, pregnant women and lactating mothers. The children under 5 years should be fed once a day under supervision in feeding centres. The children between 5 and 8 years, pregnant women and lactating mothers may be supplied with the supplementary food along with the ration being distributed by the local authorities. It is estimated that for every unit of 10,000 total population, there will be 1200 children under 5 years (excluding the 230 severely malnourished children to be taken care of at the Nutrition Therapy Centres as mentioned previously), 1500 children between 5 and 8 years and about 900 pregnant women and lactating mothers.

It is proposed that one supplementary feeding Centre for these 1200 children under 5 years be opened along with the Nutrition Therapy Centre. This will provide coverage of supplementary feeding to all children under 5 years (0.6 million) who are not covered by the Nutrition Therapy Centres proposed.

ESTIMATES OF QUANTITIES OF FOOD REQUIRED FOR THE SUPPLEMENTARY FEEDING CENTRES:

Each child will be provided the equivalent of 75 gm. of dry Balahar/CSM/WSB and 25 gm. of Sugar per day. The requirement per month of each centre catering to 1200 children will, therefore, be about 2.7 tons of High Protein Food and 0.9 ton of Sugar. The requirement for a month for the total of 0.6 million children will be 1350 tons of H.P.F. and 450 tons of Sugar.

In case Milk is to be distributed in place of H.P.F. the requirement will be as follows. Each beneficiary will have to receive the equivalent of 50 gm. of Skimmed Milk powder and 50 gm. of Sugar. This will mean an estimated requirement of 900 tons of skimmed milk powder and 900 tons of Sugar for one month.

ESTIMATES OF QUANTITIES OF SUPPLEMENTARY FOOD REQUIRED TO BE DISTRIBUTED TO CHILDREN BETWEEN 5 TO 8 YEARS, PREGNANT WOMEN AND LACTATING MOTHERS:

The provision will be the same as in the case of children under 5 years, that is, 75 gm. if H.P.F. or 50 gms. of skimmed Milk Powder and 50 gms. of Sugar per beneficiary. If H.P.F. is distributed the total requirement for one month for this group will be 2700 tons. (It is recommended that H.P.F. may be used for preparation of 'Roti' so that Sugar need not be supplied to this group). In case of Skimmed Milk Powder the requirement will be 1800 tons of Skimmed Milk Powder and 1800 tons of Sugar. It is recommended that for this group only H.P.F. be supplied and not milk powder.

The requirements of food items for the different groups are summarised in Table I.

contd.....6/-

Table -I.

SUMMARY OF THE REQUIREMENT OF FOOD ITEMS FOR THE DIFFERENT GROUPS.

Food Item	Requirement for one month(tons)*					
	Nutritional Therapy Centres(1,15,000 children)			Supplementary feeding centres(600000 children)		Supplementary food distribution points (7,50,000 children and 4,50,000 women)
	Recipe I (4 feeds/day)	Recipe I & Recipe II (two feeds each day)	KM. II	Ready mix H.P.F.	Milk	Ready mix H.P.F.
Dry skimmed milk Powder.	168.0	202.5	To be worked out.	Nil	900.0	Nil
Semolina(Suji)	168.0	101.25		Nil	Nil	Nil
Corn starch	Nil	81.0		Nil	Nil	Nil
Butter oil	135.0	145.8		Nil	Nil	Nil
Sugar	294.0	298.5		450.0	900.0	Nil
H.P.F.(Lalahar/CSM/WSB)	To be estimated after cooking trials.			1350.0	Nil	2700.0

* Totals for individual items can be calculated depending upon choice of regimes and period of use.

ADMINISTRATIVE ARRANGEMENTS

The problem is so vast and the time factor so critical that we recommend the involvement of all relief agencies that are functioning effectively among the refugees today, be they governmental agencies, international agencies or voluntary bodies. The help and support of all is the need of the hour. The Indian Red Cross is already involved in a significant way in the supplementary feeding programme. The UNICEF and the World Food Programme and other UN Organisations have a deep commitment. The State administrative machinery together with the State Health Department who have already worked very effectively in the general relief operation would be in an excellent position to shoulder responsibility for nutritional relief, provided they are given the resources in men and materials. A number of voluntary agencies may also be in a position to contribute successfully to the relief operation.

We suggest the setting up of a high-level Co-ordinating and Policy Committee for Nutritional Relief. The Committee would have the authority to direct the relief operations and to mobilise personnel and resources and provide relief expeditiously in areas most needed. The Committee would serve as a contact point with national and international bodies connected with the relief work. The composition of the Committee may be such as to provide for a co-ordinated approach by the Central Government and the State Government of West Bengal, Tripura, Meghalaya and Assam. Representatives of international organisations that are involved in the relief efforts, such as the UNICEF, the World Food Programme and the Red Cross, should be closely associated with the Committee. The Committee would centralize all resources, national and international, it would have surveillance teams which provide an assessment of the nutritional situation in the field from time to time and serve as a feedback mechanism to the Committee.

It is strongly recommended that the Committee should have a full-time Executive Secretary and a full-time Joint Secretary to function on behalf of the Committee and to take all steps for the implementation of the relief operation through whatever agencies they consider most appropriate for the success of the operation.

It is recommended that the Co-ordinating and Policy Committee for Nutritional Relief should function in close relationship with the Central Co-ordination Committee of the Ministry of Rehabilitation.

The group emphasised that the nutritional therapy of very sick children and the supplementary feeding of not-so-sick children and of pregnant and lactating mothers should be broadly considered as an operation with similar aims and objectives and as such the two should be as closely co-ordinated as possible. It is also essential to see that the work of the nutritional therapy centres and of supplementary feeding centres is linked as much as possible with the general medical relief operations that are being performed by the health teams of the State Governments among the refugees.

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HEALTH ASPECTS OF DISASTERS AND REFUGEE RELIEF - Some Notes

PREVENTION OF DISASTERS

1. War - air raids (conventional) dangers of blast, schrapnel. fire, falling buildings. Prevention of injury by air raid shelters, living in underground train tunnels.

- atomic bombs and missiles: similar dangers to above, plus retinal burns, somatic and genetic damage (leukemia, skin cancer, congenital deformities). No effective protection.

- military campaigns: dangers of ruined crops, scorched earth policies, refugees, injuries, assault, theft and murder in wake of lawless area, veneral disease.

League of Nations; United Nations, Organisation of African Unity, etc., all help, but no one seems to have the answer yet in man's history.

2. Accidents

- rail crash: effective signals system; medical examination of drivers, especially of eyes, colour vision.
- fire at sea: fireproof fittings, education in fire drill and prevention.
- collision at sea: radar, rules
- air crash: training of aircrew, ground staff, rules and thorough investigation of accidents (see Haddon: Accidents), (Taylor, 1970)
- colliery explosion: testing for gas (birds, chemical tests), sparkproof tools. No smoking, and bodily examination of miners for matches, etc.*
- fire in a city: health education; nonflammable building materials and clothes, fire brigade drill,sprinkler system automatic fire dampening

* chemical dampening of blast wave in mine.

3. "Natural disasters"

- volcano eruption - glaciers, landslides - earthquakes	activity can be predicted somewhat in all these cases, especially tremors and quakes. Discourage building in danger zones. Specially strong construction.
- tidal waves, typhoon, monsoon	no special preparation possible usually
- dam or dyke burst	no buildings near
- drought or famine	adequate food storage
- forest or bush fire	no smoking education, forest fire fighting teams
- pandemics (plague, typhus, cholera)	can be foreseen with religious festivals. e.g. in Ganges, or at Mecca Haj. Immunisation, sanitary reform.

Most 'natural disasters cannot be prevented , but most man made accidents are not necessary. If you cannot prevent, you must prepare.

PREPARATION FOR DISASTERS

1. Ambulance and mobile medical services

   (a) First Aid training — Red Cross, Red Crescent, St John's Ambulance Brigade

   (b) Ambulances

   (c) Ambulance ships ready to sail to disaster areas

   (d) Ambulance trains, aircraft

   (e) Ambulance helicopters

2. Air Sea rescue

   (a) helicopters are the most useful of all over sea or land

   (b) lifeboats: these are superbly designed motor vessels capable of facing the roughest seas, and even righting themselves after being turned over in water

   (c) plasitc and rubber dinghies, with or without canopies. Should have medical kits, drinking water, rations for long sea waits.

3. Land rescue

   (a) Fire brigade: they can also cope with children in wells, collapsed buildings, even snakes.

   (b) Army: remember to call on Army or Police for major rescue work. They have bulldozers, weight lifting equipment, stretchers, drugs, etc.

   (c) Mining rescue kits: these are compulsory in all underground mines and include stretchers, morphine, bandages, etc.

   (d) Blood banks: these are now essential at close proximity to international airports, e.g. Kano. In 1956 a crash led to the discovery that there was no blood available in that city.

   (e) Railway rescue kits: needed at main stations, must include lights for night rescue.

4. Mobile Hospitals

   For refugees, war, and natural disasters it may be necessary to set up hospital and emergency operating areas.

   (a) Portable hospitals have been flown by helicopter in Vietnam
   (b) Land rovers and trailer operating rooms are used in India
   (c) Army tents are often available.

   Rescue teams are usually part time or voluntary, such as lifeboat crews who call their crews together with telephone or a loud signal from their normal work to man the boats at a moments notice.

   Fire brigade teams are usually full time.

International Teams

Not until the Pakistan refugee problem, when India was faced with 5 million refugees, with cholera, in June 1971, did the world wake up to the fact that W.H.O. and UNICEF, etc., should have a permanent rescue team for medical relief. UNRRA was a similar body in the Second World War but was wound up and the money given to UNICEF in 1949.

HEALTH ASPECTS OF DISASTERS AND REFUGEE RELIEF Contd.

IMMEDIATE MEDICAL AID

1. Estimate size of problem: In the Persian earthquake (see Saidi, 1963) aerial photography of damage was the only method.

2. Avoid panic: if possible avoid crowds or disperse them
prevent looting and murder
watch for escaped criminals
involve police or army if necessary

3. Restore communications
radio, telephone, rail, roads
inform services local and international, radio, TV

Large dangerous establishments such as Atomic Energy Research buildings; oil refineries, etc., often develop a

4. Major Disaster Plan

Under a director, often medical, a whole plan of evacuation or control is worked out. (Savage, 1970), (U.S.A., 1961): e.g. use of telephone restricted to named individuals in a named priority only. Health teams constantly on alert and trained for action.

5. Rescue operations

Stop fire, especially if gas or electricity supplies cut
Need for light
Bulldozers, lifting tackle, helicopters

6. Water and food

Can carry water in road tankers, rail, air, even (if by sea) in huge floating plastic drums. Water is needed before food.
Food should be easy to distribute and carry, e.g. soup.
Involve Salvation Army if near, or Red Cross.

7. Clothing and shelter

Especially in extremes of climate, cold or desert.
May need evacuation.

8. Sanitation — Camp sanitation: involve army if large scale (Assar, 1971).

9. Morale — Good interpreters needed at rescue camps and reception centres, and leadership capable of lifting morale.

10. Health — Treatment of injuries: especially shock, bleeding, gangrene.
Burns centre should be set up separately if needed.
Immunisation
The great fear is typhoid, typhus, cholera, dysentery, and sometimes smallpox and meningitis.

Immunise at the border (if refugees) on entry.
Delay makes for difficulty in rounding up.
Supplies of cholera antibiotics, sulphonamides.
Long term prevention: BCG vaccine at entry to camp.
Antimalarials if non-immune (e.g. the Tutsi refugees of Rwanda coming into lower lying Uganda where there was more malaria).

HEALTH ASPECTS OF DISASTERS AND REFUGEE RELIEF contd.

AFTERCARE AND REHABILITATION

1. Medical examination — Long term care may begin by detection of disease or disability by full medical examination not atfirst possible.

2. Medical care — If possible employ uninjured medical and nursing staff from amongst the refugees, prisoners, homeless, etc.

3. Schooling — In Rwanda refugee camps in Uganda schooling was resumed very quickly by camp commandants using Rwandan teachers. French-speaking teachers moved to Ugandan schools to teach French, while English speakers from Uganda entered the settlements to help the new generation in settling into the country of their adoption.

4. Rehabilitation and resettlement of disabled — Open industry or normal farming, etc. if at all possible. Sheltered employment if not.

RELIEF ORGANISATIONS

From 1940-1947 UNRRA (U.N. Relief and Rehabilitation Association) undertook the resettlement of war refugees. It settled nearly 10 million, but left a similar number still unsettled when it closed down in 1948.

2. International Relief Organisation set up in 1951-2; now the

3. Office of the High Commission for Refugees, protecting rights (employment, education, etc.) and material aid programmes; also coordinating relief agencies.

4. Inter-Church Aid

5. Oxford Committee for Famine Relief (Oxfam)

6. Save the Children Fund (SCF)

7. Salvation Army

8. Food for the World

9. Red Cross, Red Crescent, (in Iran: Red Lion and Sun)

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R. Schram April, 1973

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Afar nomads in Borkhena Valley are among the victims of Ethiopia's drought. Mark Edwards/Earthscan

NATURAL DISASTERS:
acts of God or acts of Man?

Earthscan briefing document No:39

Six times more people died from disasters in the 1970s than in the 1960s, although the number of disasters went up only 50%. Why? This document argues that people are changing their environment to make it more prone to disasters and to make themselves more vulnerable. While the trigger events - droughts, floods, earthquakes and hurricanes - may be natural, the resulting disaster is largely man-made.

Droughts: In early 1984, 150 million people in Africa were "on the brink of starvation" because of drought, according to FAO. Lack of rain was clearly to blame, but human activity makes the situation worse.

The Ethiopian highlands are so overfarmed, overgrazed and deforested that erosion carries off one billion tonnes of topsoil a year. Eroded areas are more prone to drought because the soils retain less and less water - and this make them more flood-prone, too. Erosion similarly threatens the Andes, where drought struck throughout the high valleys last year.

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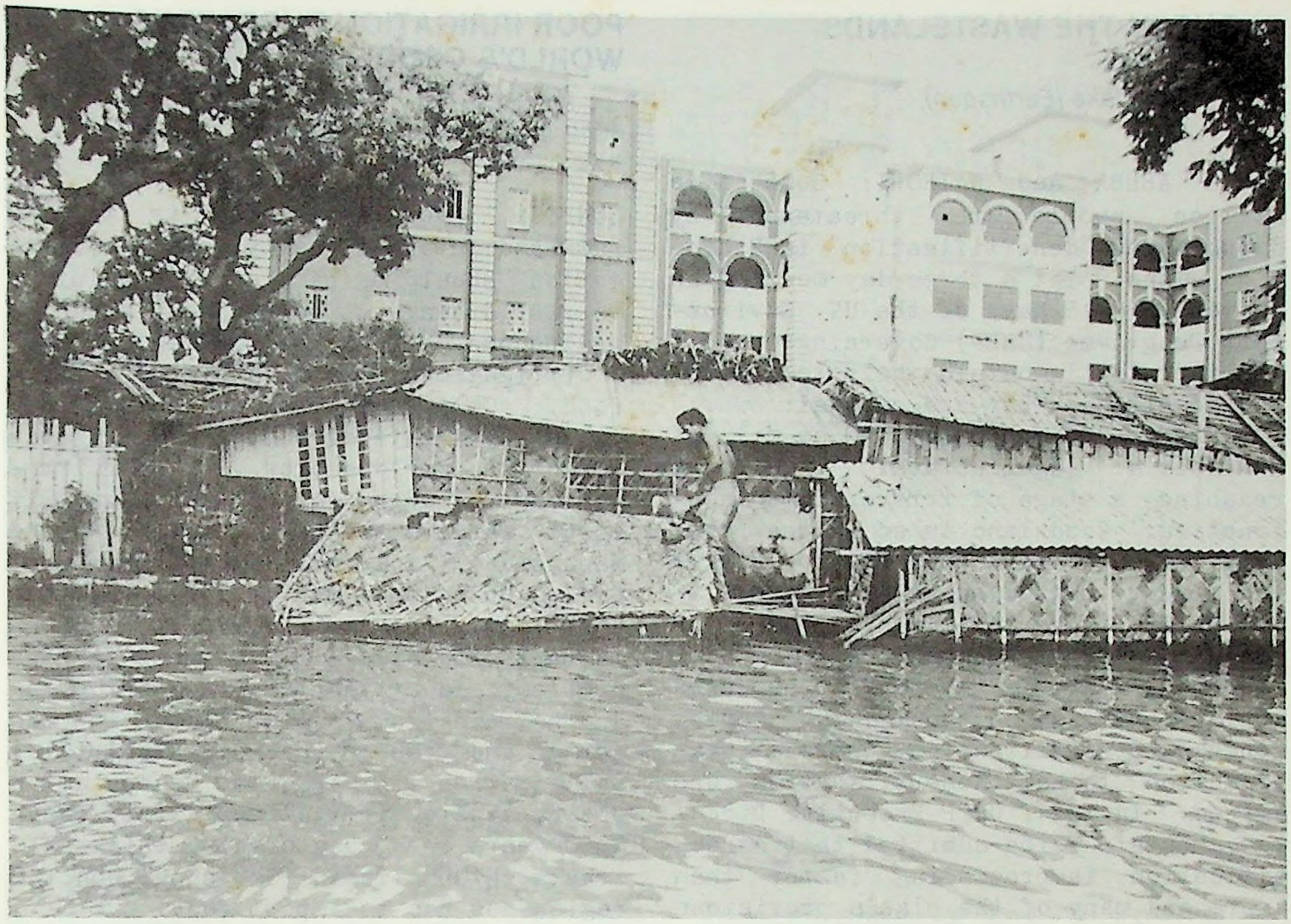


Flooded huts by Buriganga Rivers, Dhaka. Though rich and poor may live side by side, the poor are more vulnerable to disaster. Photo: Tom Learmonth/Earthscan.

CAUTION: IF YOU'RE POOR THE WEATHER CAN KILL YOU

Renee Sabatier (Earthscan)

LONDON: An earthquake in Peru is likely to kill 50 times as many people as one in Japan. Japan can afford strictly enforced building codes, while the poor of Peru live crowded in top-heavy mud and straw shacks on steep hillsides. Between 1960 and 1980 the average Japanese disaster killed 63 people while the average Peruvian disaster killed over 2,900 people.

It is the poor people in poor countries who suffer most from disasters such as earthquakes, floods and droughts. In Mexico City, for instance, 1.5 million people live on the drained bed of Lake Texcoco, which floods completely when it rains. In Bangladesh nearly 15 million poor live less than 10 feet above sea level. When the Ganga floods or the sea rises after a hurricane, they are defenceless.

Although disasters are triggered by natural events, their prime cause is man-made environmental destruction. Disasters are as much social and political events which can be, and often are, prevented.

Floods are increasingly severe in India, though the rains themselves have not altered much. The floods are caused by deforestation and soil erosion. The Himalayas act like a great forested water machine, and in the past soaked up the annual monsoons like a giant sponge, releasing the waters throughout the year. Now the lower slopes of the Himalayas are nearly bare, flooding uncontrollably after monsoon rains.

Effective disaster prevention depends on long-term planning toward a more sustainable and less vulnerable society. Many relief agencies are now concentrating on development rather than emergency aid.

Feature issued 15 June 1984. 786 words. English, French, German and Spanish.

ALONE IN THE WASTELANDS

Lloyd Timberlake (Earthscan)

ADDIS ABEBA and NAIROBI: Some five million people are threatened by drought and "desertification" in Ethiopia alone. Yet a three-day meeting in Nairobi (16-18 May) of the UN Environment Programme (UNEP) Governing Council promised little outside help to afflicted countries. They are on their own.

Some 40,000 sq km (15,400 sq mi) of Ethiopia's agricultural land are reaching a stage of irreversible destruction. Good land is so scarce that some farmers tie themselves to stakes and lower themselves by rope down virtual cliff faces to plough and plant on land too steep to stand up on.

The Nairobi meeting assessed achievements since the 1977 UN Conference on Desertification, where a "plan of action" to halt desertification was agreed. In 1984, UNEP Executive Director Mostafa Tolba admitted that desertification is proceeding faster than ever, and many of the plan's provisions remain a "dead letter".

Blame for this inaction can be laid at the door of the UN, accused of spending too much on documentation and not enough on action, and also with governments both rich and poor, who fail to give the issue priority.

However the basic fault may lie in economic realities. Worldwide, agriculture has become non-competitive as an economic system. The money spent on reclaiming desert land, for instance, would earn far higher returns if invested in a bank. In the Sahel, few regimes last as long as it takes a tree to grow to firewood size, which helps explain why so little is allocated to reforestation in the region.

As a British delegate noted, "desertification" is not about deserts but about badly managed rural development, agriculture and forestry. The challenge now is for the experts to suggest the sort of effective, sustainable, soil-conserving techniques which will keep Ethiopian farmers from having to dangle over their fields at the end of a rope.

Feature issued 1 June 1984. 1250 words. English, French, Spanish and German.

POOR IRRIGATION THREATENS WORLD'S CROPLAND

John McCormick (Earthscan)

LONDON: Poor irrigation is turning farmland into wet, salty desert. Irrigation should be part of the solution to world hunger, but in many areas it has become part of the problem.

Irrigation grows much of the world's food. Only 15% of farmland is irrigated, yet this already produces over 40% of the world's crops. But if irrigation projects forget drainage, if local farmers are not consulted, and management and maintenance are not worked out, then irrigation does more harm than good.

Lack of drainage is the most serious problem, as it can cause waterlogging and salinisation (salt build-up in the soil) and render the soil infertile. Salinisation in Iraq's Mesopotamian plain, where irrigation first began 6000 years ago, has created thick salt crusts which glisten like snow, and the region now has to import food.

Salinisation affects 20-25% of farmland in Latin America, and is spreading as fast as new land is brought under irrigation.

The withdrawal of groundwater beyond its capacity for replenishment is also a common problem. In California's San Joaquin Valley (USA), it has caused land to subside by as much as 8.5 m (28 ft) in places.

Poor irrigation can also aggravate soil erosion by opening up ill-suited land to agriculture. And if canals are blocked, the stagnant pools which form help spread water-related diseases such as malaria and bilharzia.

To make irrigation work more capital investment is needed, farmers need incentives to maintain the systems, and the supply of water must be reliable and equitable. Although irrigation could thus be made more efficient, the UN Environment Programme warns that desertification of irrigated lands is likely to be a threat for the foreseeable future.

Feature issued 11 May 1984. 755 words. English, French, German and Spanish.

INFORMATION SOURCES ON DISASTER PREVENTION AND PREPAREDNESS

UPCOMING EVENTS

The Second International Congress on Disaster Preparedness and Relief, 1-4 October 1984, Palais des expositions, Geneva, Switzerland. The Congress will address fire prevention, disaster medicine, rescue and evacuation, and relief housing. For information contact the International Civil Defence Organisation (congress secretariat),10-12 Chemin de Surville, 1213 Petit Lancy, Geneva, Switzerland. Tel: (22) 93 44 33. Or contact Mr Oi at UNDRO (address below).

The Congress is taking place at the same time as the "Emergency '84" exhibition of disaster equipment, which is most relevant to richer nations.

ORGANISATIONS AND CONTACTS

Canadian International Development Agency, 200 rue du Portage, Hull, Quebec, Canada K1A 0G4. Contact: Mr Jean Devlin, coordinator of international humanitarian assistance.

Disaster Information Service, Joint Assistance Centre, H 65 South Extension 1, New Delhi 110049, India. The service has an extensive library and is preparing a catalogue of NGOs working in disaster related fields.

Food Emergencies Research Unit, a joint project of IDI (see below) and the London School of Hygiene, Nutrition Department, Keppel Street, London WC1. Tel: (01) 636 8636. Contact Wendy McLean.

International Disaster Institute (IDI), 85 Marylebone High Street, London W1M 3DE, UK. Tel:(01) 935 0756. Contact Susan York, resources officer. The IDI deals with disasters in the Third World only, and has a reference library (phone for an appointment as it is not open all week).

Intertect, PO Box 10502, Dallas, Texas 75207, USA. Tel: (214) 521 8921. Contact Frederick Cuny, president.

League of Red Cross Societies, PO Box 276, CH-1211 Geneva, Switzerland. Also contact national Red Cross branches.

Oxfam, 274 Banbury Road, Oxford, UK. Tel: (0865) 56777. Contact Marcus Thompson, disaster coordinator.

Swedish Red Cross, Box 27316, S-10254 Stockholm, Sweden. Tel: (8) 670685. Contact Anders Wijkman.

United Nations Disaster Relief Office (UNDRO), Palais des Nations, 1211 Geneva 10, Switzerland. Tel: (22) 34 60 11. Contact Gerald Dunn, head of relief coordination and preparedness.

Ian Davis, Oxford Polytechnic, Gypsy Lane, Oxford UK. Tel: (0865) 64777.

PUBLICATIONS

Disasters and Development by F.C. Cuny, Oxford University Press, Oxford UK, 1983.

Prevention better than Cure by Gunnar Hagman, Swedish Red Cross, Stockholm, 1984.

As part of its "Behind the Weather" campaign, Oxfam has published three papers in 1984: "An unnatural disaster: drought in northeast Brazil"; Why the poor suffer most: drought and the Sahel by Nigel Twose; and Lessons to be learned: drought and famine in Ethiopia. Each £1.00 (incl. p&p) from Oxfam Public Affairs Unit (address above).

Ecological Mismanagement in Natural Disasters by L.D. Pryor, International Union for Conservation of Nature and Natural Resources, Commission of Ecology Papers no:2, Gland, Switzerland, 1982.

PERIODICALS

Boletin de medio ambiente y urbanizacion, vol 1, no:3-4, Oct 83. Special issue on natural disasters (in Spanish). From CLACSO, Diagonal Roque Saenz Pena 1110, P.6. of 3, 1035 Capital Federal, Argentina. Annual subscription: Argentina $a 50, elsewhere US$ 3.50.

Disaster Management, quarterly, from Joint Assistance Centre, H-65, South Extension Part I, New Delhi 110049, India.

Emergency Preparedness News, biweekly, from Business Publisher Inc., 951 Pershing Drive, Silver Spring MD 20910, USA. Aimed primarily at decision-makers. Annual subscription US$127.

IDI News from the International Disaster Institute (address above). It is published three times a year, in English only, and is free of charge.

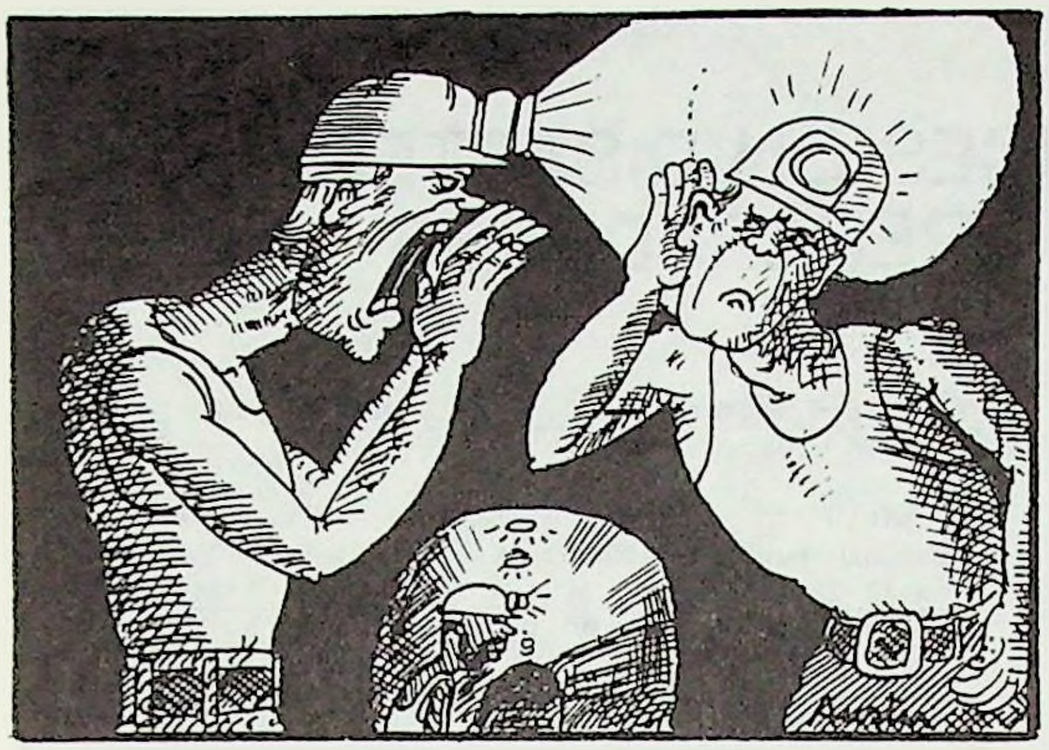
University of Reading Bulletin: the October-November 1984 issue is on disaster mitigation, and will mention relevant publications and contact organisations. Editor: John Best. Available from University of Reading, Agricultural Extension Department, London Road, Reading, Berks RG1 5AQ, UK.

FILMS

Seeds of despair, 55 mins., col., 1984. Produced by Charles Stewart. The film shows drought and starvation in Ethiopia, and the environmental degradation which makes the crisis worse every year. Send loan/sales enquiries to Jean Denham, Central TV, 35-38 Portland Square, London W1. Tel: (01) 486 6688.

Managua earthquake: resettlement of a people, 21 mins., col. The film shows how Managua coped with the 1973 earthquake and the lessons learned: new construction techniques and deconcentration of population and economic activity. From Vision Habitat, Regional Office Europe, Room E-47, Palais des Nations, CH-1211 Geneva 10, Switzerland. Free loan for non-commercial viewing.

Why do the poor die? 29 mins 30 secs., col., 1981. E. Vihtonen examines the causes of drought in Ethiopia, how it could be prevented, who the victims are, and the role of emergency aid. Produced by Finnish TV, TV Centre, Helsinki 25, Finland.



"I said, 'Don't tell the blacks that working in the mines will damage their hearing'." Cartoon by David Austin.

SOUTH AFRICAN MINES: IGNORING THE HEALTH RISKS

John McCormick (Earthscan)

LONDON: A recent unpublished report by the South African Chamber of Mines found that thousands of black - and white - miners in South Africa risk deafness due to excessive noise.

Pneumatic drill operators working at the mine face endure noise over 110 decibels (dbA) although the international maximum standard is 85 dbA. Most are likely to suffer permanent hearing damage within 15 minutes of starting their shifts. The miners now have a recognised union, but only 12% of black workers have joined and it lacks the power to influence policy.

Ironically, most of the highly skilled workers are whites, and they are more exposed to noise as their jobs are permanent. Migrant black workers may partially recover between contract periods. Even if the whites are aware of the risks, they may keep quiet for fear of losing their jobs.

Although a long-term project has been launched to reduce noise levels, there are still no schemes to test the hearing of workers, either when they start work or later. However surveys among white miners have shown that up to 70% could be suffering hearing loss entitling them to compensation.

The other health risks in the mines include respiratory diseases from the asbestos mines and accidents due to intense heat and fatigue. The management believes in "production at all costs", and only when health problems interfere with production or miners sue for compensation will action be taken.

Feature issued 22 June 1984. 900 words. English and German.

The address of the South African Chamber of Mines is: PO Box 61809, Marshalltown 2107, South Africa. Tel: 838 8211.

LIVER CANCER: THE QUEST FOR A CHEAP VACCINE

Renee Sabatier (Earthscan)

LONDON: Liver cancer is found predominantly in developing countries, especially in tropical Africa, South East Asia and the Western Pacific. As many as 40% of all liver cancers occur in China, and 13% in Africa.

In almost 80% of cases it is caused by the 'hepatitis B' virus which produces symptoms of jaundice, fever, chills and nausea. Infection can lead to chronic liver damage followed by liver cancer. Once developed the cancer is painful, incurable and fatal.

A vaccine against liver cancer has been developed, but at around US$80 for the required three doses it is prohibitively expensive for most of the countries which need it. This is because it is derived from the blood plasma of hepatitis B carriers. The plasma is extensively purified to isolate the non-infectious protein coat of the virus, which then makes up the vaccine. This process is more expensive than conventional vaccine production.

The failure to grow the virus in an artificial medium is the main barrier to the production of a cheap vaccine. Scientists are researching ways of overcoming this, and it is hoped a vaccine may soon be manufactured by genetically engineered yeast cells, or through synthetic chemical processes. Meanwhile, the disease claims 260,000 victims a year, and without successful immunization this figure will continue to rise.

Feature issued 18 May 1984. 570 words. English and German.

THE WATER DECADE: WHERE IS THE SOFTWARE?

Sumi Krishna Chauhan (Earthscan)

Dhaka: The UN 1981-90 World Water Decade has spent millions of dollars to provide villages with pumps, pipes and latrines, but little effort has been put into the health education which would help people use the new hardware.

The simple practice of washing hands, for instance, prevents disease-carrying germs from passing from faeces to food to mouth. But little research or funding have gone to health education - or Decade "software" - and no one knows how best to teach villagers the simple techniques which can improve health.

The most prevalent mythology is that technology will produce results, but field research in the remote Teknaf area of Banglaesh indicates the reverse is true: that software can be even more important than hardware.

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) monitored two village clusters over four years (1975-79). One was given handpumps, pour-flush latrines and hygiene education, the other was given none of these. The control cluster showed no significant health improvements over the other cluster and, despite some education, behaviour was slow to change.

Project workers believe that changes in behaviour take time, and when they do occur health will improve considerably. What is clear is that technology alone is not enough.

Feature issued 6 July 1984. 800 words. English only.

MEASURING THE BENEFITS OF WATER

Sumi Krishna Chauhan (Earthscan)

LONDON: The World Water Decade is based on the assumption that safe drinking water and better sanitation improve health, but several recent studies cast doubt on this belief. The few studies which have linked improved water and sanitation to a decrease in diarrhoea have been conducted in very special circumstances.

Dr Fitzroy Henry conducted a study on the Caribbean island of St Lucia which showed families using more water had less disease, and that improved water supply alone reduced the stunting of children. But the prject had complete control of factors such as collection and storage of water in the house, so conditions were untypical of the Third World.

In Chile, Dr Oscar Brunser studied a group of slum dwellers who were moved to new housing with safe water and modern sanitation. The incidence of diarrhoea remained the same, but the less harmful varieties became more common than the serious ones. In this instance, the expensive new housing makes the case untypical.

Although Dr Henry believes water supplies can have an impact on health, he finds that "the real question is how to transform that potential into reality".

Feature issued 6 July 1984. 800 words. English only.

FOR MORE INFORMATION ON WATER AND HEALTH....

Dr Oscar Brunser is professor of paediatrics at the Institute of Nutrition and Food Technology, Casilla 15138, Santiago, Chile.

Dr Fitzroy Henry is currently working at the International Centre for Diarrhoeal Disease Research (ICDDR,B), GPO Box 128, Dhaka 2, Bangladesh.

Dr Richard Feachem and Deborah Blum have recently published a paper reviewing 50 studies on the impact of water on health: "Measuring the Impact of Water Supply and Sanitation Investments on Diarrhoeal Diseases", in the International Journal of Epidemiology, vol 12, 1983, pp.357-365.

They can be contacted at the London School of Hygiene and Tropical Medicine, Keppel Street, London WC1. Tel: 636 8636.

BOATS AND NETS VERSUS PUMPS AND LATRINES

Sumi Krishna Chauhan (Earthscan)

Jalliapara, Bangladesh: This small fishing village in southeastern Bangladesh has been supplied with new wells and latrines as part of the World Water Decade effort. The villagers are pleased to receive so much attention, but when asked what they themselves would have bought with the funds they reply "fishing boats and nets".

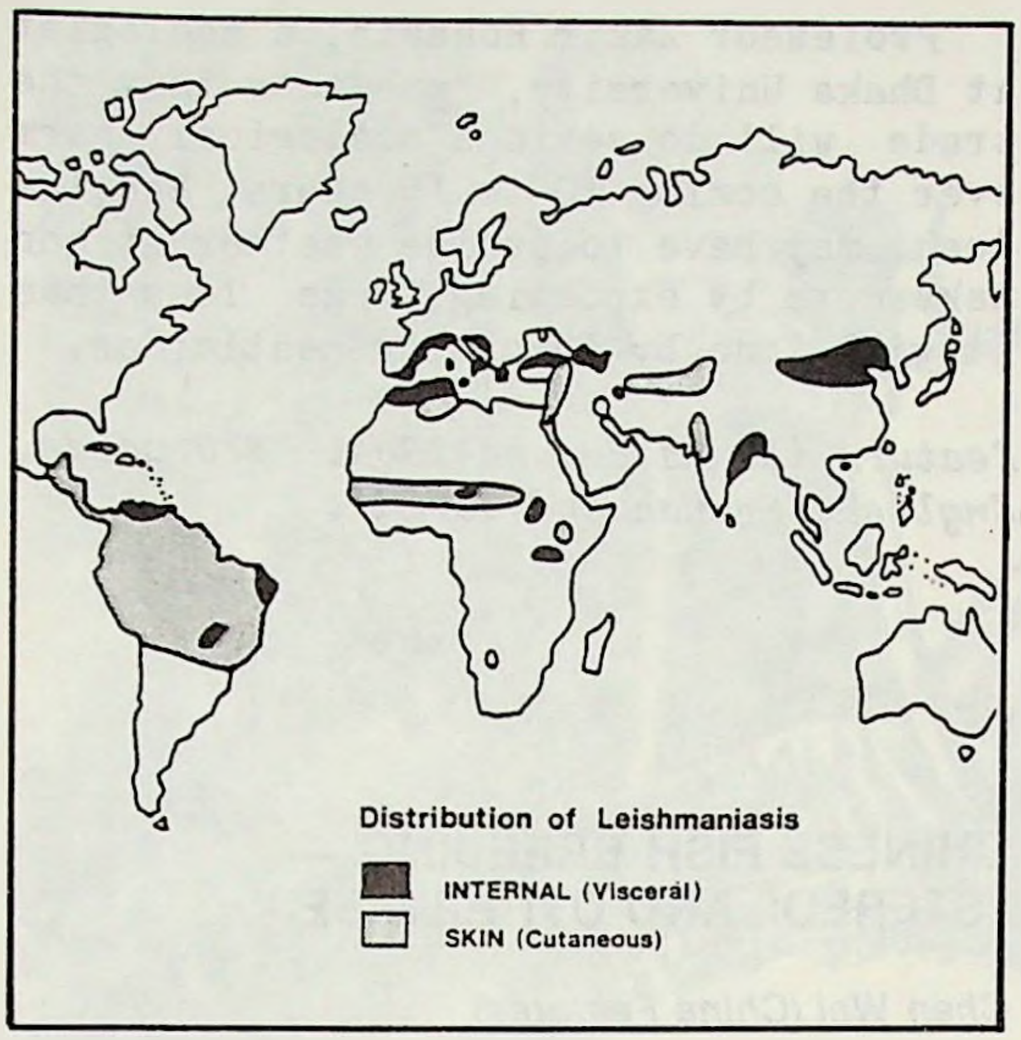
Fishing is Jalliapara's major occupation. Men chatting in a village teashop estimated that the total cost of wells, handpumps and latrines in the village was equivalent to that of four fishing boats and nets, which could support 40 households.

Improved water and sanitation are not a priority for the villagers. The water table is high, and they traditionally collect water from shallow holes scooped in the ground. Now almost every house has a latrine, but some villagers still prefer the river bank. Once the project stops, villagers wonder how they will maintain the new pumps: where will they get spare parts?

The main killer of newborn babies in Bangladesh is tetanus, caused by rusty razor blades used to cut the umbilical cord. This can be prevented by vaccinating mothers, but "instead we give them tubewells", said one UNICEF official.

An ideal situation would provide water and immunisation, health care and employment, but in practice villagers and governments have to consider difficult trade-offs. For villages like Jalliapara, the choice is crucial.

Feature issued 6 July 1984. 800 words. English only.



LEISHMANIASIS: THE FORGOTTEN DISEASE

Andrew Crump (British freelance journalist)

LONDON: It attacks 400,000 new people every year, afflicts 12 million people in the world at any time, and occurs in South American forests, Soviet Asian steppes, the Ganges basin, southern Europe, and in North and East Africa. Yet leishmaniasis is the most neglected and least understood of all tropical diseases.

It is caused by a microscopic parasite called "Leishmania", and scientists are still uncertain how many species of it exist. In Africa and India the parasite is hosted by sandflies, dogs and foxes; in Latin America by sloths, armadillos, anteaters and opossums, and elsewhere by rodents.

Leishmaniasis has several forms. The fatal form attacks bone marrow and internal organs. The skin form results in a chronic ulcer which can disfigure people even more than leprosy. The disease is difficult to control because the parasite can enter and multiply within the white blood cells which the body sends to destroy it. The only known treatment relies on drugs based on antimony, which is toxic and can have serious side-effects.

Feature issued 22 June 1984. 675 words. English, Spanish and French.

THE TOGETHERNESS THAT SAVES LIVES

Renee Sabatier (Earthscan)

LONDON: If low birth-weight babies are carried against their mother's breast kangaroo-style, they are more likely to survive than in an incubator.

Two Colombian doctors* are encouraging this method along with breast-feeding to ensure natural mother-child bonding. They noticed a drop in gastro-intestinal infections and in the death rate among these babies. The babies stay warm, gain the immunological protection of their mother through her milk, and are likely to develop motor coordination earlier than unstimulated infants.

Three years ago, half the babies born under 2000g (4.4 lb) in one Bogota hospital died, but today 95% survive with this method. Incubators cost between US$2,000 and $12,000 and hospital stays are expensive, so this low-cost, low-tech approach is relevant in both developing and developed countries.

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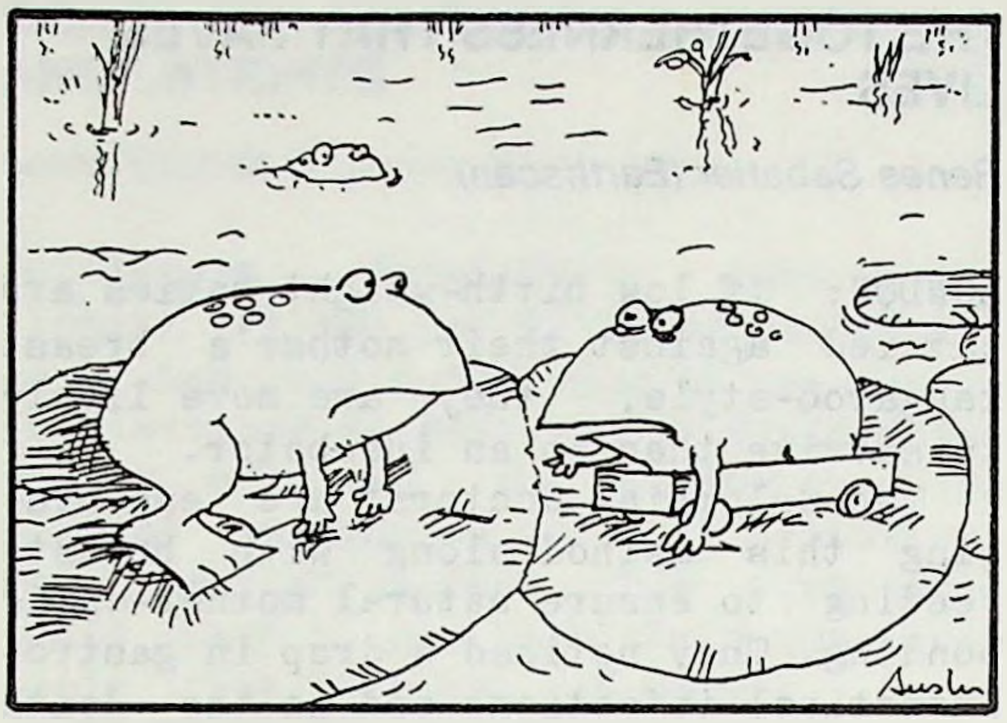
*The two Colombian doctors are Dr Edgar Rey and Dr Hector Martinez, both working at the San Juan de Dios Hospital, Avenida Primera 10-01, Bogota, Colombia. Tel: 233 4044/4930.

Feature issued 25 May 1984. 565 words. English, French, Spanish and German.

I would like to remind non-governmental organisations receiving the Earthscan Bulletin, that you can write and order one free copy of the full text of any feature or briefing document summarised in the Bulletin, provided you do so within six months of the Bulletin issue date. The same applies for photosheets.

The Editor



"The conservation people put pressure on the frogs' legs merchants, and this is the compromise they came to."

FROGS OR PESTICIDES FOR BANGLADESH?

Nurul Huda (Bangladesh Observer)

DHAKA: Bangladesh has taken advantage of a decline in frogs' legs exports from India and China to increase its own trade. Some 1,300 tonnes - 42% of total exports - went to the United States last year, and 39% went to the Netherlands. Other buyers include Belgium, West Germany, Britain, France, Italy, Hong Kong and Malaysia. Export earnings leapt from some $5 million in 1982 to $7.5 million last year.

The only species of frog to be exported from Bangladesh is the Indian bullfrog (Rana tigrina). These come out of hibernation in April, before the monsoon rains, and remain active until the rains end in October. Only a decade ago, frogs were considered harbingers of the monsoons, and killing them was regarded as an offence against nature. Cash has eroded this belief, and frog hunting now provides a seasonal income for many Bangladeshis, from peasants to middlemen to large exporting companies.

Biologists are worried by this trend, because frogs eat more of the sort of insects which are harmful to crops than any other creature. A single bullfrog may eat 150 insects per day. There is a collecting ban from 15 April-15 May, during the peak breeding season, but this is widely ignored.

Professor Zakir Hossain, a zoologist at Dhaka University, predicts that the trade will do serious ecological harm over the coming 10 to 15 years. Bangladesh may have to decide whether it can make more by exporting frogs' legs than it will lose by importing pesticides.

Feature issued 8 June 1984. 870 words. English, French and German.

CHINESE FISH BREEDING — "STEREO" AND OTHERWISE

Chen Wei (China Features)

BEIJING: China airlifted 350,000 carp to Libya this year, and has sent dozens of fish experts to Africa and Asia. It is exporting a novel fish-rearing technology called "stereo fish-breeding".

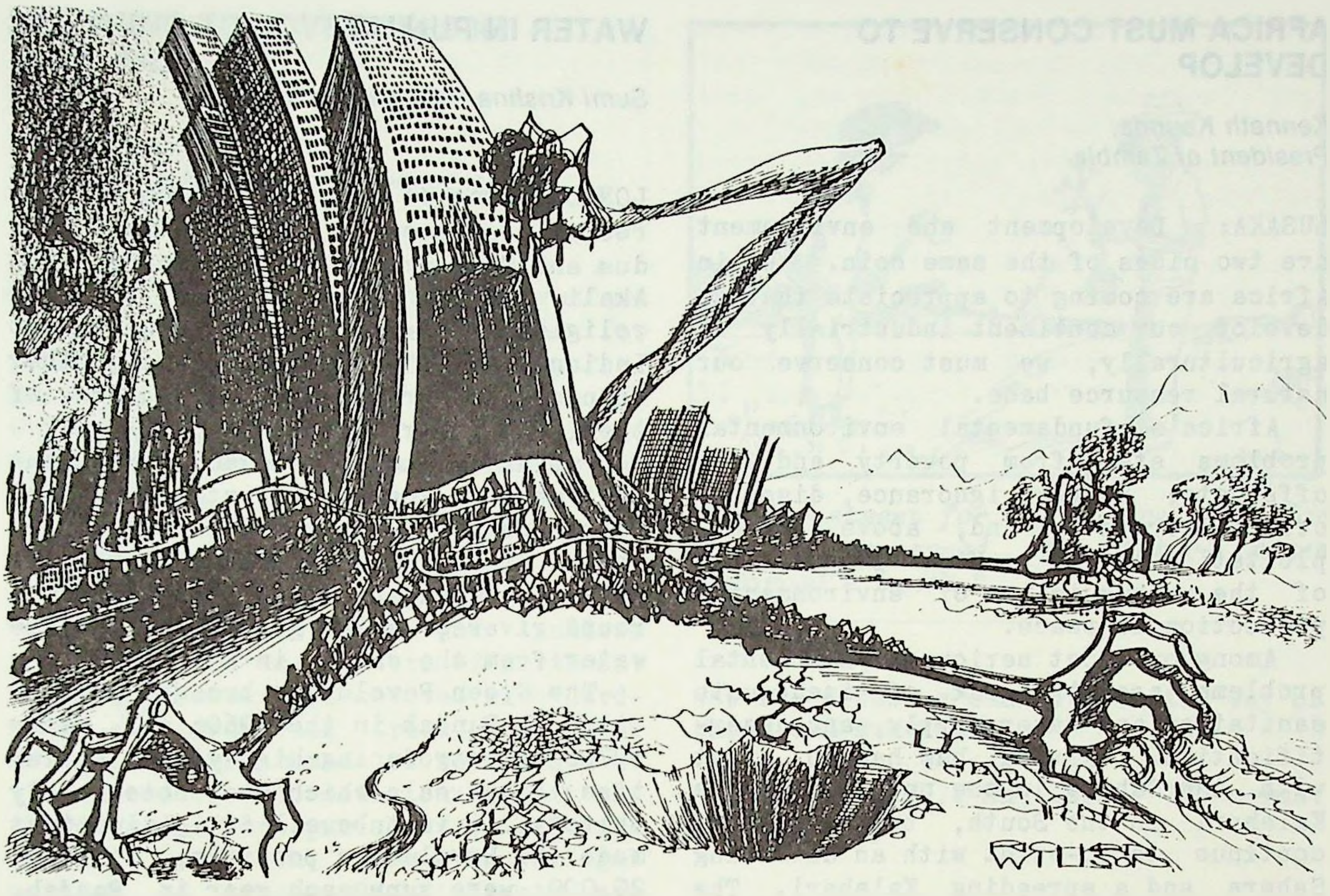
"Stereo" literally means "in three dimensions", and the technique involves all ecological dimensions to raise seven species of fish in the same body of water. Silver and big head carp dine on plankton which floats on the top; below them grass carp eat the water weeds; black carp hunt for shellfish and molluscs on the bottom. Finally, common and crucian carp and bream eat the leftovers.

Fish are raised in about 2% of China's rice fields, yielding 40,700 tonnes of fish a year. This not only provides fish protein but can raise grain production by 10% because fish devour harmful insects.

In Shunde county, south China, fish breeding is combined with silkworm breeding. Mulberry trees preferred by the worms are planted on the banks of the fishponds and the leaves are used to feed the fish.

A fish breeding research and training centre has been set up near Wuxi, eastern China, with assistance from UNDP and FAO. Would-be breeders from Asian and Pacific countries are being trained there in pond management, artificial hatching, fish feed and use of fertilisers.

Feature issued 4 May 1984. 550 words. English only.



NATURAL RESOURCES AND THE ECONOMIC CRISIS

John McCormick (Earthscan)

LONDON: The world is living beyond its means. Unlike the Great Depression of the 1930s, which stemmed from a boom which went out of control, today's recession is caused by the depletion of natural resources, according to a new report "State of the World 1984" published by the Worldwatch Institute, US.

Oil prices rose partly due to overuse of dwindling reserves. The rise has slowed growth in grain production, weakened the car industry and depressed the demand for steel, rubber and glass. Many countries have not yet managed to reduce their oil consumption.

Intensified farming has doubled world food supplies over the past 20 years, but this has produced soil erosion "of epidemic proportions". Semi-arid northern China is losing so much soil that scientists in a Hawaii observatory can tell when spring ploughing starts by measuring the dust in the atmosphere.

Grasslands are overgrazed, and since 1976 there has been no growth in global beef output at all. Growing populations help to deplete resources, and though global population growth is down, it is still high in those countries that can least afford more people. Rural people in Africa may soon face disastrous land scarcity.

Renewable resource bases, such as forests and fisheries, are being whittled away. Worldwatch warns that "in economic terms, the world is beginning to consume its capital along with the interest". However if the problems we face are of our own making, their solution too should be within our control. "The issue is not technology or resources", concludes the report, "but awareness and political will". Only a strengthening of political will can put us back on a path of sustainable development.

Feature issued 1 June 1984. 775 words. English and Spanish.

"State of the World 1984" by Lester Brown and the staff of the Worldwatch Institute, is published by W.W. Norton & Co., New York and London, price $15.95.

AFRICA MUST CONSERVE TO DEVELOP

Kenneth Kaunda,
President of Zambia

LUSAKA: Development and environment are two sides of the same coin. We in Africa are coming to appreciate that to develop our continent industrially or agriculturally, we must conserve our natural resource base.

Africa's fundamental environmental problems stem from poverty and its offshoots: hunger, ignorance, disease, crime, corruption and, above all, exploitation of Man by Man. Indeed, one of the prerequisites of environmental protection is peace.

Among our most serious environmental problems are the lack of inadequate sanitation and water supply, and desertification. Africa has had to exist with the Sahara in the north and the Kalahari in the South, but it cannot continue to co-exist with an advancing Sahara and a spreading Kalahari. The severe drought persisting since 1980 has devastated our economies and is now crippling the main rural development programmes of southern Africa.

For us in Africa, concern for the environment has two basic objectives. Firstly, we should recognise the need for promoting development in order to eliminate poverty. Our development activities must meet basic human needs.

Secondly, we should recognise the need for good management and rational use of our human and natural resources to ensure sustainable development. We must take a hard look at examples of mismanagement of resources, such as destruction of vegetative cover by bush-fire, deforestation unmatched by reforestation, widespread poaching and pollution of groundwater.

If unsound development is a major cause of environmental problems, it follows that development itself must be analysed in order to prevent any negative "side-effects".

Policy makers and planners must adopt sounder methods in order not to over-exploit, misuse or abuse the natural resource base. The future of Africa and its peoples depends on it.

Feature issued 29 June 1984. 835 words. English and French.

WATER IN PUNJAB

Sumi Krishna Chauhan (Earthscan)

LONDON: One of many key issues in the recent violence in Punjab between Hindus and Sikh extremists is water. The Akali party, chief voice for the Sikh religion which dominates this northwest Indian state, is demanding among other things a larger share of the waters of the Indus river basin.

Punjab state is blessed with abundant water, and has an extensive canal system used for irrigation. But to the south lie the mainly Hindu states of Haryana and Rajasthan without any year-round rivers, which get their surface water from the canals in Punjab.

The Green Revolution brought prosperity to Punjab in the 1960s and early 1970s by introducing high-yield varieties of cereals which are notoriously thirsty. It is tubewell irrigation that made the Revolution possible, and some 20,000 were sunk each year in Punjab. This growth depended in turn on electricity to power tubewell pumps, and in this region most is hydroelectricity. So water is crucial to the prosperity of Punjab and all of northern India.

Now water is in shorter supply. In Punjab's Malerkotla district, overuse of groundwater has lowered the water table from three to nine metres (10 to 30 ft), so pumping consumes more electricity. Many dams built for irrigation and electricity generation are now badly silted due to deforesation upstream in the Himalayas. And during periods of peak electricity demand, irrigation must be done at night when farmers cannot see well and therefore tend to waste water.

The issue of Punjab's legitimate share of the waters is, of course, now mixed with other religious and political demands. The Indian Marxist Communist Party has urged Mrs Gandhi's government to set up a water tribunal to settle the matter. Natural resource issues are playing a growing role in civil strife around the world, and governments cannot afford to neglect questions of land, deforestation, soil erosion and irrigation.

Feature issued 29 June 1984. 1,180 words. English only.

LEARNING TO LOVE TREES IN THAILAND

Yojana Sharma
(Earthscan's Brussels correspondent)

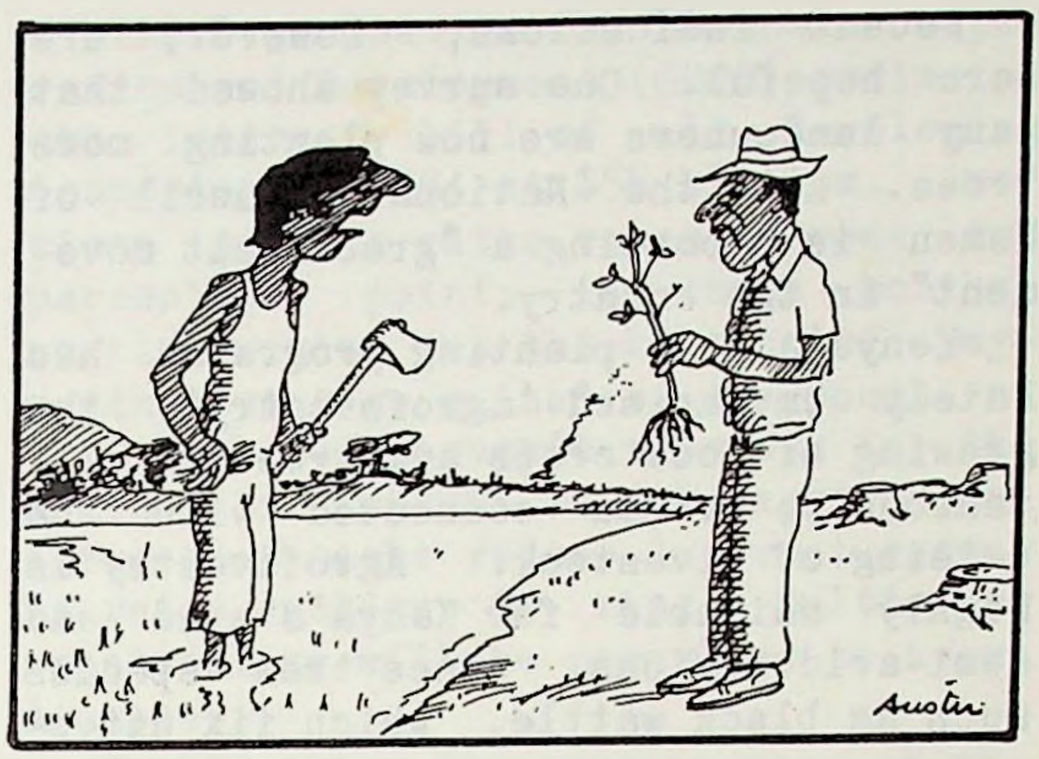
KORAT, THAILAND: Poor farmers and forestry officials have clashed for years in northeast Thailand, the farmers wanting food for today, the foresters protecting forests for the future. Farmers have threatened forestry workers, pulled up seedlings and even tried to start forest fires. There are signs that peace is at hand.

Intense farming in the fertile south is squeezing the poor and landless northwards. Three-quarters of northeast Thailand, once half covered with hardwood and evergreen trees, is now barren. The government is so alarmed at the speed of deforestation that it has threatened severe punishment, including summary execution, for the illegal cutting of trees. Such threats are aimed mainly at poachers of valuable hardwoods.

But for political reasons the government is also committed to aiding farmers in the northeast, which borders on communist Laos and Kampuchea. It is aiding agricultural development there, while at the same time encouraging farmers to plant trees.

Key to this policy has been a type of land reform whereby farmers are given 'user rights' to land which technically belongs to the forestry department. Each family can cultivate and profit from about 2.5 ha (six acres) without owning it outright. Families are grouped into 'agro-forestry villages', and water, roads and schools are supplied to each village. Security of tenure means farmers can get bank loans for farm implements, seed and fertiliser.

The land is given on the condition that they plant a certain number of trees. In early 1983, the forestry department reported "nothing but trouble" in its attempts to enforce this rule. By mid-1983, however, farmers began planting fruit trees around their homes and were asking for eucalyptus seedlings. It seems they were prepared to plant trees once their own basic needs were met. They no longer saw the trees as standing in the way of their own survival.



"An investment for the future? As far as I'm concerned, the future means tomorrow's lunch."

Feature issued 18 May 1984. 735 words. English only.

TREES NOT JUST FOR BURNING

Horace Awori (Nairobi Times)

NAIROBI: This year, Kenya's National Tree Planting Week focussed not on the need to plant trees so much as the usefulness of the trees that are planted. With the fastest growing population in Africa, and some 90% of the rural population entirely dependent on wood for fuel, Kenya recognises it may soon face a firewood emergency. Yet Kenyans do not only want trees to burn - they also want trees which can feed cows and improve the soil.

Since Kenya's Tree Planting Week began 19 years ago, over 160,000 ha (395,400 acres) of quick-growing trees such as cypress, pines and eucalyptus have been planted in reserve areas. But tree planting has not taken root in most rural areas. Landless peasants (25% of the population) are often hostile since forestry projects compete for scarce agricultural land, and many peasants cannot afford to buy the wood.

Recent indications, however, are more hopeful. One survey showed that many landowners are now planting more trees. And the National Council of Women is promoting a "green belt movement" in the country.

Kenya's tree planting programme has lately emphasised 'agroforestry', the growing of food crops and trees simultaneously, often connected with the raising of livestock. Agroforestry is highly suitable for Kenya's arid and semi-arid regions, since tree species such as black wattle, which fix nitrogen in the soil, can improve soil fertility. Millet yields are known to have increased in dry areas of Kenya where fields have been interplanted with certain acacia species.

Officials see agroforestry as a revival of traditional African practices from the times before monoculture was introduced by Europeans.

Feature issued 8 June 1984. 743 words. English only.

SABAH'S DEVELOPMENT PLANS SNUBBED BY THE YOUNG

Dilip Mukerjee
Business Times, Malaysia

KUALA LUMPUR: Plans to develop new, high value crops, improve yields from existing ones, and encourage the tribal peoples of the Malaysian state of Sabah (on the island of Borneo) to change from shifting slash-and-burn farming to settled cultivation have been hit by severe manpower shortages, and have been snubbed by the young who prefer to wait for more lucrative office jobs.

The Sabah Forestry Development Authority (SAFODA) looked for settlers to plant a forest of hardy Acacia mangium, which grows up to 10 m (33 ft) in two years, around the village of Karamatoi, south of Sabah's capital, Kota Kinabalu. Inducements such as two-room houses connected to water and electricity were offered, and settlers were promised a share in plantation ownership and profits. Yet there have been so few applicants that only 30% of SAFODA's land is settled, and the state is farming the rest commercially using hired labour - mostly immigrants.

The same holds true for other projects. A new pepper farm near the town of Keningau, which expects to make large profits, had to recruit most of its workers from elsewhere. Efforts to popularise high yielding strains of rice have also failed. 80% of the area under rice in Sabah still uses traditional varieties because smallholders will not accept the extra work and extra risks of higher yielding crops.

So Sabah's tribespeople continue to tend their smallholdings by traditional methods, growing food for the clans. Whether they can be persuaded to farm for the market - and so support development plans - remains uncertain.

Feature issued 25 May 1984. 850 words. English and German.

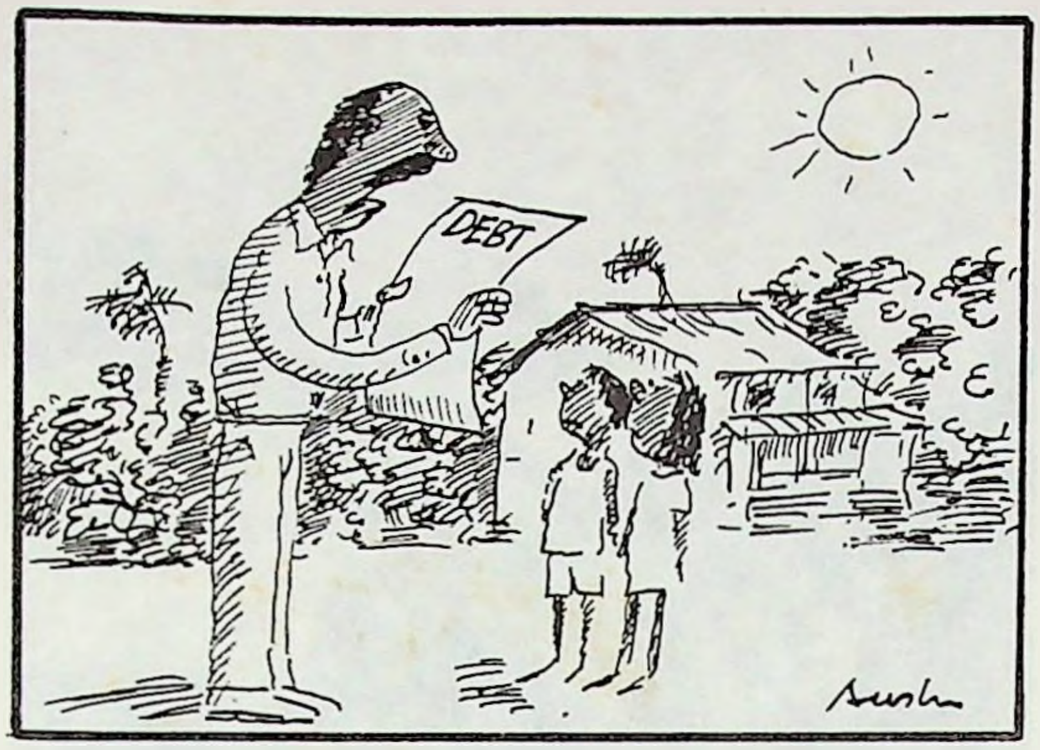
FARM AND COMMUNITY FORESTRY

by

Gerald Foley and Geoffrey Barnárd

This is the third title in Earthscan's series of technical reports on energy issues. The book evaluates the experience to date with community forestry, and describes the lessons learned. It includes sections on farm forestry, tree growing for family uses, community forestry, and land allocation schemes, and covers key aspects of programme design and implementation.

236 pages, with photographs and references. English only. Price: £10.00/US$20.00. No free copies available to NGOs. Orders to James Deane, Earthscan London.



"Some day, my children, this will be yours."

THE LONDON ECONOMIC SUMMIT: DIVIDE AND RULE

Rupert Pennant-Rea
(The Economist, UK)

LONDON: The London economic summit rejected any far-reaching action to resolve the developing countries' debt problems. Instead it called for banks to reschedule the debts for several years at a time for those countries which were "making successful efforts to improve their financial position".

The summit endorsed the "case by case" approach which had emerged from a meeting of the International Monetary Conference in Philadelphia a week beforehand. The approach stems from the unwillingness of western governments and the International Monetary Fund (IMF) to support any comprehensive remedy for Third World debt.

The bankers have agreed to "multi-year rescheduling" for Mexico, a sensible but far from revolutionary concession. Instead of negotiating a new schedule for each loan as it comes due, the banks will deal with several years' worth of loans at a time. Rescheduling a year's loans can take several months of work, and thus create the impression of near-permanent crisis.

A smoother programme of debt repayments will make longterm planning easier for debtor governments, but the size of the debt and - most crucially - rates of interest remain the same.

The Organisation for Economic Cooperation and Development (OECD) estimates the interest bill of all developing countries in 1984 at $55 billion. American interest rates recently rose two percentage points in three months, nearly wiping out the balance of payments advantage gained by the South on the back of economic recovery in the North. Yet summit leaders agreed nothing that might reduce interest rates. If rates continue to rise, multi-year rescheduling will be powerless to avert disaster.

Beside this, the contribution of the London summit seems largely irrelevant, and the Third World is likely to see it as an exercise in divide and rule.

Feature issued 15 June 1984. 969 words. English, French, Spanish and German.

A FEW SOURCES ON THIRD WORLD DEBT

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World Development Movement (WDM), Bedford Chambers, Covent Garden, London WC2E 8HA. Tel: 836 3672. Contact David Ward. WDM campaigns on many development issues, in particular British and EEC aid and trade policies.

Global Negotiations Information Project, Church Center, 11th Floor 777 UN Plaza, New York NY 10017, USA. Tel: (212) 682 3633. The Project publishes action notes every 2 months with an update on North/ South negotations.

The Centre d'Etudes Anti-Imperia-liste (CEDETIM) has just published a series of three bulletins (in French) on the state of play in North/South talks, with a section on debt. CEDETIM is at 14 rue de Nanteuil, 75015 Paris, France. Tel: (1) 531 4338. Annual subscription to 4 issues: 80FF (France), 100FF elsewhere.

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URUGUAYAN SEALING: THE ENDANGERED HUNT

G. Nelis Ayala
(Uruguayan communications and environment specialist)

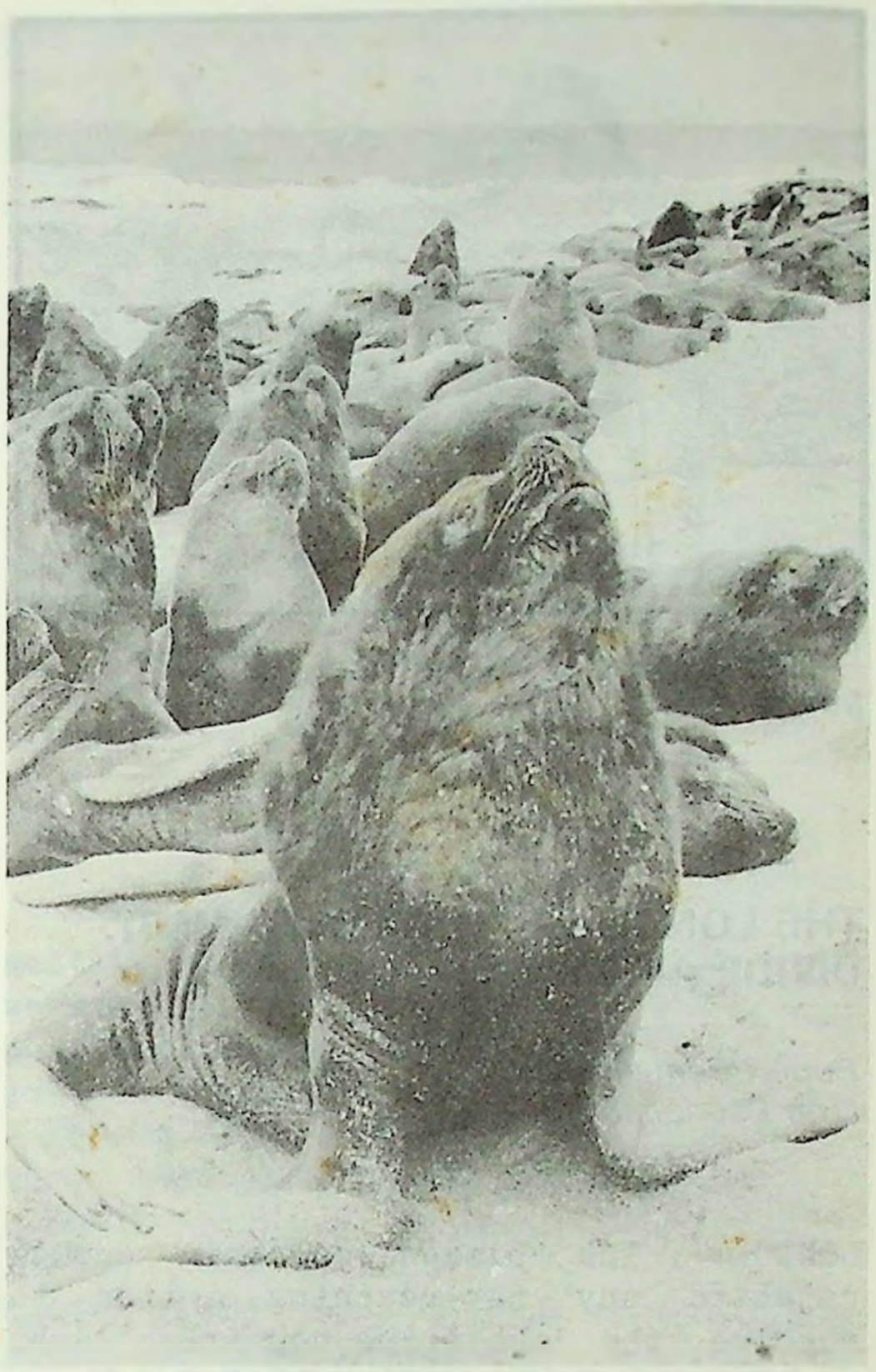
MONTEVIDEO, URUGUAY: Each year the sale of sealskins brings Uruguay US$ 400,000 in badly needed foreign exchange, and seal harvesting supports over 100 Uruguayan families. But the European Parliament recently banned imported sealskins from the endangered Phocidae family, and since then sales to Europe have plumetted.

The irony is that the Uruguayan fur seal is not a member of the Phocidae, but belongs to the Otariidae family which is not endangered here. In fact the Uruguayan seal population has increased from some 20,000 in 1950 to an estimated 300,000 today.

Uruguayan biologist Dr Isaias Kimenez claims this increase is due to the enlightened culling method used. The cull takes mainly adult males which, if left alive, would fight each other to breed with females during the mating season. As the females normally give birth a few days before coming on heat again, the seals' rough and tumble breeding occurs among the new-born pups, many of which are crushed by the males during courtship battles.

Adult males outnumber females by a ratio of six to one and can be culled without endangering the population. Experts agree that the annual cull has reduced the number of pup deaths from crushing, and so the total number of seals is growing.

European importers are often unaware that the flourishing 'lobo' is not endangered, and are reluctant to spend money on publicising the distinction between it and other seals. For Uruguayans, it is the hunt itself rather than the seals which is endangered.



Uruguayan fur seals on the Isla de Lobos. Credit: Nelis Ayala.

Feature issued 11 May 1984. 530 words. English and Spanish.

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Family and Character Change at Buffalo Creek

BY JAMES L. TITCHENER, M.D., AND FREDERIC T. KAPP, M.D.

Psychiatric evaluation teams used observations of family interaction and psychoanalytically oriented individual interviews to study the psychological aftereffects of the 1972 Buffalo Creek disaster, a tidal wave of sludge and black water released by the collapse of a slag waste dam. Traumatic neurotic reactions were found in 80% of the survivors. Underlying the clinical picture were unresolved grief, survivor shame, and feelings of impotent rage and hopelessness. These clinical findings had persisted for the two years since the flood, and a definite symptom complex labeled the "Buffalo Creek syndrome" was pervasive. The methods used by the survivors to cope with the overwhelming impact of the disaster—first-order defenses, undoing, psychological conservatism, and dehumanization—actually preserved their symptoms and caused disabling character changes.

On February 26, 1972, an enormous slag dam gave way and unleashed thousands of tons of water and black mud on the Buffalo Creek valley in southern West Virginia. This Appalachian tidal wave destroyed everything in its path, killing 125 people and leaving 4,000 homeless and carrying away human bodies, houses, trailers, cars, and other debris. It expended its force in no more than 15 minutes at any one point in the 18-mile-long valley.

Just below the dam and the tipple of the Buffalo Mining Company stood the town of Saunders; there was no trace of this town minutes after the black water broke through the dam. The sides of the valley are steep at this point, and the wall of water and mud careened from side to side, miraculously sparing some homes but destroying many others as it slammed down the valley.

The wall of water sped through 14 mining hamlets with names like Crites, Becco, Lundale, and Pardee, hitting their schools, churches, taverns, stores, and homes, leaving no trace of some and damaging nearly all. The sides of the valley become less steep and it spreads out, so the black sludge and water became more of a "flash flood" at Amherstdale and just an overflow at Man, where it reached the Guyandotte River.

None of the settlements in Buffalo Creek, which had a total population of 4,000–5,000 inhabitants, were incorporated. There was no governmental organization beyond the commercial structures provided by post offices, schools, and churches. There are five deep mines in operation and evidence of stripmining is everywhere. In spite of the stripping, the ugly tipples, the dozen or so huge black heaps of waste, the railroad and highway construction, it is still a beautiful valley, and young adults there will tell you it was once much more beautiful, with pleasant homes and gardens where there are now primarily mobile homes. It was and is a middle-class area. Nearly all families are supported by employment in the coal mines or in the supporting industries and services. There is an accepted (but not documented) belief that this valley had not had the degree of emigration of young people that typified others like it since the Depression.

There had been rumors for years that the dam would give way, but hundreds of people reported they did not believe it had really happened until a few moments after the fearsome sight and sound of the advancing water. All the survivors know that the time of the dam break (8:00 a.m. on a Saturday morning) was fortunate. Few people were down in the road, and the children were not in or waiting for the school buses. Nevertheless, 125 were killed, and most lost their homes and possessions.

Subsequently, a group of 654 survivors of this disaster from 160 families began a legal action against the

Presented at the 128th annual meeting of the American Psychiatric Association, Anaheim, Calif., May 5–9, 1975.

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company that owned the dam. This group contacted the law firm of Arnold & Porter in Washington, D.C., and a legal team headed by Mr Gerald Stern traveled to the area to interview survivors. His observations of the psychological effects of the disaster and a summary of the litigation are presented in "From Chaos to Responsibility" in this section. The law firm first contacted Robert J. Lifton, M.D., who assessed "The Human Meaning of Total Disaster" (1), and Kai Erikson, Ph.D., whose observations of the situation in the community are presented in "Loss of Communality at Buffalo Creek." The suit was settled in July 1974 for $13.5 million of which $6 million was for psychological damages.

The legal team then retained one of us (J.L.T.) to organize a group of experts to interview the survivors and assess for the court the psychological impairment they had suffered as a result of the flood. This paper presents our findings on the severity and duration of these psychological effects, a symptom complex we have labeled the "Buffalo Creek syndrome." The size and composition of the evaluation teams varied with the nature of the families assigned to them. A full-sized team consisted of a general psychiatrist, a child psychiatrist, and two psychologists or case workers. These teams did their work in the valley itself, visiting the respondents' mobile homes and those houses that were still standing.

We conducted a pilot study consisting of interviews of 50 survivors in June of 1973. The court then directed that all of the survivor-plaintiffs be interviewed, as all were bringing suit separately. These evaluations were carried out on several long weekends in the spring of 1974.

We began each evaluation with a family interview in which we asked the survivors to talk about their experiences on the "day of the black water" and during the weeks and months that followed. As they talked, we were able to see beyond the immediate clinical phenomena to these people's underlying feelings and their ways of coping with them. The family sessions were followed by psychoanalytically oriented individual interviews with each family member, conducted in backyards, living rooms, or on porches.

EVALUATION FINDINGS

Disabling psychiatric symptoms such as anxiety, depression, changes in character and lifestyle, and maladjustments and developmental problems in children were evident more than 2 years after the disaster in over 90% of the individuals we interviewed. We asked ourselves whether we were examining people who were presenting major symptomatology and character problems that resulted from basically weak ego structures and who were using the disaster in order to win a large settlement from the mining company. Our answer was and is "no." In our evaluations, we witnessed difficult and prolonged struggles with powerful feelings and ideas aroused by the traumatic ex[illegible] of the disaster and the very uneven attempts of the sur[illegible] vivors to reorganize themselves and redevelop the[illegible] tered coping and adaptive mechanisms. The affects as[illegible] sociated with the catastrophe and its aftermath, as well as the psychological and social ways these peop[illegible] chose to deal with them, must be seen against the back[illegible] ground of the universal crises of human development. The attendant threats of separation, abandonment, castration, and death—residuals of the developmental crises of separation and individuation—provided the context for the meaning of the catastrophe to the sur[illegible] vors (2, 3).

We found a definite clinical syndrome in the sur[illegible] vors of the Buffalo Creek disaster that arose from both the immediate impact of the catastrophe on each indi[illegible] vidual and the subsequent disruption of the commu[illegible] nity and that affected everyone living there. We are all predisposed by previous experiences to be traumatized by pathogenic forces as destructive and awesome as the Buffalo Creek catastrophe. Variations in the clin[illegible] ical picture resulted from individual differences in modes of processing and reorganizing the traumatic ex[illegible] perience (4).

A clear pattern emerged from our evaluations and analyses. A traumatic neurotic syndrome was diag[illegible] nosed in more than 80% of the survivor-plaintiffs, and changes in character structure were equally widespread. These changes, although they were attempts at readjustment, occasionally resulted in maladjustment in the social sense and always went in the direction of psychologically disabling limitations.

Character changes represent the stabilizing neuro[illegible] sis, the psychologically hardening and fixating con[illegible] sequences of the catastrophe. We found conscious and latent meanings and understandings and misunder[illegible] standings of the disaster and its aftermath, all of which were associated with the feelings and conflicts aroused by the trauma. The result of this was changes in object relations and attitudes toward the self. We delineated various processes of reorganization—attempts at put[illegible] ting personality functions back together—that were di[illegible] rected toward reintegration and resumption of a non-traumatized life.

We shall indicate below how this personality reorga[illegible] nization, which was so aimed at prevention of recur[illegible] ring experience of the traumatic state, actually *suf[illegible] fered* with flexible and effective recovery and thus pre[illegible] served symptom patterns and forced changes in the way of life.

SYMPTOMS AND CHARACTER CHANGES

During the first days and on into the weeks and months after the disaster, the survivors reported disorganization and sluggishness in thinking and decision making. They complained of having difficulty in controlling their emotions. These problems ranged from emotional outbursts to the simple inability to feel

Some described transient hallucinations and de-
Almost all reported anxiety, grief, and de-
with severe sleep disturbances and nightmares.
the anxiety was manifested in obsessions and
about water, wind, rain, and any other remind-
that the disaster could recur. Occasionally these ob-
disturbances coalesced and became a group
phenomenon. For instance, the wife of a community
never slept when he was asleep so that one of
would always be on the alert. On rainy nights,
man received phone calls regarding rumors that an-
dam was about to give way. He would then take
rifle and spend the night sitting on the supposedly
weakened dam, guarded by others to protect him from
attack.

Grief over the loss of relatives, friends, possessions, and mementos such as family Bibles, as well as the loss of the feeling of communality discussed by Dr. Erikson, was widespread. For many, unresolved grief turned into depressive symptoms, ideation, and behavior, and some developed a depressive lifestyle (5). In some individuals, depression was channeled into a wide range of somatic complaints, with probable increases in the incidence of duodenal ulcer and hypertension.

Many of these people have become listless, apathetic, and less social since the disaster. They cling to their families, lack ambition, and are disinterested in former hobbies and sports. These changes have led to an overall limitation of essential expression, a lack of zest for work and recreation, and despair about ever again resuming the lifestyle they once had.

THOUGHTS, FANTASIES, AND FEELINGS AROUSED BY THE DISASTER

The survivors referred to the disaster as "the end of time" or "the end of everything," and noted that "No one who was not there could ever really know what happened." They were haunted by visual memories and emotions associated with the drownings of relatives and friends and of blackened bodies and parts of bodies that were uncovered for weeks after the flood.

All of the survivors had to confront the loss of a sense of personal invulnerability. The former feeling of comfort and assurance about the continuity of life had depended partly on magical beliefs that horrible things like this disaster do not happen to one; that they could not occur in nice sane communities in this country. Then the impossible happened. The shock was overwhelming and a new outlook took form that reflected a swing from the former sense of invulnerability to pessimism, emptiness, and hopelessness. We heard such comments as "Nothing counts anymore"; "What's the use now?"; and "Since we lost everything, what's to be gained by trying?" The disaster took on the meaning of chaos, helplessness, and death, giving rise to feelings of personal insignificance.

Three other reactions contributed to depressive symptoms and lifestyles. The first was a feeling of impotent rage over the destruction to life, property, and a way of life. This rage is an explosion of feeling against the attack on the self. The victim has little outlet for his anger or hope of satisfaction. This feeling had special intensity because the destruction in Buffalo Creek was man-made; it was caused by the inexplicable inhumanity of a powerful corporation that gave terrible evidence of not caring about its employees or their community. The survivors' guilt was expressed in a wide variety of derivative feelings about the self, in symptoms, in character change, and in behavior through self-denial and lack of hope. These conflicts were not resolved, and their persistence took form in identification with the dead in dreams, actions, and attitude toward life (6).

No one behaves exactly as he thinks he should in a hazardous situation, particularly in a situation he is powerless to influence. Memory becomes clouded and feelings of helplessness influence the way one looks back on the traumatic event. Many people in Buffalo Creek manifested "survivor shame." One of the actual heroes of Buffalo Creek, who had been extraordinarily effective in mobilizing and leading rescue efforts, was able to fend off depression and anxiety in the first four weeks after the flood while he worked relentlessly to help others. When he attempted to return to his former work, he was overwhelmed by anxiety and depression connected with feelings of inadequacy. He developed a phobia connected with his job, began drinking heavily, and became clinically depressed.

We noted in many people a sense of isolation and feelings of alienation combined with an increased need for vigilance and a tightening of the ring around the family. Former feelings of self-assurance, sociability, trust in neighbors, and enjoyment of community activities disappeared. The isolation we observed clinically can be explained by the depressive reactions, the chronic anger, the loss of a way of life, and the dissolution of self-confidence and basic trust.

It has been hypothesized that the emotional disturbances aroused in the victims of disaster quickly disappear after the stress has subsided. Our work at Buffalo Creek suggests that this is rarely the case; the manifestations of a traumatic neurosis do not subside with the receding flood waters. The effects may seem to disappear quickly if one is not alert to the subtle covering-up behavior of the victims of a psychic trauma.

Lifton and Olson (1) explain the persistence of traumatic effects on the basis of an analysis of the nature of the disaster itself and the special psychological effects of such an experience. Our study complements their work by showing how the effects of a traumatic event are preserved by the modes of adaptation to overwhelming fears and hopelessness. The very attempts to protect self, family, and community from a recurrence of helplessness and loss are responsible for the individual and societal neurosis and restrictive character change. Our combined approach has been to examine what occurred, the nature of its impact on the psyche

and why its effects became chronic.

One can analyze the sequential formation of the "Buffalo Creek syndrome" as follows. The disaster activated intense affects, including fear, rage, and helplessness. These waves of external and internal overstimulation overran the stimulus barrier and the ego's capacity to integrate the traumatic experience and control and discharge the affects. There was temporary ego collapse and the ego was damaged. We estimate that reorganization of the ego in whole or in part required 6 to 24 months. The course of the reorganization and the way individuals processed these affects, memories, and the associated conflicts made the ultimate difference in outcome. The survivors' course of ego reorganization and their manner of processing the disaster experience were reflected in their symptoms and character change (2, 4, 7, 8). The variables in the reconstitution of the personalities of the survivors we studied can be divided into four categories.

PERSONALITY RECONSTRUCTION

First-Order Defenses

There was a continuous and steady deployment of a coordinated system of character-shaping first-order defenses (9), i.e., projection, externalization, and denial Projection defended against feelings of guilt and shame aroused by the disaster. The constructors of the dam, state and federal agency representatives, and intrusions from the society outside of the valley became objects of increasing anger and fear. Externalization blocked awareness of this anger and fear as well as feelings of helplessness. Individuals became sensitive to and acutely observant of the anxiety and unrest in their families, coworkers, and the social group. Denial defended against recognition that the self had been changed in any way; it disavowed the feeling of helplessness and the awareness of psychological scarring (10). Denial enabled people to believe that while much had happened to them and to those around them, they had not been affected in an *essential* way, and that they were the same people they had been before the flood. This defensive complex protected against emotions that would have otherwise reactivated memories and feelings of fright and helplessness. It was oriented to the present and functioned continuously, preventing the gradual recollection and discharge of the feeling of helplessness and blocking recognition of the irrationality of shame and guilt. Although one can never be the same after an experience with disaster, this defensive system provides a desperate sort of status quo that substitutes for personal regrowth.

Efforts to "Undo" the Disaster Experience

Undoing consisted of efforts to change the past by reliving the disaster in dreams and other ways, giving it a different outcome. Survivors' memories of the early postdisaster period contained fantasies of magical reliving of childhood stresses. Attempts at undoing also appeared in strange, symbolic reenactments of the trauma, sometimes leading to violence to the self or others. Freudian repetition compulsion was often replaced by the mechanism of undoing, which is a defense against facing the anxiety associated with the trauma.

The dreams of the survivors during the period of initial shock and (in many cases) for months thereafter were fantasied attempts to relive the disaster, but with a less painful outcome. At first, such dreams were unsuccessful and people awoke from them in terror. As time passed, the dreams were modified. Although the affects remained frightening, the subject matter shifted from the flood to previous, often long-past, images of chaos and threats of annihilation. The dreams no longer involved direct reliving of the disaster but instead depicted stressful episodes that represented repetitions of normal developmental crises such as separation, abandonment, castration, and guilt (1, 8).

The regressive process in these traumatic neuroses differs from that in other psychoneuroses. The goal is not gratification or mastery of infantile conflicts, but rather an attempt to work through recent traumatic anxiety. The anxieties of infantile and childhood phases of personality development become the focus of undoing because these problems had been successfully contained or overcome; dreams of long-past stresses that had been mastered provided reassurance to the survivors that they could overcome the recent trauma. Just as "examination dreams" attempt to deal with anticipatory anxiety by fantasying a past stress that had been overcome, dreams that are characteristic of traumatic neuroses attempt to neutralize the overwhelming anxiety of the traumatic event by recalling successful past adaptations to difficult situations. Each of these phases of dealing with normal stress, reproduced in the survivors' dreams, is common to all persons as part of human epigenesis. Each past crisis included not only a deprivation of instinctual demand but also a threat to the continuity of life. The latter aspect is what makes them particularly suitable for undoing the threat of annihilation experienced in a trauma like the Buffalo Creek disaster.

Because undoing relies on omnipotence and magic it prevents recognition of the influence of guilty shameful attitudes toward the self. The undoing process—aimed at fending off fearful anticipation of a recurrence of the traumatic experience—is a continuing obstacle to the relatively nonanxious acceptance of human vulnerability that is necessary for readaptation.

The Psychological Emphasis on Survival

Psychological conservatism consisted of avoidance of situations that might raise the level of excitation either internally or externally. It is the defensive and psychological counterpart of the psychic numbing described by Lifton and Olson (1). We perceive psychic conservation as mental activity designed to control behavior by banking energies, surrendering ambitions, reducing enthusiasm, dampening socializing and

ending, and discouraging novel experience (11). Psychological conservatism accepts survival as the only goal of existence. It is a trade-off: the individual accepts hopelessness in the present to prevent helplessness in the future, as if to say, "Better to live without hope than not to live at all." Psychological conservatism functions as if the disaster will recur tomorrow, thus totally distorting an individual's view of the future. If you live as though the dreaded uncertainty is certain to occur, you become a psychic conservative.

Dehumanization

Dehumanization affects one's view of life and human relationships and has a direct toxic effect on personality function. Every disaster places man at the mercy of forces beyond his control. The feeling of being a pawn of fate is dehumanizing—people feel without appeal, beyond empathy, and cannot be persuaded or assuaged. When the catastrophe is man-made, dehumanization is magnified. In Buffalo Creek, there was the terrible realization that other human beings had planned, built, and maintained an unsound dam and then acted irresponsibly and uncaringly after the resulting disaster. The defense of dehumanization is an example of identification with the aggressor. It destroyed pride and joy in being human.

Dehumanization may be mitigated by corrective experiences with empathic people in the helping professions and private and public institutions. Collaboration with other sufferers in a law suit against the dehumanizing aggressor may also be useful in that it can ensure that it will be more difficult for such organizations to risk human life in the future.

CONCLUSIONS

It is our belief that the reactions we have described are not those of individuals with weak egos who were exaggerating their complaints in order to win a law suit. These people, by and large, did not exaggerate their complaints; the majority minimized or denied them. If their reactions were merely exacerbations of old neurotic symptoms and problems, we would have encountered a wider range of psychoneurotic reactions. Although there were differences in modes of response, the uniformity of the psychological reactions comprising the Buffalo Creek syndrome was striking. Our analyses of dreams and early memories, reported elsewhere (12, 13), support the consistency and severity of this syndrome.

We found a definable clinical entity characterized by a well-delineated group of clinical symptoms and changes in character and lifestyle that were related to clear-cut psychopathogenic factors precipitated by the disaster. All of us have in our unconscious memory systems encounters with the various forms of dread that a disaster reawakens. There need not be any preexisting neurosis for the Buffalo Creek syndrome to become disabling and chronic. All of us are susceptible to traumatic neurosis and the "death imprint."

To be successful in treating these traumatic neuroses, we must substitute active recall and working through of the painful memories of helplessness and separation for counterphobic behavior, passive reproduction of the experience in dreams, and magical ways of living out and reenacting the trauma. The change from passive to active experience, from reproduction to re-creation is the essential thing. By linking long-past and previously worked-through childhood anxieties with the overwhelming anxieties aroused by the recent disaster, we may be able to strengthen the ego of the individual with a traumatic neurosis. Through his relationship with helping and capable persons and institutions, the disaster survivor is given an opportunity for regrowth, much like the ego development that came about as the individual met and dealt with the normal crises of growing up.

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From Chaos to Responsibility

BY GERALD M. STERN, L.L.B.

The litigation initiated by the 625 survivors of the Buffalo Creek flood who refused to settle with the coal company claims office was a landmark case. For the first time, individuals who were not present at the scene of a disaster were allowed to recover for mental injuries. Psychic impairment, the term coined for these injuries, was found in virtually all of the survivor-plaintiffs. In an out of court settlement, the survivors were awarded $13.5 million, $6 million of which was distributed on the basis of a point system as compensation for the psychological damages.

THE DESTRUCTION of the Buffalo Creek community gave rise almost immediately to the creation of a new kind of group—a community of 625 survivors from 160 families who joined together to sue the coal company that owned the dam. These individuals, unlike the majority of the survivors, refused to settle their cases at the coal company claims office. Instead, they sought legal help outside the state of West Virginia.

This group contacted Arnold & Porter, a law firm in Washington, D.C., and we agreed to represent them.[1] We immediately went to Buffalo Creek and spent many days interviewing survivors at Charlie Cowan's gas station, one of the few buildings remaining in the Buffalo Creek valley. Mr. Cowan was the leader of the citizens' committee that called to ask for our legal help. The survivors' legal right to sue for traditional damages was clear; they could sue for lost property, for their homes and all their possessions, for physical injuries, or for the death of family members. However, it soon became apparent that they also had significant mental injuries, and it was not so clear whether the law would permit recovery for these damages.

The magnitude and significance of these mental and emotional damages hit me personally when I interviewed a coal miner who had lost his 22-month-old son and his pregnant wife in the disaster. The flood waters caught this family asleep in their home. As the wife disappeared in the black water, she cried out to her husband to save their son. He held the child tightly and tried to struggle to safety, but houses and debris battered him and the child as they were washed down the valley. Somewhere in this maelstrom, he lost his grip on his son, who disappeared forever into the black waters. Evertually, this man was able to struggle to safety, although his body was badly lacerated by the jagged wood in the water. At the time I interviewed him, my own son was exactly 22 months old. I was terribly upset by his story and decided to try to expand the lawsuit to recover for his mental anguish and for the mental suffering of others like him.

We contacted Robert J. Lifton, M.D., who had studied the survivors of Hiroshima. He agreed to interview a number of our clients and to help us explain to the court in lay terms the common psychiatric injuries of these survivors. He also suggested that we ask Dr. Kai Erikson, whose findings are reported in this section, to study the sociological aspects of this disaster. With these two men as our principal experts, we articulated for the court and for the coal company defendant what we called the "psychic impairment" damages suffered by every one of our survivor-clients.

We coined the term "psychic impairment" to include both the psychiatric damages identified by Dr. Lifton and the loss of communality found by Dr. Erikson. We wanted to avoid alleging that the survivors suffered mental illness and felt that the phrase "psychic impairment" had a less negative connotation.

Eventually we also employed a team of psychiatrists from the University of Cincinnati, some of whose findings are also presented in this section, to interview each of our clients. The coal company also retained a psychiatrist—actually, a physician whose principal field was neurosurgery—and a young psychologist in training, who also examined each of the 625 men, women, and children involved in the lawsuit.

Our psychiatric studies indicated that almost all of the survivors were suffering from psychiatric damage of varying degrees as a result of this disaster. In contrast, the physician retained by the coal company determined that the survivors generally suffered only transient situational disturbances that he felt should have abated soon after the disaster. The fact that the survivors still had disturbances when he examined them some 18 months after the disaster led him to presume almost invariably that these people were suffering primarily from preexisting mental conditions.

Under traditional legal principles, if the survivors had been physically injured by the flood waters and, as a result, had suffered psychiatric damages, they could recover full monetary damages unless their [illegible]

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[1]A much more detailed report of my observations and involvement in this case will be presented in a forthcoming work (1).

conditions were merely the result of an aggrava- of preexisting mental conditions. Our physicians ed that the survivors' psychiatric damages were solely by the disaster. The coal company physi- disagreed. This is a dispute juries must often re- se in cases involving psychiatric damages.

more interesting and more difficult legal ques- presented by this case was whether the survivors recover monetary damages at all, even if the jury and that all of the survivors' present psychiatric in- were caused by the disaster. Traditionally the does not permit recovery for psychiatric injury on sole ground that the injury can be proven to have caused by another person or persons. For ex- e, a mother who sees a truck run over and kill her may suffer severe psychiatric trauma, but the law tionally has denied the mother recovery for her suffering, terming her a mere bystander. Needless an individual who sees a friend killed has even chance in the courts of recovering for mental suf-

In this case, most of the survivors were not seri- injured physically. Many of them had run up the of the valley just ahead of the flood waters, and of them were not even in the valley at the time of disaster. For example, one survivor was visiting in Mexico, another was in Florida, some were in and others were in hospitals in nearby towns out- the valley. Nevertheless, we insisted that all of survivors were entitled to recover for their mental ering, even if they suffered no physical injury, saw heard no relative or friend in peril, or were absent the valley on the day of the disaster. We argued each resident of the valley, even those who were there during the flood, was a direct victim of the company's reckless conduct and not merely a by- ander.

The court agreed with this contention and held that survivors—even those who were outside the valley the time of the disaster—could collect for mental injury if we could convince the jury that the coal company's conduct was reckless (i.e., more than merely negligent), and that this reckless conduct caused the survivors' mental suffering (2).

Once the coal company realized that the court would not dismiss the psychic impairment claims of any of the 625 survivor-plaintiffs in this lawsuit, we reached a settlement for a total of $13.5 million, to be divided among the survivors by their own attorneys. We first calculated the payments for real and personal property losses, for wrongful deaths, lost wages, other miscellaneous claims, expenses, and legal fees. This left approximately $6 million to be distributed for psychic impairment. We distributed this money to the 625 plaintiffs using a point system based on their immediate involvement with the disaster, their medical disability, their loss of community ties, and the disruption of their way of life. Each survivor received between $7,500 and $10,000 after all expenses and legal fees were deducted. Approximately $2 million of the $6 million was placed directly in a trust fund for the 224 children under the age of 18 who were plaintiffs in the case.

The court's approval of this substantial monetary settlement for survivors' psychic impairment established a significant legal precedent for recovery in cases of mental suffering. The court was not bound by concepts of space and time. Instead, the court recognized that it is the permanence of loss, rather than the witnessing of the disaster, that causes mental suffering. In other words, the court (and eventually the coal company) was persuaded that the relief provided by the law should be determined not by narrow traditional legal principles but by fairly modern psychiatric and sociological principles.

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Loss of Communality at Buffalo Creek

BY KAI T. ERIKSON, PH.D.

The survivors of the Buffalo Creek disaster suffered both individual and collective trauma, the latter being reflected in their loss of communality. Human relationships in this community had been derived from traditional bonds of kinship and neighborliness. When forced to give up these long-standing ties with familiar places and people, the survivors experienced demoralization, disorientation, and loss of connection. Stripped of the support they had received from their community, they became apathetic and seemed to have forgotten how to care for one another. This was apparently a community that was stronger than the sum of its parts, and these parts—the survivors of the Buffalo Creek flood—are now having great difficulty finding the personal resources to replace the energy and direction they had once found in their community.

THE TRAUMA experienced by the survivors of the Buffalo Creek disaster can be conceptualized as having two related but distinguishable facets—the individual trauma and the collective trauma.

By individual trauma, I mean a blow to the psyche that breaks through one's defenses so suddenly and with such force that one cannot respond effectively. As the other papers in this section make abundantly clear, the Buffalo Creek survivors experienced just such a blow. They suffered deep shock as a result of their exposure to so much death and destruction, and they withdrew into themselves, feeling numbed, afraid, vulnerable, and very alone.

By collective trauma, I mean a blow to the tissues of social life that damages the bonds linking people together and impairs the prevailing sense of communality. The collective trauma works its way slowly and even insidiously into the awareness of those who suffer from it; thus it does not have the quality of suddenness usually associated with the word "trauma." It is, however, a form of shock—a gradual realization that the community no longer exists as a source of nurturance and that a part of the self has disappeared. "I" continue to exist, although damaged and maybe even permanently changed. "You" continue to exist, although distant and hard to relate to. But "we" no longer exist as a connected pair or as linked cells in a larger communal body.

The two traumas are closely related, of course, but they are distinct in the sense that either of them can take place in the absence of the other. For instance, a person who suffers deep psychic wounds as the result of an automobile accident, but who never loses contact with his community, can be said to suffer from individual trauma. A person whose feelings of well-being begin to wither because the surrounding community is stripped away and no longer offers a base of support (as is known to have happened in certain slum clearance projects) can be said to suffer from collective trauma. In most large-scale human disasters, of course, the two traumas occur jointly and are experienced as two halves of a continuous whole. For the purposes of this paper, however, it is worthwhile to insist on the distinction at least briefly, partly because it alerts us to look for the degree to which the psychic impairment observed in settings like Buffalo Creek can be attributed to loss of communality, and partly because it underscores the point that it is difficult for people to recover from the effects of individual trauma when the community on which they have depended remains fragmented.

I am proposing, then, that many of the traumatic symptoms experienced by the people of Buffalo Creek are as much a reaction to the shock of being separated from a meaningful community base as to the actual disaster itself.

It should be noted that "community" means much more in Buffalo Creek than it does in most other parts of the United States. Much has been said in the literature on Appalachia about the importance of kinship and neighborliness in mountain society. Although it is true that coal camps like the ones along Buffalo Creek differ in many ways from the typical Appalachian community, the people of Buffalo Creek were nonetheless joined together in the close and intimate bonds that sociologists call *gemeinschaft*. The rhythms of everyday life were largely set by the community in general and governed by long-standing traditions, and the main linkages by which people were connected were quite strong. In Buffalo Creek, tightly knit communal ties were considered the natural order of things, the very antelope in which people live.

Long stories must be made short in a presentation like this, so I will simply summarize my theme by saying that the human communities along Buffalo Creek were essentially destroyed by the disaster and that

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The flood itself forced the residents of the hollow into a number of nearby refugee camps from which they were, for a variety of reasons, unable to escape. The result was that the majority of the Buffalo Creek survivors remained in the general vicinity of their old homes, working in familiar mines, traveling familiar roads, trading in familiar stores, attending familiar schools, and sometimes worshipping in familiar churches. However, the people were scattered more or less at random throughout the vicinity—virtually stranded in the spots to which they had been washed by the flood—and this meant that old bonds of friendship and neighborhood, which had always depended on physical proximity, were effectively severed. People were no longer related to one another in old and accustomed ways. The threads of the social fabric had been ripped.

A year after the disaster (which is roughly when most of the authors represented in this section first encountered these people) visitors to Buffalo Creek were struck by a number of behavioral manifestations that seemed to be exhibited by almost everyone in the valley and, for that matter, continue to this day. Several of these manifestations are discussed elsewhere in this section. I would like to mention three by way of illustrating a larger point.

DEMORALIZATION

First, the survivors clearly suffer from a state of severe demoralization, both in the sense that they have lost much personal morale and in the sense that they have lost (or so they fear) most of their moral anchors.

The lack of morale is reflected in a profound apathy, a feeling that the world has more or less come to an end and that there are no longer any sound reasons for doing anything. People are drained of energy and conviction, not just because they are still stunned by the savagery of the flood but because activity of any kind seems to have lost much of its direction and purpose in the absence of a confirming community surround. They feel that the ground has been pulled out from under them, that the context in which they had worked, played, and cared for others has more or less disappeared. One survivor said,

> I don't know. I just got to the point where I just more or less don't care. I don't have no ambition to do the things I used to do. I used to try to keep things up. But anymore I just don't. It seems I just do enough to get by, to make it last one more day. It seems like I just lost everything at once, like the bottom just dropped out of everything.

I suppose the clinical term for this state of mind would be depression, but one can hardly escape the impression that it is, at least in part, a reaction to the amorphous qualities of postdisaster life in the valley. The survivors are literally out of place and uprooted. They had never realized the extent to which they relied on the rest of the community to reflect a sense of security and well-being, or how much they depended on others to supply them with a point of reference.

The people of Buffalo Creek are also haunted by a suspicion that moral standards are beginning to collapse all over the valley, and in some ways it would appear that they are right. As is so often the case, the forms of misbehavior people find cropping up in their midst are exactly those about which they are most sensitive. The use of alcohol, always a sensitive problem in Appalachian society, has apparently increased, and there are rumors everywhere that drugs have found their way into the valley. The theft rate has also gone up, and theft has always been viewed in the mountains as a sure index of social disorganization. The cruelest cut of all, however, is that younger people seem to be slipping away from parental control and are becoming involved in nameless delinquencies. This is an extremely disturbing development in a culture so devoted to the family and so concerned about generational continuity.

This apparent collapse of conventional morality has a number of curious aspects. For one thing, observers generally feel that there is much less deviation from community norms than the local people seem to fear. Moreover, there is an interesting incongruity in these reports of immorality—one gets the impression that virtually everyone is coming into contact now with persons of lower moral stature than they did formerly. This, of and by itself, does not make very much logistical sense. One survivor said flatly,

> The people of Buffalo Creek tended to group themselves together; therefore the breaking up of the old communities threw all kinds of different people together. At the risk of sounding superior, I feel we are living amidst people with lower moral values than us.

Perhaps this is true—but where did all these sordid people come from? Whatever else people may say about their new neighbors in the refugee camps, they are also from Buffalo Creek, and it is hard to avoid the suspicion that their perceived immorality has as much to do with their newness as with their actual behavior. It may be that relative strangers are almost by definition less "moral" than familiar neighbors. To live within a tightly knit community is to make allowances for behavior that might otherwise look deviant. New neighbors do not qualify for this clemency—not yet, at least—and to that extent, their very unfamiliarity may seem to hint at vice all by itself.

The collapse of morality in Buffalo Creek thus seems to have two edges. We have sufficient evidence to believe that certain forms of deviation are actually on the increase, although this is a difficult thing to measure accurately. However, we also have reason to believe that the breakdown of accustomed neighborhood patterns and the scattering of people into unfamiliar new groupings has increased the level of suspicion people feel toward one another.

DISORIENTATION

The people of Buffalo Creek are also clearly suffering from a prolonged sense of disorientation. It has often been noted that the survivors of a disaster are likely to be dazed and stunned, unable to locate themselves meaningfully in time and space. Time seems to stop for them; places and objects suddenly seem transitory. They have trouble finding stable points of reference in the surrounding terrain, both physical and human, to help fix their position and orient their behavior. All of this can be understood as a natural consequence of shock, but the people of Buffalo Creek seem to have continued to experience this sense of dislocation for months and even years after the crisis. "We find ourselves standing, not knowing exactly which way to go or where to turn," said one individual. Another survivor noted, "We feel like we're living in a strange and different place, even though it is just a few miles up Buffalo Creek from where we were."

Professional observers who have gone into the valley on medical or research errands have noted repeatedly how frequently the survivors seem to forget simple bits of everyday information—the names of close friends, their own telephone numbers, etc. People are often unable to locate themselves spatially, even when they are staring at fixed landmarks they have known all their lives. It is not at all uncommon for them to answer factual questions about time—their own age or their children's grade in school—as if history had indeed stopped on the date of the disaster. In general, people all over the valley live with a lasting sense of being out of place, disconnected, and torn loose from their moorings, and this feeling has far outlasted the initial trauma of the catastrophe itself.

People normally learn who they are and where they are by taking soundings from their fellows. As if employing a subtle form of radar, we probe other people in our immediate environment with looks, gestures, and words, hoping to learn something about ourselves from the signals we get in return. But when there are no reliable objects off of whom to bounce those exploratory probes, people have a hard time calculating where they stand in relation to the rest of the world. In a very real sense, they come to feel that they are not whole persons, not entirely human, because they do not know how to position themselves in a larger communal setting.

> Well, I just don't feel like the same person. I feel like I live in a different world. I don't have no home no more. I don't feel normal anymore. I mean, sometimes I just wonder if I'm a human being. I just feel like I don't have no friends in the world, nobody cares for me, nobody knows I even exist.

LOSS OF CONNECTION

A third manifestation of the disaster's psychosocial effects is a condition that might be described as loss of connection—a sense of separation from other people. For better or worse, the people of the hollow were deeply enmeshed in the tissues of their community; they drew their very being from them. When those tissues were stripped away by the disaster, people found themselves exposed and alone, suddenly dependent on their personal resources. The cruel fact is that many of the survivors proved to have few resources—not because they lacked the heart or the competence, but because they had spent so many years placing their abilities in the service of the larger community that they did not really know how to mobilize them for their own purposes.

Many people feel that they have lost meaningful connection with themselves. Much of their apparent former strength was actually the reflected strength of the community, and they are learning—to their great discomfort—that they cannot maintain an enduring sense of self when separated from that larger issue. They find that they are not very good at making individual decisions, getting along with others, or establishing themselves as separate persons in the absence of a supportive surround. "Lonesome" is a word many of them use, and they do not use it to mean the lack of human company. One woman who had moved to the center of a large neighboring town said of her new home: "It is like being all alone in the middle of a desert." A man who continued to live in his damaged home on Buffalo Creek said,

> Well, there is a difference in my condition. Like somebody being in a strange world with nobody around. You don't know nobody. You walk the floor or look for somebody you know to talk to, and you don't have nobody.

In addition, the inability of people to come to terms with their own individual isolation is counterpointed by an inability to relate to others on a one-to-one basis. Human relations along Buffalo Creek took their shape from the expectations that pressed in on them from all sides like a mold: they were regulated by the customs of the neighborhood, the ways of the community and the traditions of the family. When that mold was stripped away, long-standing relationships seemed to disintegrate. This is true of everyday acquaintances but it is doubly—and painfully—true of marriages. Wives and husbands discovered that they did not know how to nourish one another, make decisions, or even to engage in satisfactory conversations when the community was no longer there to provide a context and set a rhythm. There has been a sharp increase in the divorce rate, but that statistical index does not begin to express the difficulties the survivors have relating to their spouses. It is almost as if communal forces of one sort or another had knit family groups together by holding them in a kind of gravitational field, but when the forces of that field began to dissipate, family members became scattered like separate individual particles. Each individual nurses his or her own hurts and tends to his or her own business.

...know how to care for one another or to coordinate emotionally, because the context that lent substance and meaning to their relationships has disappeared. Two survivors put it this way:

> Each person in the family is a loner now, a person unto himself. Each of us is fighting his own battles. We just don't seem to care for each other anymore.

> The family is not what they was. They're not the same people. I don't know how you'd put this, but before there was love in the home. But now it seems like each one is a different person, an individual by himself or herself, and there's just nothing there.

Finally, the difficulty people experience in sustaining human relationships extends beyond marriages and families out into the rest of the valley. In places like Buffalo Creek, relationships are part of the natural order—being inherited by birth or acquired by physical proximity—and the very idea of "making" friends or "forming" relationships is hard for these people to understand and harder still for them to achieve.

One result of all the problems I have described is that the community (what remains of it) seems to have lost its most significant quality—the power it gave people to care for one another in moments of need, to console one another in moments of distress, and to protect one another in moments of danger. In retrospect, it is apparent that the community was indeed stronger than the sum of its parts in this regard. When the people of Buffalo Creek were clustered together in the embrace of a community, they were capable of remarkable acts of generosity; when they tried to relate to one another as separate individuals, they found that they could no longer mobilize the energy to care. One woman summed it up in a phrase: "It seems like the caring part of our lives is gone."

CONCLUSIONS

To end with an oversimplified metaphor, I would suggest that the people of Buffalo Creek were accustomed to placing their individual energies and resources at the disposal of the larger collectivity—the communal store, as it were—and then drawing on those reserves when the demands of everyday life made this necessary. When the community more or less disappeared, as it did after the disaster, people found that they could not take advantage of the energies they once invested in that communal store. They found themselves almost empty of feeling, devoid of affection, and lacking all confidence and assurance. It is as if the cells had supplied raw energy to the whole body but did not have the means to convert that energy into usable personal resources once the body was no longer there to process it.

Children of Disaster: Clinical Observations at Buffalo Creek

BY C. JANET NEWMAN, M.D.

Most of the 224 children who were survivor-plaintiffs of the Buffalo Creek disaster were emotionally impaired by their experiences. The major factors contributing to this impairment were the child's developmental level at the time of the flood, his perceptions of the reactions of his family, and his direct exposures to the disaster. The author focuses on children under 12, describing their responses to fantasy-eliciting techniques and their observed behavior after the flood compared with developmental norms for their age and reports of their previous behavior. These children share a modified sense of reality, increased vulnerability to future stresses, altered senses of the power of the self, and early awareness of fragmentation and death. These factors could lead to 'after-trauma" in later life if they cannot make the necessary adaptations and/or do not receive special help to deal with the traumas.

As PART of the psychiatric evaluation of the survivors of the Buffalo Creek flood, 224 children were interviewed and evaluated; most were found to be significantly or severely emotionally impaired by their experiences during and after the flood. In this paper I will focus on children under the age of 12, using as a sample 11 of the children I assessed personally.

As has been described elsewhere in this section, the evaluation procedure began with an interview of the total family and proceeded to individual interviews. In interviews of mothers, outlines of each child's developmental history and functioning before and after the disaster were obtained. This information was passed on to the child psychiatrists in order to help us place each child in his parents' developmental perspective. Children were usually seen in their own rooms. They were encouraged to recall their own experiences of the flood; such expressions had often been submerged or inhibited amidst the outpourings of more vocal family members. The issues we discussed included past and present family life, personal feelings, school experiences, and the childrens' perceptions of future hopes, the nature of the disaster, and the meaning of the lawsuit.

We used such fantasy-eliciting techniques as "three wishes," "draw a person," and story telling. The adolescent children were asked to draw a picture of the flood as they remembered it. Special educators from the Children's Psychiatric Center obtained school data to confirm or correct parental impressions of major losses of academic achievement that persisted long after the disaster.

The effects of the disaster on children can be attributed to three major factors: 1) their developmental level at the time of the disaster, 2) their perceptions of the family's reactions to the disaster, and 3) their direct exposures to the disaster. This paper illustrates each factor and examines their numerous interactions.

DEVELOPMENTAL LEVEL

The developmental factor will be illustrated by contrasting the clinical evidence gathered from 3 latency age children and 2 preschoolers. A depressed, hopeless, and guilt-ridden 11-year-old boy who had discovered human remains in his immediate environment after the flood drew a starkly realistic picture of a completely submerged trailer that contained two people screaming for help. A house above the trailer was half filled with water, and a panic-stricken figure tried to keep afloat amidst the waves and debris of the flood waters. Drawings by 2 younger children showed a possible symbolic meaning of mountains to Appalachian children, i.e., the provision of humanlike functions of cradling and life sustenance (this contrasts with Lifton and Olson's remarks about the "overall environment, including nature itself, as threatening and lethal"[1]). An 8-year-old boy with a chronic anxiety reaction drew the "house-mountain" depicted in figure 1 as life-saving compensation for his temporarily lost and helpless parents. The drawing represents a traumatic regression to a wishful merging of parental security to a house-mountain in a partially beneficent environment. A 7-year-old child also indicated security in nature in a picture of himself climbing a steep hill below his mother and aunt. He drew a tree below and saying, "This is a tree I can hang onto if I slide down. Nature offers support when human beings suddenly seem helpless. In Appalachia, the mountains represent not only slag heaps and flood threats but tangible reassuring security.

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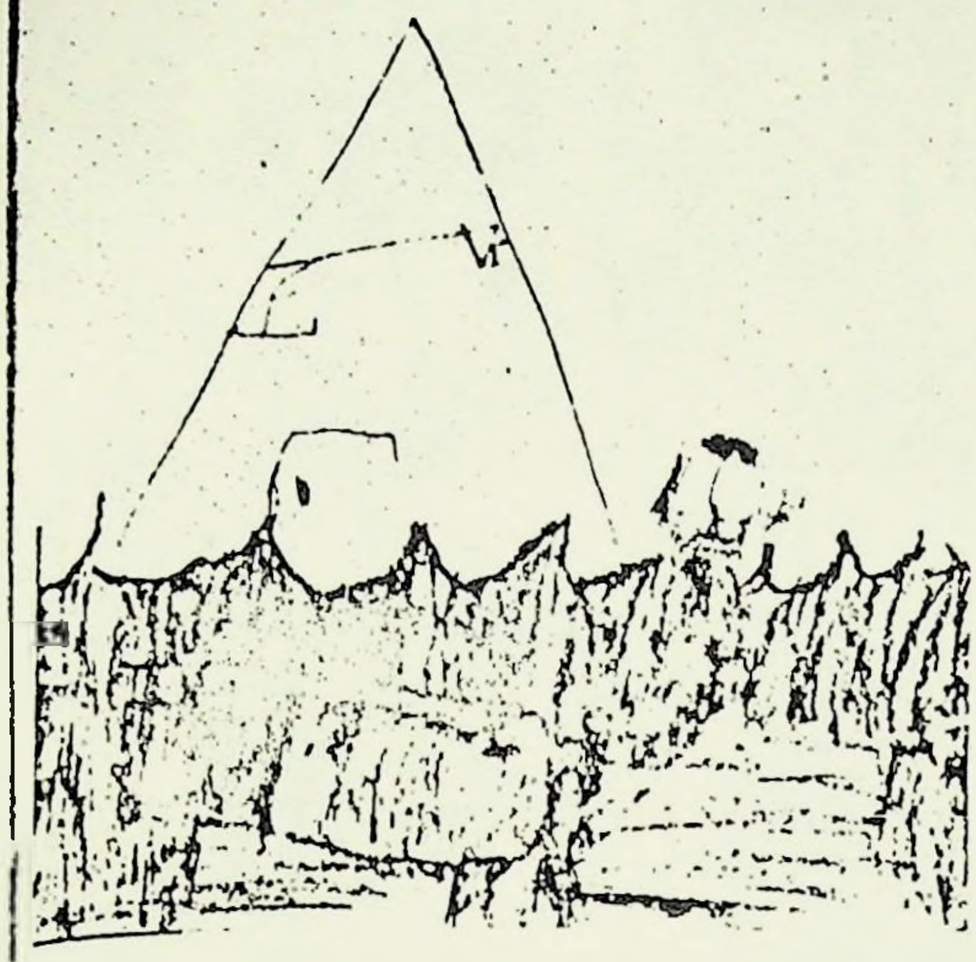
Figure 1
3½-Year-Old's Drawing of a "House-Mount



...that the trailer is destroyed, while the safe "mountain" acquires door and windows.

The experiences of 2 younger boys will be described to isolate developmental factors at the preschool level.

...ry, who was 3 years old at the time of the disaster and 5 at the time of our interview, was the only son and favorite child of his mother's second marriage. He was the first to awaken on the morning of the flood. Looking out his window, he viewed the uncanny and perplexing sight of a house moving down the creek. Unsure whether this was real or a dream, he awakened his parents, conveying more cognitive bewilderment than fright or anxiety. He remembered saying, "Come and look!" The parents rose instantly and managed to evacuate the family to safety on high ground just in time.

Two years after the flood, his mother told us that Henry frequently slept in the same bed with her and ...ed to be rocked, although he had rarely needed this ...pe of attention before the disaster. She reported that he often talked about the houses and cars that had floated by in the flood and how they "went boom!" I ... that because Henry was the first to awaken and, in a sense, rescued his family, they regarded him with special gratitude and admiration. During the family in... Henry was hyperactive—he was friendly but ...dless. In his individual interview, he recalled seeing a house going by his window and asking his parents ...come and look. He denied being scared, but said, "I ...n't like it." Henry also remembered seeing a ...ing baby on top of an upside-down store that was floating downstream. He said, "I didn't like that ... I hated it."

...y's flood picture started with a creek as an al... perfect circle. Then a curving line showed "how the creek goes here." A rounded object near the path of the flood conveyed its force: as he explained, "The flood threw this rock." Then Henry spontaneously drew a 3-sided rectangular but bottomless form nearby with "windows" for eyes, explaining that this was a person killed in the flood. Most children Henry's age, drawing their first human figures, use crude circles for heads or head-and-body combinations. In a precircle phase they use primitive scribble-strokes to indicate human figures. Henry had already manifested a capacity for drawing circles but had applied this skill only to his representation of the flood, using a bottomless rectangle with windows for eyes as a human figure. Such faces or human figures were interpreted as condensations of humans with buildings, stimulated by this 3-year-old's view of a peculiarly and perhaps awesomely floating house and other buildings, including the one the screaming baby was on. His flood experience started as he awakened from sleep, and sorting dream from waking perception and reality is typically difficult for young children. Developmentally, Henry was at a stage of tenuous differentiation of dream from reality and animate from inanimate objects, and motility is the first characteristic differentiating living from inanimate objects.

To summarize, Henry's drawing showed the human figure as dehumanized and fused with a seemingly animated building. The bottomlessness of the human face-figure suggests his lack of security, which was shown clinically by hyperactivity and an excessive need to be closer to his mother than he had been before. The circular flood moving huge rocks suggests the projection of superhuman powers to nature. His barely developed abilities to separate animate from inanimate and actuality from fantasy or dreams help to explain his current bewilderment, excessive anxiety, and hyperactivity. His favored position in the family and his role as "rescuer" have accentuated his sense of narcissistic omnipotence, which allays his underlying feelings of helplessness and anxiety. It is likely that his problems of immaturity, anxiety, and developmental deviations in cognition will become more evident when he starts school.

Peter was interviewed 2 years after the disaster, which occurred when he was 26 months old. His parents reported that he had been a happy baby, developing at normal rate. His father, a chronically disabled miner, described how the family scrambled up the side of the mountain behind their home and watched as their house was swept away and a nearby bridge crumbled from the force of the flood. A frantic passerby yelled to Peter's father to aid in the rescue of two children clinging to a floating mattress. As he ran to help, his wife screamed for him to come back. Realizing the danger, he ran back to his own children and led them to higher ground, carrying Peter on his chronically weak back.

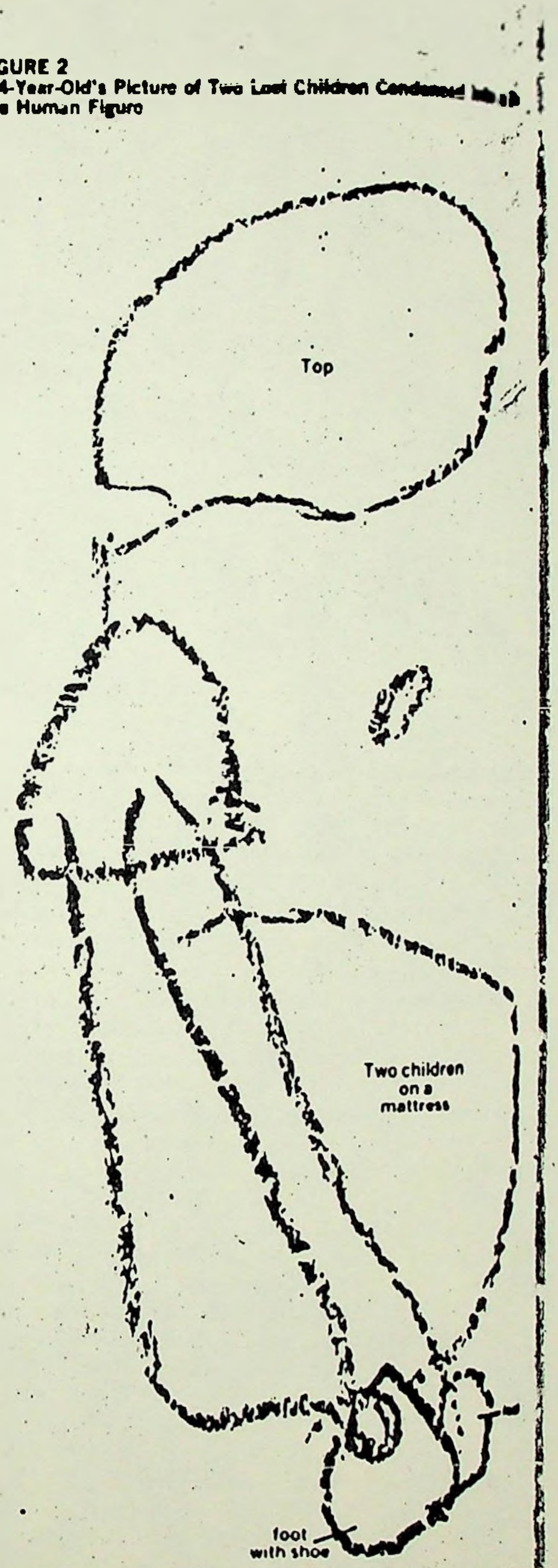
Since the disaster, Peter cannot take a bath without screaming, and he still wets the bed frequently and screams in his sleep. He gets mad easily and always

wants his own way. Peter's memories of the flood involved concerns over the safety of his friends and an older brother's loss of his best friend. He referred to the "two kids on a mattress" and worried aloud whether "their daddy, he might just not want them." This must have represented his own fears at the hands of his own father, who did not save all children, limiting his efforts to the rescue of his own family. When asked about troubles or worries he said, perhaps stoically, "I don't be sad; that's all." When asked what would make him happy he said, "I don't know, maybe if my daddy was handy."

Peter's response to the three-wishes question was touching and highly original and was probably related to a 4-year-old's determination to hold on to reality, with a resulting fear of pretending, even for a moment: "I don't wish," he said proudly. His drawings, made at age 4, about his flood experience when he was 2 years old, should remind the reader of Henry, who, although he was perfectly capable of drawing good circles, drew a person as a house with a rectangular bottomless face. Peter, although younger, is involved with deeper, more sophisticated, more human views of the disaster.

Peter's first flood picture included irregularly round or oval outlines of what he then chose to call windows—an "ugly" window, a "shoe" window, and a "big" window. (Windows with views of the creek became highly important for many families.) As an afterthought, Peter drew a longer shape and told me to write "two kids on a mattress in the creek" within it. I then said, "Let's do that one again on a bigger page." Peter drew a mattress and started to draw the 2 children in the form of lines. However, in the process, he appeared to convert the children into 2 legs (one barefoot and one with a shoe)[1] and then drew a body and a head labeled "top," creating a total human figure. He was influenced by the fact that his siblings were drawing people. Figure 2 is Peter's second drawing: the writing is that of the interviewer during the process of drawing and records Peter's words. This is a powerful condensation of a traumatic scene, combining his father's failure to save all of the endangered children, particularly those on the mattress. These 2 children became the 2 legs of the larger total human figure in the picture. As with Henry, we see a variety of serious developmental interferences and emotional distortions in the development of perception and cognition as manifested in body image concepts.

FIGURE 2
A 4-Year-Old's Picture of Two Lost Children Condensed into the Human Figure



REACTIONS BASED ON DIRECT FLOOD EXPERIENCES

Marie was the cute, articulate daughter of a strong father and a dominating hypertensive mother; she was 8 years old at the time of the disaster. During the flood Marie's mother bundled her in blankets and carried her to shelter, never allowing the child to see the awful stages of the flood.

During Marie's interview, her "draw-a-person"

[1] Many children were barefoot or half barefoot in the escape from the flood and suffered frostbite.

...s of smiling, childlike parents in flowered clothing. Her flood picture, drawn from hearsay, seems ... at first glance. However, the bubbly clouds ... drew were duplicates of the floral prints of the father's shirt and the mother's skirt in the draw-a-person picture. The houses stood high above the languid flood and the many bodies appeared mostly in cheerful upright positions. Only 2 small figures yelled, "Help!" Marie exemplifies a child reacting to maternal anxieties, reminding us of the children described by Anna Freud and Dorothy Burlingham in *War and Childhood* (2), who reacted far more strongly to maternal anxieties than to bombs.

The major clue to the anxieties underlying the facade of pollyannaish denial was Marie's response to the Deepest Bird Fable, which elicits a child's story of what a baby bird who can fly a little will do if a strong wind blows the family nest from the tree, scattering the mother and father and baby bird. Marie asked, "Were they all close together or were they far apart?" When said, "What do you think?" Marie replied,

> Mother makes another nest, with twigs, on a stronger branch. The little bird grows up to have a family. Or, maybe the mommy bird might get sick or die, or a cat might eat her. Or maybe the little bird might get sick or poisoned. It might mistake weed-killer for seed. That *could* happen. Oh well, the little bird probably got old and then died.

This story reveals a rapid descent from superficial health into violent and even paranoid ideation, involving the death of both mother and baby by violence and poison. This rapid weakening of defenses reveals Marie's vulnerability to and identification with a chronically anxious mother, whose exacerbated anxieties she had been intimately exposed to in the apparent service of being protected herself.

Richard, who was 7½ years old at the time of the disaster, was the middle child of 3, born to mature parents. On the day of the disaster, as soon as the water had fell, Richard and his father searched for relatives. They were concerned about the safety of Richard's older sister, who had stayed overnight with a girl friend. The sight of the mutilated body of a boy Richard's age was shocking to both the child and his father. Richard was described as a changed boy since the flood, having become tense, nervous, talking little to his parents, and suffering from terrifying nightmares of someone coming back from the black water to take him to the spirit world. When interviewed, he said that he usually slept with a blackjack under his pillow.

Richard's flood picture conveyed a firm sense of reality, a strong sense of form combined with creative flexibility. He drew a truck carrying 5 bodies wrapped in sheets, set against a background of a burning slag heap and a house with a large chunk missing. The sky was overcast and it was raining. His draw-a-person picture, a clever, strutting, colorful comic book character drawn in profile, shows color, movement, and detail and indicates creativity and ego strength. Despite enduring strengths in peer relationships, good school performance, and basically warm family ties, Richard has a chronic traumatic anxiety reaction manifested by trembling hands, tension, inner tremulousness, difficulty sleeping, and nightmares. In contrast to Marie, who looks deceptively healthy and self-assured but whose reawakened inner problems stem from close ambivalent ties to a chronically anxious mother, Richard's symptoms represent more purely a chronic overt traumatic reaction to the disaster, in the context of considerable ego strength.

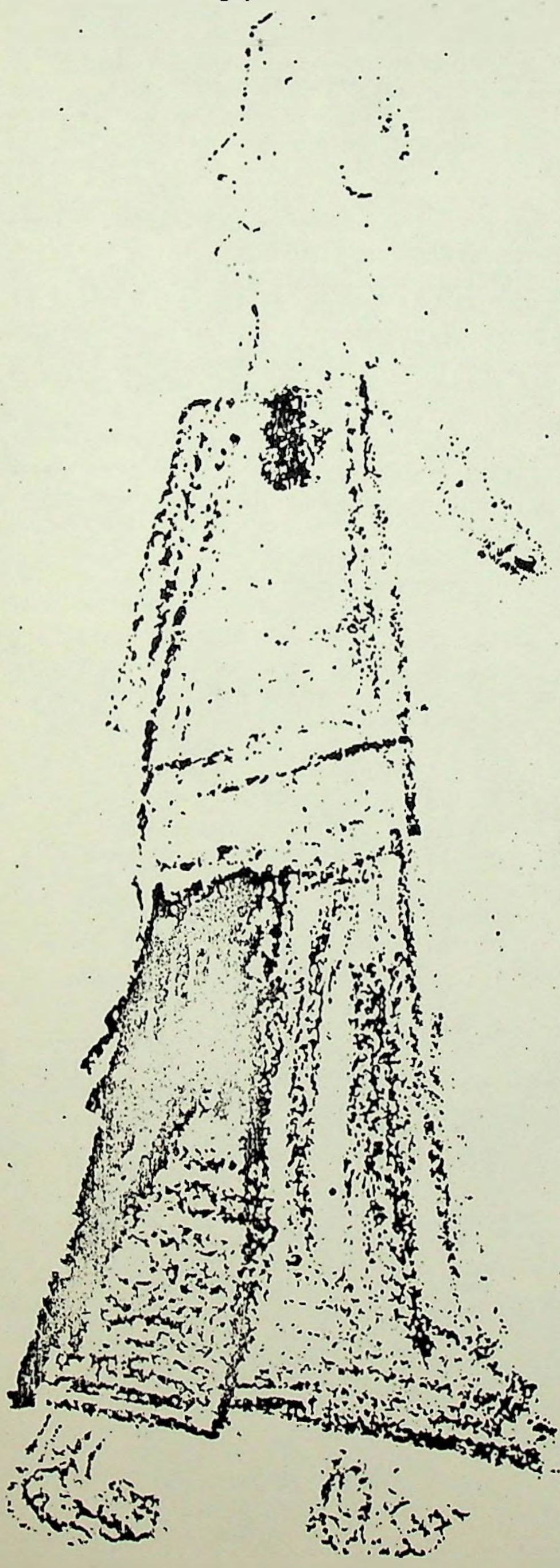
David, 7 years old during the flood and 9 when interviewed, was apparently well-adjusted before the disaster. Afterward his grades fell, he tended to keep to himself, and got into fights. His most severe symptoms, however, were crying in his sleep, sleep-talking (saying he wants to "get home again"), and somnambulism—he seems to be walking *out* of the house. Although others direct him back to bed, he does not wake up during these episodes but appears frightened. Since the disaster he has been wetting his bed several times a night, something he did not do previously.

In his interview he appeared attractive and cooperative but quiet and somber. He did not recall the content of his sleepwalking episodes, although he vividly remembers people screaming while they were drowning during the flood. David drew a bizarre person with a strange colorless face looking backward and a brightly multicolored body with feet pointing in the opposite direction from the face (figure 3). Diagnostically, he had symptoms of a traumatic neurosis with a dissociative-type hysterical neurosis (exemplified by his somnambulism) encapsulated within it. It seemed likely that his trancelike sleepwalking was a repetition of the original escape; this interpretation was supported by his grotesque drawing of a person whose profile, while colorless, had a fixed smile and slightly quizzical or puzzled eyes. Facial distortions and poor fit to the body are evident in the picture.

David's pathology was focused and severe. Sleepwalking usually occurs in stage 4 sleep when central nervous system motoric inhibition of REM dreams cannot occur (3). Certain types are called "somnambulistic trances" and may represent physical reenactments or abreactions of traumatic situations (4). David's bizarre picture suggests an unconscious connection between his sleepwalking state and his conscious imagery.

Marie has become subtly but severely traumatized through her direct relationship with a chronically anxious and flood-traumatized mother, while Richard and David's more conspicuous and overt traumatic reactions stem more directly from their flood experiences. The contrasts in the symptom choices of Richard and David are probably multiply related to their constitutional backgrounds, developmental experiences preceding the trauma, and the exact circumstances of the moment of greatest trauma each experienced in the disaster.

FIGURE 3
A 9-Year-Old's Drawing That Suggests a Link Between His Somnambulism and Conscious Imagery



OBSERVATIONS ON OTHER AGE GROUPS

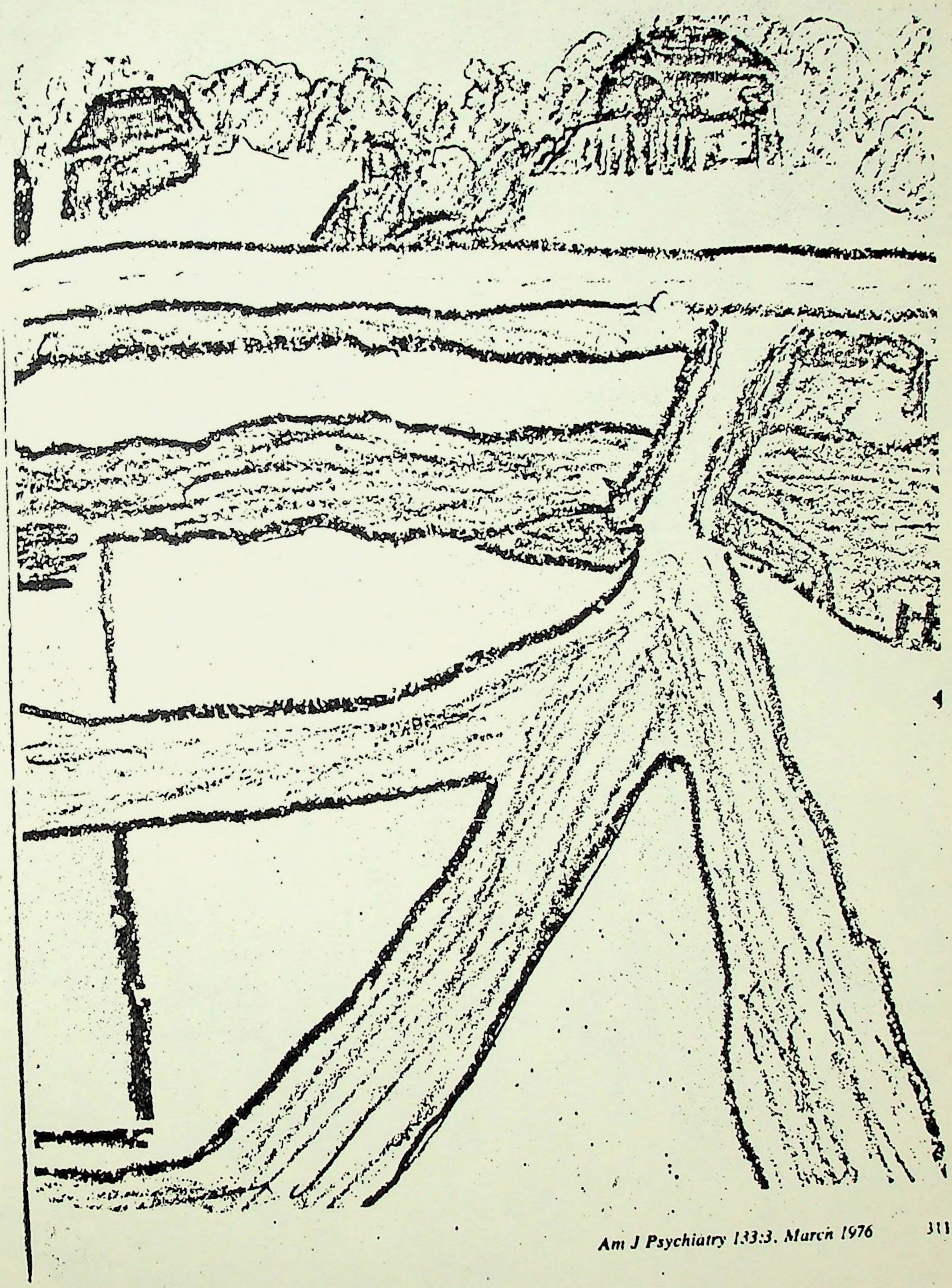
I have not mentioned another group of children, those who were in utero during the flood. Often their preciousness lies in having survived the pregnancy of a frantic mother. Among their future stresses may be the never-ending tales of the silent allusions of the family about the disaster these children never experienced. The parents may see them as magically and profoundly linked with the flood. These children, as well as those born later (who will also feel left out, yet involved), will be unpredictably but importantly influenced by the catastrophe.

Although this paper has focused on preadolescent children, a few words must be said about adolescents' special vulnerabilities to the psychological effects of the disaster. Because the almost total community destruction, the loss of communality described elsewhere in this section by Dr. Kai Erikson, was so disruptive, especially to adolescents, they often had to choose between rebellious predelinquent behavior or compliant social withdrawal. They suffered deeply but privately when their parents broke down under stress. For example, in one family, the favored older brother, who had been the "good one" before the disaster, changed his behavior markedly—he missed many days of school, threatened the teaching staff, was suspended five times, and is currently on probation because of his behavior. At home he sat up at night apprehensively listening to rain or roared away on his motorcycle. However, his next younger brother continued to attend school regularly and made every effort to concentrate. The contrast between his very chaotic flood picture and a carefully drawn pink dove of peace that his teacher had praised as "best in the class" showed the range and conflict of his inner experiences, which he has internalized, but with unknown emotional strains.

Creative expressions emerged in many cases. Out of a highly disturbed large family living in two trailers in a state of chaos came a touching picture drawn by an 11-year-old boy (figure 4). Denying the turbulence of the flood, he drew an intellectually complex picture with excellent perspective that showed a trestle, two intersections, and a quiescent creek. He labeled it "the road to where we used to live." In the background, brightly colored idyllic homes in red, blue and orange nestled among the woods on the hillside. There were no people in the picture, but there were possibilities for human reconstruction. The three dramatically split roads suggest important choices to be made, and the colorful homes in the background suggest hope.

Finally, some older children did follow the lectures and psychiatric interviews with great interest and sophistication. They recounted hopes of being lawyers and nurses, even though they were often having problems in their basic school courses. They wrote essays on safety regulations and dam construction and made projects and tried to master their experiences

Creative Picture Drawn by an 11-Year-Old Child



ally and intellectually. They will never forget this experience, and they will be watchful of all the adults who have participated in it; they either idealize or are disillusioned with parents and other adults. When they grow up, they will watch the world closely. They will have learned enormously both in and out of school.

CONCLUSIONS

Children in traumatized families within a shattered community form their own theories of a disaster from their own reactions and their perceptions of the reactions of their parents and other adults. Their conceptions are also influenced by the social and legal processes associated with the disaster. All of these factors permanently affect their sense of self in growing up. The common heritage of most children of disaster is a modified sense of reality, increased vulnerability to future stresses, an altered sense of powers within the self, and a precocious awareness of fragmentation and death. In contrast to most of their parents, some of the children manifested clear and enduring evidences of hopefulness and creativity, despite obvious developmental limitations in their ability to achieve specific goals. Their sense of hope existed side-by-side with [illegible] signs of developmental limitations and serious psychopathology. Indeed, the widening discrepancies between [illegible] sensitivities and academic achievement could lead to severe "after-trauma" in later life. They would require unusual life adaptations or special help to respond constructively or creatively to the traumas they had undergone.

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Discussion of the Buffalo Creek Disaster: The Course of Psychic Trauma

LEO RANGELL, M.D.

The specific contribution of the psychiatrist to the study of the human disaster at Buffalo Creek focuses on the course of psychic trauma. The initial violent intrusion by the flood waters was followed by a second phase of the traumatic cycle, the physical devastation of the survivors, with disruption of their "round" and "surround." During this long subsequent period the level of trauma did not recede but kept rising, although at a slower pace. Distant effects of the trauma may succeed the more immediate ones. The finite psychic space of the survivors is encroached upon by traumatic memories for an indefinite period of time, leaving fewer resources available for normal effective living. The absorption and merging of traumatic stimuli into a traumatophilia poses still another potential problem. The unprecedented legal decision as to the linear effects of psychic trauma on a succession of connected individuals will need further interdisciplinary clarification.

IN OFFERING OPINIONS on the overwhelming human experience of the Buffalo Creek disaster, the challenge is to separate our reactions of empathy and horror (which, as Lifton and Olson [1] have pointed out, were quickly and painfully shared by all mental health professionals who came to the valley after the disaster) from the potential contributions of our specific professional expertise. Toward this end, I will focus on the problem of psychic trauma (2), its nature and its effects, to complement the findings of the interdisciplinary team of sociologists, psychologists, attorneys, and others who took part in the evaluation of the effects of this experience on those who survived it.

The articles in this section range from the individual to the collective, from the child to the adult, and from the deepest inner effects to the widest outer consequences of this sudden, unassimilable disruption of man's relationship to his physical world. These studies address not only the inundation of psychic structures in a horizontal sense but also the longitudinal effects of the flood—the disturbed continuity with the past, the shattering of the present, and the inescapable portents for the future.

The work of the interdisciplinary evaluation team retained by the law firm representing the 625 survivor-plaintiffs to assess the psychological impact of this catastrophe has profound implications, reflected in its effects on the social decision-making process. The unprecedented legal decision, reported elsewhere in this section by Mr. Gerald Stern, permitted people who were not on the scene of an accident to be awarded reparations for the psychic damages they suffered. The principle acknowledged in this case could well shake all existing rules of the social order about the responsibility of man to man.

THE FIRST PHASE: PSYCHIC NUMBNESS

To turn to the central focus about which psychiatrists can reflect and from which other observations will stem, the Buffalo Creek flood was a violent intrusion into the peaceful psychic life of the community massively beyond the "average expectable environment" (3). This eventuality was not, however, completely unexpected—the people in the valley had long lived with this possibility and knew it could be prevented, but they said they had put it out of their minds. Actually, it had been put not out but deeply in, had become part of their living unconscious. It was in some ways like the earthquake situation in California but worse and more constant. The dam that finally broke physically existed just above the valley and was visible and ever present. Another difference, which added the makings of a latent inner eruption to the potential external occurrences, was that there were in the minds of valley residents people (the owners of the dam) who could and should have done something about the situation. Like the cave-in of a coal mine in a community that has always lived in dread of such an occurrence, the flood had been part of the mental as well as the physical geography of Buffalo Creek, a feared event buried in the minds of the people. The massive convulsion of the physical world that took place on February 26, 1972, was a mental imprint come true. It was a nightmare from which this time they did not awake.

The black waters that roared through Buffalo Creek

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valley when the fantasied, feared, and repressed event became reality could be said to have flooded the egos of those who lived through the disaster. All control functions were overrun by the sudden influx; it was a maximum dosage per unit time, a psychological overkill. The result was universal and with a common base to all, the traumatic state, the condition of psychic helplessness that the anxiety signal presages and that all of the ego's defenses constantly work to prevent (4, 5). This was the phase of psychic numbness observed in all of the studies of the survivors. The goal was merely to live through it, to survive. Each individual held on to whoever or whatever was left. "Psychological conservatism," which Drs. Titchener and Kapp describe in "Family and Character Change at Buffalo Creek," served to reduce excitation; no further stimuli were wanted.

This stage of psychic numbness, of apathy, withdrawal, and sluggishness, was still visible when the evaluation teams arrived in Buffalo Creek 2 years later. Some of the observers were surprised that the traumatic neurosis was still visible, but what evidence is there to assume that the residual or even basic effects of so massive a trauma would not last a lifetime? Psychological testing of survivors of the Nazi holocaust has shown that after 30 years they still show such lasting effects as impairment in perceptual-cognitive functioning, withdrawal from objects, inability to sustain close relationships, and other subtle and overt sequelae.

While the legal experts perhaps needed to be concerned about the claim of preexisting states, I would prefer to maintain clarity and not to have to use the word "impairment," to blur the fact that there *was* loss, injury, and illness. The effects of the disaster were as ravaging as an epidemic of typhus or plague, which is similarly visited upon a city from without, and the preexisting vulnerabilities in the hosts to receive the invading organisms are not an issue. The traumatic neuroses overshadowed psychoneuroses. I do not mean to say that there were no preexisting psychoneuroses, but rather that they no longer had a chance to assert themselves. This is an issue that has plagued every psychiatrist who has served in the military. Combat neuroses in their acute phases are more uniform than different in their presenting syndromes; only later can individual differences reappear and assert themselves again. During the years to come, as normalcy returns to the Buffalo Creek survivors, they will have the luxury of becoming individually neurotic again.

THE SECOND PHASE: "GROUND" AND "SURROUND"

What happened to this community in terms of incoming traumatic stimuli did not stop with the cataclysmic events of that Saturday morning. As disorienting and time-stopping as the flood was, it was only the first phase. An individual who suffers a loss, however shattering, generally returns to his home to start the long and difficult process of repair. His "ground," the familiar ground into which the self can merge, is the source of his security, the source of the nurturing support to sustain the processes of reparation. This was not possible in Buffalo Creek. The dazed survivors were returned not to their familiar ground but to new and strange surroundings. This may have been the only possible course, but it was still depriving and further threatening. Rather than nurturance, the survivors continued to face challenges, for a long time and during a raw and vulnerable state.

In this double and almost death-dealing blow, the survivors repeated the experiences of other holocausts known to our generation. Those who survived and escaped from Nazi Germany wandered into new lands. The survivors of the atom bomb returned to cities where their homes had been. Many South Asians have had to leave their land after having left their dead. In all of these cases, the survivors' earth is also gone, after their fellow humans have disappeared.

Years ago, writing at another level and about more comfortable aspects of human troubles, I described "attachment to ground" as the psychic prerequisite for the maintenance of the social state of poise (6). The opposite condition, a wavering hold on one's surrounding psychic ground, results in a basic insecurity with the threat of crumbling and even annihilation of the self. This is the source of the primitive anxiety that people feel at the first threatening tremor of an earthquake. In the more mundane case of seasickness, the fear has been said to be not that one will die, but that one might not. Underlying both of these disturbed states is an elemental anxiety that stems from a lack of orientation in the relationship of the organism to the earth under its feet.

In the course of ontogenetic development, this relationship extends from the ground beneath one to the space around him, to people, institutions, atmosphere, and the culture. This is the common background of the phenomena described by Freud in the oral stage (7), in the attachment studies of Bowlby (9), in Mahler's contributions on separation-individuation (10), the effects of motherlessness on the primates studied by Harlow (11), and in the natural experiments on human infants studied and documented by Spitz in cases of marasmus resulting from early and massive deprivation (12).

Not only did the ground of the Buffalo Creek valley literally sink beneath the feet of its inhabitants, inducing the most primeval regression man can experience, but when the survivors reached solid high ground they were again deposited on an insecure terrain—in a social "envelope,"—an intriguing term used by Kai Erikson—of unfamiliar space. The trauma did not end, it merely changed. There are strain traumata (13), shock traumata (14), cumulative traumata (15), and sudden overwhelming disruptive traumata. The stimulus barrier can be bent as well as rent. At this point, the trauma of the survivors changed

...olden to cumulative. The flood receded, but the level ...trauma did not; rather, it kept rising, although at a ...ower pace.

This was the phase studied intensively by Dr. Kai Erikson, described in this section from the sociological standpoint as a loss of communality, the social tissue that binds people together. While this loss was universal, we should not overlook the fact that it was an individual trauma as well. Just as the original traumatic event, although universally shared, was individual in suffering, so was it with this second phase of the traumatic cycle. The change from the familiar to a strange environment during the period when rest and nurture were needed superseded the initial trauma and prolonged and compounded its effects in each survivor.

THE THIRD PHASE: FUTURE EFFECTS OF THE TRAUMA

The articles presented in this section survey the effects of the disaster to date. Less measurable are the future effects, especially those which are more subtle and internal. Are the children Dr. Newman interviewed who are now getting along well in school less vulnerable to future stresses than those who are currently more turbulent and disturbed? Or is the reverse the case? Only long-term longitudinal studies (which are not likely to be practical or feasible) would answer this and similar questions.

There are subtle and far-reaching issues facing the survivors. In spite of the vastness of the unconscious, psychic space is limited. There is room and time in any individual psyche for only a limited amount of cognitive ideation and a finite number of memories, fantasies, and accompanying affects. The product of such space and time comprises the psychic life of an individual, the amount already spent and the amount still left. Mourning is a model of such an occupation of psychic space, a paradigm of how obsessive thoughts and memories related to psychic work that needs to be done crowd and consume the psychic capacity. Traumatic memories of any kind encroach on this psychic time-space and reduce its available quantity; this is why psychic traumata age people.

I have been treating a woman in her mid-seventies and have discovered that her apparent senility is due not to an organic aging process but to the repression of decades of a traumatic life. She had told herself—she brought this out with clarity through her foggy memory in sessions that had a hypnotic quality—that she did not want to remember any part of her married life of close to 50 years. The volume and intensity of the traumatic memories being repressed left her almost no room for normal living. She had by now assumed the posture, both mentally and physically, of a diffuse cortical atrophy, without evidence, either neurological or radiological, of any organic syndrome nor even convincingly of cerebrovascular disease. She was like a young, acute, traumatic amnesia, except that this was chronic, old, and massive. Her mental state undulated dramatically with the emergence and rerepression of forbidden thoughts. This poignant clinical experience has made me wonder about the general psychopathology of "old age."

How much space will the Buffalo Creek experience occupy in the minds of the survivors in their future lives? We routinely treat patients who react to a deprived childhood by sacrificing a certain percentage of their psychic lives. I have treated a patient who has occupied perhaps a quarter or a third of her free associations with obsessive preoccupation over her screaming mother; her thoughts are similarly occupied outside of the analysis. Another of my patients has been unable to enjoy his current life because of the constant crowding of his psychic space by the coalesced memories of the threats of castration that pervaded his tortured childhood. I have pointed out elsewhere (17) the role of such chronic traumata in producing the cacophony of human relationships in ordinary life.

These situations represent fairly common developmental traumata. How much more of a role do cataclysmic traumata like the Buffalo Creek disaster play? What will be the long-term effects of the vivid, massive "death imprint" described by Lifton and Olson (1)? What will be the effects on children in whom death anxiety has been violently added to the normal anxieties of separation and castration? It seems likely to me that their memories will repeat the accumulated traumata over time like a long-acting timed-release capsule.

There was an element in this disaster that is not present in truly natural catastrophic events, which serves to explain further why the "Buffalo Creek syndrome" is not limited to reactions to external events, but rather reflects added internal idiosyncratic forces. I am referring to the human element, the thought and the accusation that this horrible occurrence could have been prevented. Unlike a natural disaster such as a tornado, where inanimate forces of nature are solely responsible, the human object was involved in the Buffalo Creek Flood, which arouses impulses of aggression and retaliation. Channels for discharging these impulses do not keep pace with the amount and quality of the impulses aroused. The ego is bombarded from two directions, and feelings of rage, impotence, anxiety, guilt, and depression are added to the usual responses to disaster.

The more external normalcy returns, the more will traumatic neuroses and psychoneuroses be in a reciprocal relationship to each other. The residual trauma will stimulate individual neuroses, and latent neuroses will feed upon and perpetuate the traumatic state. Such restitutional movements are already evident in the survivors and will increase with passing time. Phobias, obsessions and depressions, and private anxieties and conflicts have already been noted by various observers, and survivors' dreams are beginning to reveal their predisaster concerns.

There are other more subtle unknowns to cloud the future. What happens when a traumatic effect merges

over time into a traumatophilia? Such an outcome can represent a repetition compulsion not in the service of mastery but to satisfy a sense of guilt or a need for punishment, a trauma that is absorbed and utilized by the psychic forces "beyond the pleasure principle" (18). Or what will be the result when the pleasure formulae or safety mechanisms themselves become altered and individually fashioned as a result of the traumatic experience? I am reminded of a patient who was traumatically raped and now finds her husband and all other men to whom she turns passive and weak. Or a patient who, from a traumatic rejection in her first love, has come to no longer believe in love. Another patient, similarly hurt, now feels "I'll never again have a best friend." What will be the effects of the life-threatening insult at Buffalo Creek, seen by the survivors as a result of neglect by people in authority, on trust, love, and object relations? One can hardly begin to tell, but one can be prepared so as not to be surprised.

In surveying this event and the reports that have been presented in this section, we should not overlook the effects of the studies themselves on the 625 survivor-plaintiffs evaluated. Aside from the legal result, the interest displayed by caring individuals from the society outside the valley probably introduced a therapeutic influence, however, circumscribed. This influence might be compared to the effects on a therapeutic ward of the mere announcement of a program of treatment. However, there may also be negative effects: divisiveness has been introduced in the valley. Just as the untreated "control ward" suffers by comparison with the therapeutic community, those survivors who were not among the litigants may feel left out and discriminated against.

While an important and unprecedented legal decision has been achieved that greatly extends the definition of psychic trauma following an external event, the full implications of the human phenomenon described in this section cannot be estimated. Anyone who is lost, hurt, or otherwise affected under traumatic circumstances affects others in an endless chain that is attenuated only by emotional distance. It would be illusory to believe that it is within our power or professional expertise to accurately describe ethical guidelines for the rectification of the linear progress of traumatic effects. I recently knew of an elderly couple who were being displaced from their home for the building of a federal project. During the process, the husband, distraught over the dislocation, suffered a fatal heart attack. What can we say or what should we do about the effects on his wife? Or the children? On a chain of others? There are more questions than we can answer. We must work side by side with the law, sociology, philosophy, and all thinking and feeling people. No one or no group has a corner on ethics or on wisdom.

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DISASTER: EFFECTS ON MENTAL AND PHYSICAL STATE*

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Abstract—Although there is an extensive literature on various aspects of disaster, there has been no comprehensive review of its psychiatric consequences. This article brings together the phenomenological and dynamic descriptions of the immediate and longer term mental effects of disaster as observed in the individual and in groups. Present knowledge on management of these effects is summarized and some conclusions are reached on the implications for future planning of disaster relief services.

"Things can be so bad that to be sane is insane"
Nietzsche

THE GENERAL field of enquiry loosely encompassed by the term "disaster" has not yet found an established position in the psychiatric canon. There seem to be theoretical, practical and emotional reasons for this. A disaster besets the researcher with major practical difficulties. In his review article, Hocking [1] identifies the following theoretical difficulties: the subject overlaps with other disciplines (notably sociology), it challenges the existence of a boundary between illness and health, and it is relatively remote from traditional psychiatric approaches such as organic psychiatry, experimental psychology and psychoanalysis. However these factors alone do not appear to be an adequate explanation for a delay of 17 yr before any systematic or detailed study of the psychological and social effects of the atom-bombing of Hiroshima. Until Lifton's classic study published in 1967 [2] all that was available were a few fragmentary, or exaggeratedly technical, reports, and Lifton noted that often researchers were so struck by the human suffering encountered that they ceased research and dedicated themselves to much needed social welfare programmes.

Equally conspicuous is the omission of psychiatry from the disaster canon. The field has been studied by sociologists, medical workers, administrators and military strategists. It is covered routinely by the media and provides a stimulus for the creative arts. But the extensive literature on disaster planning does not consider psychological understanding and the psychiatric needs of the victims.

The absence of disaster in the psychiatric canon is of theoretical interest. However the absence of psychiatry from the disaster canon reflects a lack of insight which is of practical consequence. This was shown in the Hartford Disaster Exercise [3]. In this project, a simulated major explosion was arranged in cooperation with the Health, Police, Fire and Civil Defence Departments, five hospitals, the Red Cross and Ambulance Association, the University Department of Medicine, the State Department of Health, and the local medical association. The episode was videotaped and the "victims" subsequently interviewed. It was found that the rescue personnel became confused and were disturbed by the sight of massive injuries, and that the victims were unnecessarily handled and placed in uncomfortable, inconvenient and dangerous positions. At no time did anyone stay with a specific victim to give comfort

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and reassurance. In the 10 yr prior to this there had been only four other well documented and comparable studies and the findings in these were identical. The explanations offered in the article and subsequent *New England Journal of Medicine* editorial [4] were in terms of "poor rescue" and the existence of a "community problem". There was no mention of psychological understanding.

This article is an attempt to use the information in the literature to develop a psychiatric approach to disaster and to suggest its implications for the planning of services. The nomenclature of Tyhurst [5] and Glass [6] is used. A limited number of outstanding psychiatric papers are described in detail and other documented psychological phenomena are mentioned. The long term effects are examined in the context of the phenomena of World War II.

DEFINITION: CLASSIFICATION: DIFFICULTIES

Disaster is defined, for the purposes of this review, as a situation of massive collective stress. The psychological phenomena of disaster are the consequences of the combined individual stress reactions and of reactions to changes in the social milieu. Hence the psychic distress and behavioural disturbance of an individual cannot be fully understood or managed unless they are analyzed as elements in the disruption of the equilibrium of a social system. "When an entire population is reduced to inferior status" for example "the individual's self-respect is damaged in ways not reparable by himself" (Krystal [7]).

As a consequence, hypothetical models may become unmanageably complex (Barton [8]). But in addition there are more practical obstacles to coherent research and understanding. The physical situation of a disaster is rarely one which lends itself to the usual research techniques, the psychological sequelae powerfully affect the observers, there is a great variation in the types of disaster, and they exist in completely different socio-cultural settings. Often the victims resist investigation, and the relief organisations resist investigators.

There is no generally agreed or obviously fundamental taxonomy. Constructs of classification have included: man-made (e.g. bombs), natural (e.g. fire); internal (e.g. tyranny, inflation), external (e.g. war, flood); acute (e.g. earthquake), chronic (e.g. poverty, racialism). Tyhurst [5, 9] provided a classification of the phases of disaster which was extended by Glass [6] and has been accepted by many psychiatric workers (Table 1). These authors define five phases: pre-impact (threat), warning, impact, recoil and post-impact. During the impact phase the stress is physical, maximum, direct, unavoidable; prior to this it develops from the stress of worry and preparation to one of imminent danger, and subsequently secondary stresses due to the nature of the disaster and its effects on persons and property begin to operate. The detailed descriptions of each of these phases is still incomplete, because most studies are varying mixtures of anecdote, description and analysis. As early as 1957 Demerath and Wallace [10] pointed out the absence of a defined disasterology. However despite the subsequent amassing of data, Barton [8] commented in 1969 that most of it was valueless and that researchers still had not developed a set of propositions to test. The diffuseness of the literature has also resulted in important discrepancies remaining undebated.

METHODOLOGY

The methods vary in the number of victims studied, the detail in which they are investigated and the extent to which the information is systematic and quantifiable. They include single case reports, numerous anecdotal studies, some more systematic studies and experimental work. The peculiar methodological problems have been analyzed by Killian [11].

TABLE 1.—THE PHASES OF DISASTER (BASED ON THE CLASSIFICATION OF TYHURST AND GLASS)

Phase	Stress	Duration/time perspective	Psychological phenomena	Social phenomena
Pre-impact (threat)	Of education, worry, preparation etc.	Months–years/future	Denial or over-reaction vs optimal amount of anxiety	"Optimal social stress" Social preparedness
Warning	Imminence of primary stress	Min-hr/present or immediate future	Denial vs protective action	Precautionary activity
Impact	Maximum, direct, unavoidable	Min-hr, months-yr/present (automatic)	12-25 per cent effective, tense, excited, too busy to worry 75 per cent dazed, stunned, bewildered i.e. disaster syndrome (absence of emotion, inhibition of activity, docility, indecision, lack of responsiveness, automatic behaviour + physiological manifestations of fear) 12-25 per cent grossly inappropriate behaviour, anxiety and affective states, hysterical reactions, psychosis	Scope of impact: community to nation Emergency social system: the unorganized immediate response (role definition, role competence) with *ad hoc* leadership. Family as the basic unit
Recoil	Suspension of primary stress. Secondary stresses due to nature of disaster or self	Depends on individual and disaster/immediate past	Normals (90 per cent) show return of awareness and recall. Dependency, talkativeness, child-like behaviour, emotional release. Search for safety. Unstable group formation. Psychopathic liberation. Special phenomena e.g. staring reaction, counter-disaster syndrome	Convergence behaviour Inventory and rescue Organized reconstructive effort, relief and restoration of services
Post-impact	Derivatives of primary and secondary effects: personal and social	Rest of life/past-present-future	Grief, depression, post-traumatic neuroses Psychosomatic illness Increased physical illness/deaths Altered attitudes Recovery (?)	Permanent reconstruction and long-term recovery. New equilibrium with modifications: alterations in morale, economy, cultural values. Feed-back to threat phase

Further details in text and bibliography.

(1) *Single cases*

Except for the psychoanalytical literature, there are surprisingly few case studies. One of the earliest scientific reports was that of the surgeon, Jean Baptiste Henry Savigny following the ship-wreck of the *Meduse*, well known from Gericault's painting [12]. Similarly James [13] recorded his reflections on his mental reactions following the San Francisco earthquake of 1906. In his account of his own ship-wreck experience, Lilly [14] reviews other similar personal experiences which led to hallucinations, confusion, paranoia, suicide, murder and cannibalism. Janis [15] used a transcription of the delirious ramblings following rescue to analyse the fantasies and the elements of the unusual mental resilience of a young man who narrowly escaped drowning. Although this experience would not strictly fall within our definition of disaster, information from such a study is important because studies of individuals during the acute phase of massive collective stress are not available.

(2) *Anecdotal accounts*

Anecdotal accounts vary in sophistication. Often they are produced by "experts" who happened to be on the scene at the time [16–25], but sometimes planned studies are reported in anecdotal form [26-31]. The primary result has been an extensive duplication of certain fundamental observations which will be described in the section on Psychological Phenomena. The data is not sufficiently uniform to permit comparisons to be made, but a number of the papers contain interesting and potentially significant details which do not appear in the more systematic studies.

(3) *Systematic studies*

Methods used for systematically collecting information include clinical studies, structured interviews, questionnaires and hard observations of a limited number of parameters.

Clinical studies contribute most of the information on the opportunities for and the effectiveness of psychiatric intervention [32-40].

Lifton's study of the victims of Hiroshima [2] is one of the best examples of structured interviewing. He picked 33 survivors at random from lists kept by the Hiroshima University Research Institute for Nuclear Medicine and Biology plus 12 survivors who were particularly articulate or personally prominent in the A-bomb problem. The interviews were recorded, transcribed, and translated, and they specifically explored the individual's recollection of the original experience and its meaning in the present, residual concerns and fears of all kinds, and the meaning of his identity as a survivor.

Qualitative case studies using interviewing techniques have been extensively used by sociologists. However, Barton [8] reviewing 21,600 interviews of 103 disasters dealt with by organizations such as the National Academy of Science Disaster Research Council, University disaster investigating committees and the National Opinion Research Centre, found that after excluding false alerts, morale surveys, epidemics, small samples etc. he was left with 5,500 interviews of 22 disasters of which 4,000 were quite unsystematic, leaving 1,500 interviews of the Holland Flood and the Arkansas Tornado. The latter study by Fritz and Marks [41] is very frequently quoted. It demonstrates the importance of the question of retrospective falsification since it reports a much lower incidence of transient shock than is usually described and the validity of the figure is not investigated. Other studies using interview techniques provide useful data [42-45].

Questionnaires, in contrast with more or less unstructured interviews, have the advantage that systematic quantifiable information is obtained from a large population. Their disadvantages are that they depend on recall of a traumatic experience weeks after the event. Also they often cover areas in which the questioners are not expert, and this has produced one source of controversy (Quarantelli and Dynes [46]). This technique has been applied to a limited extent by psychologists and sociologists.

Observations using epidemiological methods give a limited amount of reliable information. A few such studies are available such as Bennet's study of the effects of flooding in Bristol on subsequent mortality rates in the affected population [47].

(4) *Experimental studies*

There are three principal experimental methods. Disasters can be simulated, as described by Menezer [3]; however, this method has not been used to study psychological phenomena. The reactions of people in particular stressful situations can be recorded e.g. the observations by Pope and Rogers of the mental state of a group of scientists during an arctic survival experiment, or Ahearn's [49] study of the reactions of large groups experimentally confined in an austere environment. In addition conclusions relevant to disaster may be drawn from many of the results of laboratory experiments on psychological reactions to special stresses such as sensory deprivation or starvation.

(5) *Journalistic accounts*

Editors find that disasters are an inexhaustible source of excitement for their readers. Newspaper accounts often provide particularly detailed information on emotions and attitudes of the victims and rescuers which is unobtainable elsewhere. One of the best recent accounts of cannibalism is probably the Sunday Times report on the Chilean air crash of October 12th, 1972 [50].

CASE STUDIES

We have selected three papers which together define many of the immediate, short term, and longer term psychiatric complications to be expected in a disaster.

The first of these is the major contribution by Cobb and Lindemann (1944) studying the survivors of the fire at the Cocoanut Grove Nightclub [35]. This study was done at the Massachusetts General Hospital where 114 of the casualties were taken. 39 were alive on arrival. The city fire services and the hospital emergency programme were geared up in expectation of air-raids and handled the disaster with exemplary efficiency. The dead were identified immediately and the survivors listed, thus avoiding feelings of confusion, hostility and despair which have been documented when this is not done. The relatives were interviewed by social workers who involved the psychiatrists in the care of those overwhelmed by acute grief. From the relatives the psychiatrists turned to the injured, all of whom they visited on the 8th day. Fourteen of the 32 survivors had neuropsychiatric problems; the commonest problems (50 per cent) were reactions to bereavement, but there were also cases of psychosis, phobic anxiety and complications of carbon monoxide poisoning. It was this work which enabled Lindemann to provide the first detailed description of the phenomenology of acute grief [34]. Cobb and Lindemann drew the following conclusions: (1) Psychiatric problems will be overlooked unless a psychiatrist sees all the victims of a disaster. (2) Severe emotional problems are due to crises in human relationships involving conflict and guilt rather than to the impersonal horror of the disaster itself, hence the nature of the disaster may not be a useful predictor of consequent psychiatric morbidity. (3) A psychiatrist can be useful in three phases, (i) initially during emergency medical care, when confused excited patients have to be removed to quiet surroundings and sedated: in this phase patients are disturbed by the frequent changes of medical and nursing staff and the psychiatrist can provide continuity by developing a relationship with them; (ii) then during convalescence in hospital: psychiatrists can advise on the timing of bad news and can support the patient in adjusting to bereavement, material loss and disability; (iii) finally when the patient returns to the community: psychiatrists can help to reduce prolonged maladjustment and traumatic neurosis. It is striking that despite excellent planning and numerous precautions designed to minimize psychological stress, there was a high incidence of psychiatric illness. Numerous subsequent studies have confirmed that much serious psychiatric morbidity goes undetected by non-psychiatrically trained medical personnel [51, 52].

The second study by Leopold and Dillon [32] described psychiatric disturbances in 36 survivors of a marine explosion in 1957 on the Delaware River.

Initially almost all had features of a post-traumatic neurosis. In the ensuing 4 yr the symptoms became worse, most of the victims requiring psychiatric treatment. Of particular importance to these conclusions was the elimination of compensation as an aetiological factor in prolonged morbidity.

The third study by Popovic and Petrovic [36] described the Skopije earth quake and consisted of observations made by psychiatrists within 24 hr of a major disaster.

Of the population of 200,000, 3,300 were injured and over 1,000 killed. The Institute of Mental Health in Belgrade sent two psychiatrists, a psychiatric social worker and two nurses; they arrived 22 hr after the earthquake and stayed for 5 days. A team of local psychiatrists was organized to tour evacuation camps and a reception centre was established for acutely disturbed patients. They noted that much of the population was in a mild stupor which the team found infectious, that the victims congregated in small unstable groups and that rumours of doom spread. After the initial confusion, severe psychiatric disturbance was rare, and this they attributed to the rapid evacuation of the more disturbed patients, to prompt outside help, and to responsible reporting by the press which minimized the formation of rumours. Depression was prevalent on the 2nd and 3rd days while after-shocks continued. Children who were evacuated to institutions were transiently disturbed.

Although these studies are detailed and relatively comprehensive, and many subsequent papers have confirmed their principal conclusions, they do not explore some areas of practical and theoretical importance. They do not stratify the population at risk: in practice it would be valuable to be able to predict the more vulnerable sections of the community, their different patterns of response and the appropriate management of these. They document the commoner psychiatric phenomena but

omit the less frequent reactions e.g. pseudopsychoses [53] and hysterical reactions [54]. They are written in behavioural and phenomenological terms but it has been necessary to search elsewhere for dynamic understanding of human experience during the various phases of disaster.

PSYCHOLOGICAL PHENOMENA

The literature on the psychological phenomena of the threat, impact, and early aftermath phases was comprehensively reviewed by Wolfenstein [55]. The principal findings in this monograph are summarized here. There is no comparable review of long-term effects. However the effects of some of the exceptional stresses of the Second World War have recently been studied and the war neuroses, concentration camp sequelae, and the Hiroshima A-bomb effects are used in this paper as paradigms for the understanding of long-term consequences of disaster.

Threat

In the threat phase, denial of the potential disaster may be superficial or deep, it may be continuous or intermittent, it may be total, partial or minimal, but it seems to be universal and in that sense is "normal" (Wolfenstein). Persons who get fearful and go to psychiatrists tend to be diagnosed as "neurotic". Lifton [2] would refer to this denial as a "consistent human adaptation". Like any other adaptation it has its advantages and its disadvantages. All responsibility tends to be displaced onto leaders or authorities. The individual feels that he has neither the knowledge nor the means to affect his own destiny. The authorities attempt to use a rational approach as part of the constructive worrying they are paid to do. However, predictions are often so inaccurate that they seem to be based more on fantasy than reality. For example in World War II, expert advisers to the British Government predicted 20,000–50,000 deaths per day from air-raids, whilst in 2 yr the total number was about 45,000; they predicted mass panic which was totally absent; and by contrast they estimated destruction of property at one thirty-fifth of what it was (Schmideberg [56]). Denial continues through the warning phase and sometimes into impact. Acknowledgement of the danger would result in physical inconvenience and psychic distress. During the Hawaiian tsunami (tidal wave) of May 1960, for example, evacuation was minimal [43]. People may openly refuse to fantasy the danger, e.g. on the banks of the Rio Grande festive crowds watched and cheered the rising flood waters [55].

When the danger is admitted emotional attitudes such as faith and distrust become important, because of the difficulties of knowing the efficacy and reality of the precautionary measures taken by the relevant authorities. The authorities are seen as "parents", and the disaster is attributed to the "powers-that-be". Rules of safety thus become equated with rules of obedience e.g. in the blitz people left uncovered windows which the wardens could not see. Superstition and ideas of magical control flourish, e.g. the fear that disaster may be precipitated by thoughts, speech or actions. Fantastic rumours which indicate a change in the way in which life is construed are common: the classic one is that a drug has been put in the wine or water to reduce libido and potency [55].

Impact

In sudden severe disasters, there is an illusion of centrality. For example in a tornado people believe that only their own house has been hit. The myth of personal invulnerability, so powerful in the threat phase, suffers a sudden reversal: the individual is actually encountering death. There then follows a second major shock when the total destruction is appreciated and the expected sources of refuge and aid are absent. Recollections of this period vary greatly but the evidence suggests that individuals swing between feelings of terror and elation, invulnerability and helplessness, catastrophic abandonment and miraculous escape. The subsequent reconstruction of the illusion of immunity depends on whether the disaster is experienced as a "near miss" or "remote miss", and on the actual amount of loss.

Soon after impact victims appear to be "dazed", "stunned" or "bewildered". They show absence of emotion, inhibition of activity, docility, indecisiveness, lack of responsiveness and automatic behaviour, together with the physiological manifestations of autonomic arousal. This is the "disaster syndrome" (Wallace [42]). It has been explained in various ways: as a psychic closing off from further stimuli, as energy being drained to intense internal work, as a response to fantasies like "if I don't react then nothing has happened" or to feelings of helplessness and the impossibility of undoing all the damage. This reaction is the antithesis of the commonly anticipated one of panic. Panic is

conceived as a reaction to the conflict between egotistic and altruistic impulses. In the face of massive death, people have unacceptable feelings such as sadomasochistic excitement, and ideas and wishes such as "rather him than me" (as if there were a competition for survival) and "he can die instead of me" (as if the death of one person assured the life of another). The thought of sacrificing others to survive oneself is common in fantasy (though the action is rare in reality) and produces guilt feelings. Panic only occurs under very specific circumstances which are not the rule in disaster, and a large body of research indicates that human beings under threat of death are not motivated by a simple drive for physical safety [57]. A complicated social situation with a wide variety of attitudes and motivations develops [58].

Recoil

In the recoil phase, the normal response is a slow return of awareness and recall. The victims become dependent, talkative, childlike, form unstable groups and seek safety. Emotional release occurs. Specific patterns of behaviour have been noted. There may be psychopathic liberation including looting, rape and heavy drinking [18]. Wallace [42] has described a "counter-disaster syndrome" of over-conscientiousness, hyperactivity, loss of efficiency and irrational behaviour, e.g. a surgeon abandons sterile technique. The "staring reaction" also occurs in outside observers as well as those involved, and along with "convergence behaviour" may interfere with rescue and relief. It is accompanied by obsessional preoccupations with the personal implication of the event. Following the murder of J. F. Kennedy, the average U.S. adult spent 8 hr per day for the next 4 days at his T.V. or radio, and Janis [15] interprets this as an attempt to work through the cultural damage.

Early aftermath

As the unorganized immediate individual response gives way to the organized social response, it becomes clear that psychological events have to be understood in the context of a social situation within a particular culture at a given historical moment.

Psychological reactions to loss of loved objects and grief reactions always feature significantly and their characteristics have been well described in the literature (Parkes [59]). The expression of these emotional states may be affected by cultural attitudes. Wolfenstein comments, for example, that in the U.S. there is a prohibition against experiencing despair, helplessness and discouragement which conflicts with the victim's need for acknowledgement of his suffering. Feelings of fear and apprehension commonly persist for some time. Usually they are linked to the idea that the disaster will recur; aftershocks of earthquakes are associated with much more conscious fear than the initial major shock. Also new disasters are fantasied and as rumours these fantasies rapidly spread. For a while the world is an unsafe place and people feel anxious about being left alone or separated from their loved ones.

There are extreme emotional difficulties in dealing with death, especially on a massive scale, and attitudes towards the corpses are coloured by fear and guilt. On the one hand authorities deny them importance ("nothing needs to be done" U.N. Disaster Relief Coordinating Committee) and insist on rapid disposal by incineration and mass burial [60]. On the other hand, survivors have difficulty in mourning their relatives unless they "know" of the death by identification of the body: after the earthquake in Naples in 1968 people spent days searching the rubble for corpses [60]. Following any disaster, relief operations are impeded by enquiries about missing people.

The disaster persists as a "tormenting memory". People are apt to find themselves forced to relive it over and over again and, although this is painful, it seems often to be curative in that the feelings of extreme distress associated with the event are gradually extinguished. Repeated discussion often focusses on regrets and recriminations regarding actions taken before or during the event. For a few the distress and fear do not diminish and they "do not get over it"; others avoid any reminder of the experience and may deny actual consequences. The memory is subject to intrapsychic distortion. William James wrote on the 1906 San Francisco earthquake: "I realize now how inevitable were men's earlier mythological versions (of disaster) and how artificial and against the grain of our spontaneous perceiving are the later

habits which science educates us" [13]. He refers to the re-evocation of primitive animistic views of causality in which the disaster is seen as intentional and purposive. People are unable not to ask the reason why, and they invoke God, destiny, fate, or similar substitutes which are endowed with human qualities and a relationship with humanity. Associated with this intense intrapsychic relationship with the powers-that-be are thoughts and feelings about leading a better life or relaxing moral standards, attitudes of defiance, ideas of being punished, and postures of hope or despair. Survival may be seen as a confirmation of immortality, as being protected again, or as evidence of continued victimization.

A disaster also incorporates many situational therapeutic factors [28] and Wolfenstein describes the well-documented phenomenon of the "rise and fall of the post-disaster utopia". To the survivors it is a relief that the threats and dangers have come from the outside and that he can feel blameless; the remedial needs are specific, immediate, obvious and preponderantly physical, and results are quickly seen from attempts to deal with them; danger, loss and suffering are public not private and are immediately present so that there is a liberation from the past and future; and the most damaged families are a support for the remainder ("relative deprivation"). The initial tendency following a disaster is to give without stint and accept without restraint, but this soon becomes replaced by feelings of hostility, greed, independence, suspicion, envy and competition. For example the relief organizations, which give compensation on needs not losses are resented because the individual's experience is proportional to his loss. The problem of anger, blame and hostility is extremely complex as these affects are always evoked and variously displaced, often with damaging consequences. Lacey [27] comments on the hostility of Aberfan directed towards the National Coal Board, Local Authority and Government which hampered recovery efforts, and towards the Tavistock research workers. Wolfenstein gives many examples of the inappropriate handling of these feelings. Reports repeatedly highlight the irrationality with which such irrational matters are handled.

Following massive destruction of a place, people prefer to move back and rebuild. Relatively few move away and those who do so tend to for "neurotic" reasons. This has been seen many times in tornado cities, bombed cities, Hiroshima, and now in Managua which is being rebuilt on the identical site for the third time after total destruction by earthquake. Material reasons do not seem enough to explain this, nor sentimental attachment. The myths which justify remaining on the site include the inevitability of fate, the belief in the random distribution of disasters, and the idea that running away will provoke further disaster. There are also feelings of loyalty and guilt, wishes to undo the damage or to master the event, and defiant refusal to be scared away.

Special groups: children

The first major group of papers emerged from the experiences of the bombardment and the evacuations and parent–child separations during World War II [61–63]. Acute disturbance was found to be common, but transient, if separations did not occur; separations however had lasting effects sometimes. More recently the effects of disaster on children have been described in detail and some predisposing factors have been defined, e.g. Fraser [64]. Children's reactions must be understood within

the context of the family. In the early phases of disaster their reactions are a function of the way in which reality filters down to them and so they mirror their parents' reactions rather than relating directly to the event [65–67]. The most predominant fear at all ages is separation from the parents. If this does not occur, and if the parents cope with the situation, children may show little awareness of danger and minimal anxiety. The "disaster syndrome" in children takes the form of purposeless excitement. Studies of the Vicksburg tornado [37, 45, 68] in which many children died in a matinee cinema performance confirmed the high incidence of manifest regressive and behavioural symptoms and suggested that the slowest rate of emotional recovery occurred when parents created a tense atmosphere in which the episode had to be "forgotten". Most families could only permit one member to grieve at a time. Parents who were pathologically distant from or demanding of their children became more so at impact and recoil (also 64). In the early aftermath children show compulsive patterns of working over the disaster and associated painful scenes, such as burials, verbally, or in play and dreams, often to the distress of their parents. Post-traumatic fears of recurrence and reactions to reminders of the event are indicative of pathology related to mishandling of the earlier phases. The general conclusion is that children rarely need specialist psychiatric treatment but that they do benefit from an opportunity to ventilate their anxieties to a sympathetic adult. Those most at risk are between 8 and 12 yr, have a previous history of physical or emotional illness, and come from unstable homes.

Special groups: the aged

There are few detailed studies of the behaviour or of the subjective experience of the aged in disaster. The literature has recently been comprehensively reviewed by Friedsam [69], and general aspects are discussed by Townsend [70] and Titmuss [71]. The aged usually receive warnings later than the rest of the population, are less willing to leave their homes, restrict their attention more to immediate family and less to other members of the community and are particularly at risk of physical but not of psychiatric damage, although a brief reaction of agitated depression with confusion is common. In general the old experience a much deeper sense of deprivation than the younger members of the community, this reflecting the real improbability of their being restored to their former state. The aged of low social status experience strong feelings of resignation to yet further unavoidable suffering.

LONG-TERM PSYCHOLOGICAL SEQUELAE

War neuroses

In the 1940's controversy focussed upon whether the acute post-traumatic neurosis of war was determined by a constitutional predisposition, by the trauma itself, or by some combination of these. Brill and Beebe [72] studied 1000 men with acute traumatic neurosis and found that the only factors which correlated with it were low educational level and stress of combat. If units in battle were defeated and cut off, break-down was universal. This was called "battle fatigue" or "combat exhaustion" and it occurred in willing, stable soldiers who had made an efficient adjustment to battle in units of high morale. Swank [73] in his study of combat exhaustion in over 4000 survivors of the Normandy campaign, found that all soldiers became incapacitated after approximately 75 per cent of their companions were killed. Reid [74] found

similar results in studies of bomber crews in the U.K. Acute traumatic neurosis and combat exhaustion are similar stereotyped reactions which involve symptoms of emotional tension (anxiety, insecurity, nightmares, excessive startle responses, phobias), cognitive impairment (apathy, poor memory, preoccupation, retardation, confusion), somatic complaints (chiefly headache, gastrointestinal distress, backache), and rarely, conversion phenomena (ataxia, stuttering, weakness, anesthesia). Swank's account is unusual in noting the polarization of the attitudes of the doctors who tended to assume either that all the soldiers were neurotic, otherwise they would not have broken down, or that they were all stable, otherwise they would have been previously excluded. The treatment regime included rest, sedation, ventilation of anxieties, abreactions, narcosis and rapid return to the front.

The general belief seems to have been that the incidence of acute traumatic neurosis was relatively high compared to that of chronic traumatic neurosis. However, this has not been confirmed by long-term follow-up studies. Lidz [75] studied those involved in the Guadalcanal evacuation and found that every survivor subsequently developed neurotic symptoms in civilian life. Futterman [76], in a study of ex-servicemen 5 yr after the war, found many unsuspected cases of post-traumatic neurosis. Archibald and Tuddenham [77], in a controlled study of a group of victims of acute traumatic neurosis 15 yr after the acute episode found, that 70 per cent suffered from chronic traumatic neurosis, the majority having acquired additional symptoms. One-third were unemployed and one-third were in unstable employment The relationship between stress and physical illness is well documented and has been shown to be quantifiable. The incidence of organic disease in the affected population would therefore be predicted to alter following disaster, as a long-term effect. In 1954 the U.S.V.A. National Research Council studied mortality rate and illness incidence in 8000 soldiers in the 6 post-war years. They found gross differences; the prisoners of war having a higher morbidity and mortality than combat veterans and those in Japanese camps being more severely affected than those in European camps. This was thought to reflect the relative degrees of stress.

As yet there is no literature available on long-term consequences of brief stress reactions. For example, large numbers of persons suffered acute reactions during the London air-raids for which their only, and apparently effective, treatment was tea and sympathy from the wardens, and these have never been traced and studied. An investigation of psychiatric and physical symptoms in such a group would not exclude more subtle sequelae such as changes in attitudes in patterns of emotional response and in beliefs. All these are related to a person's capacity to lead a constructive life, to have some inner contentment, to be a loving parent and so on. Ernest Jones estimated that only 8 per cent of soldiers who lost a leg developed a "normal" response of resignation and acceptance [78]. Kardiner [79] described chronic traumatic neurosis as an alteration of the concept of self and world and a constriction of the life space. In the literature on survivors of the concentration camps and of the Hiroshima A-bomb mental adaptations are examined in detail.

Nazi concentration camps

The concentration camps caused "trauma beyond the comparable and conceivable" (Eissler [80]). The features of the stress included continuous threats of death and torture, separations and humiliation. All drives except hunger had to be suppressed. Extreme cruelty had to be witnessed and endured, and no expression or altruistic response was permitted. Rules were capricious and contradictory and

coping behaviour was often less important than chance. The reactions of the victims were either apathy (the Mussulmann state) leading to death, or the "camp mentality" characterized by irritability, egotistic behaviour, envy, absorption with food, lack of compassion, absence of sex drive and familiarity with death. There has been only one detailed study of the concentration camps: Kogon's *Der SS Staat* in 1947 [81]. There was very little literature on the victims for over 15 yr after the war and then in the early 1960's studies appeared from Israel, Norway, Germany and the U.S.A. [82–87]. The literature is now extensive.

The typical response has been variously called the concentration-camp syndrome, the post-KZ syndrome, and the survivor syndrome. It consists of emotional tension (anxiety, phobic fears, hypochondriasis, nightmares, insomnia, excessive startle response), cognitive impairment (poor memory, preoccupations, loss of concentration), psychosomatic complaints, heightened vulnerability to stress, chronic depression with guilt and isolation and disturbed sense of self- and body-image. Thus it closely resembles post-traumatic neurosis. The syndrome is chronic, severe and resistant to treatment. Chodoff [88] describes the two sets of attitudes typical of concentration camp survivors following the failure of their post-disaster utopian dreams: either seclusiveness, apathy, helplessness, passivity, fatalism and dependency, or suspicion, hostility, mistrust, cynicism and a quiet bitterness or quarrelsome belligerence.

The aetiology has been extensively investigated, particularly in Norway. One of the more recent reports by Strom [89] described a detailed study of 227 non-Jewish Norwegian survivors of the concentration camps. In only 10 was there evidence of psychiatric illness prior to imprisonment, whereas 223 had symptoms at the time of examination. This could not be attributed to previously operative social or psychological factors. The neuropsychiatric picture was due to both psychological stresses and organic brain damage and the symptoms caused by each of these two factors were found to be separable.

It is widely recognized that these patients avoid treatment: of the 1,000 cases studied by Grauer [90] only 10 were prepared to return for free psychiatric help. Many victims make a paradoxically good overt socio-economic adjustment [91].

Hiroshima

The most detailed study of the internal worlds of long-term post-disaster survivors is that of Lifton in Hiroshima [2]. He described the painful immediacy and intense emotion which accompanied the re-creation of the event by the survivors. This is similar to the responses of survivors of the concentrations camps. It was "an indelible imprint of death immersion which has formed the basis of a permanent encounter with death, a fear of annihilation of self and individual identity along with the sense of having virtually experienced the annihilation; the destruction of the non-human environment, of the field or context of one's existence and so of one's being-in-the-world, and replacement of the natural order of living and dying with an unnatural order of death-dominated life." The hibakusha (survivors) suffer a profound emotional disturbance which affects almost all aspects of their life, so profoundly that they seem to have become a different category of being. Lifton emphasized the importance of the concept of the "survivor", one who has come into contact with death in some bodily or psychic fashion and has himself remained alive. The survivor seems to be unable to conclude that it was logical and right for him and not others to survive, and is bound by a conviction that his survival was made possible by others' deaths. Guilt and shame over survival priority developed very rapidly after Hiroshima, and as in concentration camp victims it has been intense and persistent.

The hibakusha seem to be living a life of grief, mourning for family, anonymous dead, and things (houses, streets, personal objects) which are lost symbols of their former self. The dead seem to be always with them. The living identify with the dead and remain preoccupied with the inevitable incompleteness of this process. They fear the dead, need to placate them, and submit to their moral arbitration. Lifton construed the train of thought as: "I was almost dead. . . I should have died. . . I did die or at least am not alive. . . or if I am alive it is impure of me to be so. . . anything which I do which affirms life is also impure and an insult to the dead who alone are pure. . . and by living as if dead, I take the place of the dead and give them life".

The victims are victimized. Although they are eligible for extra benefits, they are discriminated against socially and in business. This is reminiscent of the conflicts that emerge as the post-disaster utopia collapses. The hibkusha crave special care and nurturance, which they then perceive as insincere, humiliating and unacceptable. Consequently they become intensely resentful. They also show survivor paranoia and survivor exclusiveness ("we who have been through it are different") which disturb social integration. The non-hibakusha have attitudes towards the hibakusha similar to those that the hibakusha have towards the dead, i.e. fear and guilt. They are "survivors once removed". This leads to the tendency to cast out the tainted (the hibakusha), and the response of honoring martyrs while resenting survivors.

Formal psychiatric illness is not common. Psychosomatic illnesses are prevalent and hypo-

chondriasis and "neurasthenia" are usual. The hypochondriasis is associated with ideas about cancer and fears of death and dying, and the neurasthenia is manifested by vague complaints such as fatigue, irritability, sensitivity to weather, difficulty in coping, dizziness, malaise and depression.

Lifton suggested a mechanism of mental adaptation to the psychological impact of disaster. Death annihilates at the physical level (bodies, houses) and mastery is required of this death immersion. It also annihilates at the psychological level (friendships, life cohesion). The hibakusha must work firstly to emancipate himself from his bondage to the dead, and secondly to re-establish himself among the living. A process of the formulation of the relationship of the self to the world is necessary for this. Positive formulations involved "non-resistance" which enabled the survivor to absorb the losses and "sacrifice with a sense of special mission" which enabled the survivor to justify the continuation of his life. Negative formulations involved imagery of break-down, revenge, bitterness and continuous strife, which tended to generate more guilt and anxiety. When guilt and anxiety were excessive, they hindered the development of any formulation and this resulted in further difficulties in adjustment.

For many years the experience was relatively intractable as a subject for symbolic transformation in art. The principal factors interfering with the creative response were the guilt and anxiety associated with conflicts between literal and artistic truth, and the resistance of the subject to integration within the wider human framework of death and survival. However with the passage of time, works of art which do seem to encompass the experience have appeared.

MANAGEMENT

There is evidence that specialized psychiatric skills could be useful in all phases of a disaster. However, psychiatrists are rarely called upon and their intervention is actively resisted in the early phases by other helpers and in the late phases by the victims themselves. Although a significant proportion of persons may be disturbed in the acute phase, it is not clear what priority should be assigned to psychiatric help relative to other relief. In the Ancash earthquake psychiatrists were summoned urgently as it became apparent that psychiatric complications were hindering other care [18]. In more developed countries this should be feasible as a routine and in Jugoslavia, for example, the psychological impact of disaster has been considered in planning relief services.

In the acute phase, 10 per cent of the population may be so disturbed as to require specific intervention such as rest, removal from the site, physical restraint, sedation and personal attention. The commoner later complications are grief or depressive reactions, post-traumatic neuroses, and transient emotional disturbances in children. Those most at risk are the bereaved, injured and children separated from their parents. General supportive therapy along simple psychotherapeutic lines is the usual approach and provides at least temporary relief. Apart from the orthodox methods of individual treatment, there is little information on the special problems of treating communities where death, disablement, material loss and bereavement are prevalent. The community response may be therapeutic, aggravating or both.

Barton [8] has produced a model of the factors, individual and collective, that may significantly affect the community response and he suggests that the community as a whole, as well as individuals, must be a target for management. For example it is important to be aware of the significance of the media in both aggravating and ameliorating the individual's psychic distress. An obvious role for psychiatrists would be to set up groups to work through the community's shared experience in a constructive way. Victor Frankl [92, 93] attempted constructive psychological work of this kind within the setting of continual massive psychic assaults in the concentration camps.

Hocking concludes his review by stating: "If extreme stress is prolonged, breakdown is universal, once this occurs removal of the stress may result in only a temporary improvement, the individuals are left with an impaired capacity to adapt to everyday life including the physical and psychological stresses of ageing" [1]. It is not clear whether treatment can reduce the amount of disability. A major problem in psychiatric

treatment is firstly, the reluctance of the victim to recognize his need for help, and secondly, the reluctance of the psychiatrist to acknowledge the need.

Krystal [94] showed that the allocation of restitution payments from Germany was a function not of diagnosis or psychosocial state but of the centre in Germany where the case was handled. He found that even when sickness was identified it was rarely treated: 31 of the 697 potential patients received treatment. In Japan, Lifton estimated that 10–20 per cent of the hibakusha are still unregistered, and although political pressure has resulted in gross, and largely gratuitous, extensions of medical benefits to hibakusha, the existence of mental illness as a consequence of the A-bomb is not accepted.

The main source of information on the outcome of the treatment of the chronic complications of severe stress is the literature on the survivors of the concentration camps. The treatment has generally been psychoanalytic and there is controversy about its efficacy.

De Wind [95] claims that massive stress is neither an indication nor a contraindication to therapy. However, he lists many specific difficulties including the formation of a delusional transference, affect lameness and dread of affects, somatization, special countertransference problems, survivor guilt precluding recovery, loss of basic trust, inability to realize that aggressive wishes are not omnipotent, excessive guilt over enjoyment of sado-masochistic gratification, and the use of the experience as a resistance to the resolution of the infantile neurosis. On the basis of 22 cases treated with psychoanalysis and others treated with psychotherapy, he concludes that the pathogenic influences of the experiences may be relieved and once again it can become possible for a victim to take his existence for granted and to feel that the world is a safe place.

A possible beneficial effects of a community response in the long-term has been demonstrated in Israel.

The kibbutz provides a secure psychosocial milieu which probably facilitates integration and self-acceptance with a possibility of new identity formation, and the country has special museums, periodicals, occasions of public mourning and so on. Community efforts of this kind might also minimize the second generation effects which are well documented [96]. The children are psychologically comparable to those whose parents have had massive deprivation in their childhood. This cultural "working through" seems to be both a spontaneous and purposive development in many countries which have been ravaged by civil war. It takes the form of continual reminders of the struggle and reiteration of its value and of the heroism of those who suffered, expressed in the media, arts and public works.

PREVENTION

Primary

The psychological effect of warnings in terms of social action is discussed by Janis [97]. The problem is one of the human capacity for vigilance, and the tendency to become hypervigilant, or, more usually, to adapt. Because of this extensive use of denial, psychiatrists might have a role in alerting the public. Some kinds of disaster are almost completely preventable.

Psychological work must be done to minimize the psychological impact of disaster. There is agreement that a qualified rather than total belief in immunity and the absence of disaster constitutes a favourable condition for withstanding an extreme event. There must be an admission of the possibility of occurrence yet a belief in survival. In admitting the event to consciousness, Janis refers to the work of worrying. Anticipation is a small scale preliminary exposure on the level of imagination and can have an inoculating effect. By rehearsing and familiarizing oneself with the coming event one may reduce the risk of being overwhelmed by the experience.

In the Bengal famines of 1943 and 1971, the notable feature was the refusal of the governments (British and Pakistani, respectively) to do this [21]. However Janis gives examples of the ill-considered and highly charged emotional reactions which develop with the forcible breaking down of denial [98]. Jacobson [25], describing the various individual and interpersonal crises which developed in a large group of passengers confined aboard a sky-jacked plane, commented on the "normal" response of refusal to accept emergency, threat and crisis. She suggested the exploitation of normal life crises

and the use of non-insight oriented encounter groups to provide people with an acquaintance with their own feelings and responses to threat.

Secondary

The most important aspect of psychological care is the social provision of physical care: i.e. physical care *is* psychological care, and this is the prime and essential function of relief organizations. General psychological first-aid should be understood by all responsible personnel involved in disaster relief. It involves fundamentally the establishment of effective human contact with those who are disturbed or upset. The principal requirements are for personnel to accept every victim's right to have his own feelings, to accept the victim's limitations as real, and to accept their own limitations [99].

A variety of social factors which influence psychological recovery have been identified [9]. It is essential that local governmental bodies and relief organizations are aware of these. Separations of loved ones (particularly children from parents) are traumatic and every effort should be made to prevent them. The confusion, anxiety and guilt can be minimized by accelerating the natural processes of reorientation and reidentification; leaders are needed, lists of dead and injured are necessary, the establishment of effective communications and centres of information is important, and the spread of rumours must be halted. Competition between relief organizations must be rapidly dealt with.

In addition to the fundamental physical, psychological and social approaches to relief, specialist psychiatric care is required for acutely disturbed victims. Their prompt treatment may be essential for efficient operation of other services, and may have a favourable effect on the long-term prognosis of those affected.

Tertiary

Working through at the individual and group level is an important aspect of the ultimate acceptance of the event and its consequences; and it may also aid in the development of constructive attitudes and efforts. Psychiatric treatment, rehabilitation and general community work may also be needed [7, 79].

PLANNING SERVICES

To outline a plan for an ideal psychiatric disaster relief service, it would be necessary to predict the approximate number of psychiatric casualties of different types and to calculate the amount of psychiatric manpower required at various times after the event to handle this. This involves the following methodological problems. (1) The lack of tools to measure the prevalence of treatable and untreatable psychiatric morbidity in a community. (2) The lack of control groups and "before and after" data for disaster: a disaster is unpredictable and most routinely collected data reflects nosocomial factors which are changed by the crisis rather than true morbidity. (3) Lack of information on the effectiveness of various psychiatric techniques.

Quantitative data is currently available from the various studies described earlier in this paper. The literature on life crises and their relation to mental and physical illness provides models from which further deductions can be made about morbidity following a disaster. A variety of studies [100–105] have compared the number of stressful life events preceding mental illness with that in control groups. Brown *et al.* [100, 101] in an important group of papers have examined the relationship between life events and subsequent mental illness. They conclude that severely threatening events may be formative in depressive illness and may trigger schizophrenic illness, and that depressive illness may also be triggered by milder stresses. Cooper and Sylph [105] suggest that severe life events may cause neurotic illness and milder events may precipitate them. Using the experimental data of these workers, the incidence of depressive illness in a disaster-struck community could increase by

350 per cent and that of unspecified neurotic illness by 1100 per cent. Of the unspecified neurotic illness, 30 per cent would be assumed to be substantially caused by, rather than precipitated by, the disaster. This group at risk might be relatively more difficult to identify. Brown *et al.* wrote "our formulation of the problem is based on the explicit assumption that vulnerability to events varies with the spontaneous onset rate which may be interpreted as the degree of latent psychiatric disturbance" and "nor is it reasonable to reach any sort of final conclusion about the proportion of patients involved in a total environmental effect" (which could be a disaster, for example) "without a complex analysis which takes account of a whole range of other possible social influences". We suggest that their model might be extended to examine data on the psychiatric morbidity following disaster and elaborated to define factors which affect the degree of latent disturbance in an individual which might be useful in identifying those at risk (our reading suggests that age, previous psychiatric history, and ethnic isolation would be important), and the immediate and delayed effects of the total community experience and the type of disaster on the relation between events and illness.

Thus the incidence of illness reaches a maximum shortly after the disaster and is compounded of caused illness, precipitated illness and illness which would have occurred at that time anyway. The incidence then falls slowly to below normal for the population, reflecting the premature occurrence of precipitated illness, and eventually returns to normal. The prevalence will of course persist above normal reflecting the existence of long-term complications. To predict the amount of manpower which can be productively introduced into the area, data is required on the effectiveness of intervention. This urgently needs investigation. Until it is clarified no definite conclusions can be drawn regarding the relative priorities of psychiatric, medical and other relief services in situations of limited resources. We would make the following suggestions for present-day practice:

(1) A psychiatrist should visit all major disaster areas in the first few days after the event and should advise on first aid and on the psychiatric services which are likely to be needed in the immediate and longer term future. This judgement will clearly be related to the normal standards of care available in the area.

(2) A world-wide register of psychiatrists particularly interested and experienced in the various aspects of disaster should be set up. These might advise as expert consultants to regional psychiatric centres.

(3) Teams of psychiatrists and auxiliary personnel should be available for integration with the general relief response in areas where there are no developed psychiatric services.

GENERAL DISCUSSION

Disaster and the concept of disease

Much of the controversy in documenting and in managing the psychiatric sequelae of disaster is a reflection of the confusion between a variety of different models of illness, such as the pathological, the statistical, the sociological and the psychodynamic. This discussion considers some of the consequences of this confusion. A major problem in describing human behaviour in psychiatric terms is its definition as normal or abnormal in the context of a particular model. The study of a disease as a specific entity has been heuristically convenient, but it must also be understood by the clinician as a state of being, a dimension of the person's way of life [106]. Engel and others have used grief as a model for this approach [107, 108].

Responses to stress: psychodynamics

The concept of the continuity of disease process is related to the fact of the continuity of stress. It is not clear exactly what mental processes are involved in sustaining

and dealing with stress, in "coping", "surviving", or "getting over it", nor what are the mental sequelae.

Physical stress and psychic trauma cannot be equated because psychic trauma is not so much determined by the physical intensity of a situation as by the meaning and affects evoked in a particular individual. Any experience which provokes distressing effects (fright, anxiety, shame, physical pain etc.) is potentially traumatic. The essence of the traumatic situation is an experience of helplessness on the part of the ego in the face of the accumulation of such internal excitation [109]. This is universal in infancy, but rare in adulthood; however a disaster can be just such a situation. What is threatening to a particular person depends on the amount of psychic pain and painful affects he can tolerate; with maturity and emotional development this tolerance increases [109, 110].

In children, "developmental studies have demonstrated that trauma may result, not only in the fixation of defences and inhibitions, but also in the disruption of ego capacities and the narrowing of the range of techniques and patterns of behaviour available for dealing with objects and with the environment" [111]. This is closely comparable with Kardiner's description of the psychopathology of the adult with chronic traumatic neurosis [79].

A distinction may be made between the single massive experience (shock trauma) comparable to the acute disaster, and the accumulation of difficult experiences (strain trauma) comparable to the chronic disaster. In the latter case a variety of accumulating tensions and affective states results in an increasing state of ego strain, and eventually, as the adaptive responses fail, a strain trauma, with the subsequent development of new ego organization to preserve a feeling of safety [112].

Many writers [7, 90, 94] emphasize that the psychopathology during and following prolonged states of disaster is to be understood as a reality oriented adaptation (albeit to the abnormal reality of the disaster situation) rather than as attempts to benefit from secondary gain, or as defensive regressions to ward off reactivated inner conflicts. Other work [2, 94, 113] suggests that one of the fundamental and more obvious alterations in an adult subjected to severe stress is in his formulation of existence. With increasing age, formulations may take on a negative pessimistic diminishing quality [32, 72, 114].

Classification of responses to stress

Although evidence shows that disaster alters the affects, ideas, attitudes and physical health of those exposed, there is not much literature contributed by organically-oriented psychiatrists. The reactions are often not functionally disabling, somatization and real physical ill health leads the patient to general physicians, and few victims present as psychiatric patients with formal abnormalities in their mental state. By contrast the psychoanalytically-oriented psychiatrists find a plethora of symptoms and often severe pathology. They claim that this discrepancy arises because when the psychiatrist is experienced as unreceptive, emotional catharsis is inhibited, and the patient retires into a defensive isolation and takes up a posture of health. Where psychiatric disturbance is overt and less disputed, it is often difficult to accommodate in existing taxonomies. Roth takes some of the more severe reactions to disaster as examples of syndromes falling outside the traditional division between neurosis and psychosis [53]. The typical stress response known as post-traumatic neurosis, post-KZ syndrome, and combat exhaustion has been relatively clearly delineated but is not recognized in the International Classification of Diseases as a separate diagnostic category. Attempts to assess the psychiatric morbidity in the survivors of concentration camps in traditional nosological terms resulted in the improbable conclusion that the incidence of mental illness in this group is lower than that of a control group [115].

The age of the survivor [2]

Langer [116], in a review of historical studies of the great plagues, postulated the aggregate effects of psychological trauma as the mechanism whereby disaster brings changes in a society or culture (also cf. ref. [117]). Following the Black Death there was an age marked by misery, depression, anxiety and a general sense of impending doom. The plague was a chronic frightening threat about which nothing could be done. However, today we both expect and demand survival; society admits the narcissistic entitlement, the right to survive.

Whether we face the traditional disasters such as natural disaster, economic disaster and disasters involving deprived minorities, or the more modern disasters of overpopulation and environmental pollution, our close contact with them in a world shrunk and made emotionally immediate by television-satellite communication turns us all into both participants and survivors. As such the sequelae of disaster discussed in this paper are relevant to us all.

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Rescuers' psychological responses to disasters

Rescuers need support as well as victims

Many people other than the primary victims may be affected psychologically after a major disaster.[1] Despite their training, emergency workers may fall victim to stressors created by the work they have to do. The findings of an early study after a rail crash in Sydney have been confirmed many times—that over 70% of rescuers may experience transient symptoms of post-traumatic stress: nightmares, anxiety, and flashbacks.[2] In most cases these settle, and indeed in 35% of the workers in Sydney more positive feelings about the value of life emerged. Nevertheless, in some the distress does not settle and severe morbidity develops. Valuable research has been done to clarify the impact of disasters on rescue workers and suggest ways of preventing long term morbidity.

During rescue operations workers may confront scenes that bring physical revulsion, even vomiting; transient physical, emotional, and behavioural reactions are common. Sometimes when confronted with overwhelming trauma or the strangeness of foreign cultures rescuers may feel helpless and retreat from or misinterpret what they find. On the other hand, the excitement of involvement may generate a "high," which may extend to overinvolvement and a sense of omnipotence—the counterdisaster syndrome.

The most sensitive indicators of continuing impairment are cognitive impairment and disturbed interpersonal relationships as well as increased arousal, irritability, and loss of interest or withdrawal. Workers may resort to excessive drinking in an effort to forget or dampen distress or to sleep. Marital and family relationships often suffer, and families, especially spouses, may also need support, particularly if the worker remains locked into his or her experience.

Characteristics of the disaster, the rescue operation, and the rescuer himself may all affect the degree of stress experienced. For example, gruesome tasks, particularly when there are multiple deaths, mutilated bodies, or the deaths of children, are stressful for most workers. Even trained body handlers were stressed by recovering bodies after the Mount Erebus air disaster, with a quarter still showing stress 20 months later.[3] Similarly, after the mass suicide in Jonestown experienced servicemen were distressed by the large numbers of dead, the rotting bodies, and the futile deaths of children.[4]

Emergency workers are as susceptible as any others to ordinary work related stress arising out of organisational or management issues.[5] A massive disaster is likely to aggravate many of these and provide an additional psychological burden.

Conversely, careful organisation and management may be powerful antidotes to stressor effects.[6] The police who helped retrieve bodies after the explosion on the Piper Alpha oil rig were provided with detailed induction to their tasks, explaining the importance of what they were doing, their possible reactions, and the need to attend to their own welfare. They worked in pairs with an older, experienced officer in each, their shifts were limited, they were debriefed each day, and informal support was available from a psychiatrist. They showed no long term effects from their stress. Even when stress is experienced at "caseness" levels by disaster workers, as in the fire at Bradford football stadium, brief counselling sessions can facilitate recovery.[7]

From their extensive experience with disasters in the United Kingdom, Hodgkinson and Stewart have identified personal loss or injury, encounters with death, and "mission failure" as the primary stressors for rescue workers.[1] Frustration at lives that cannot be saved, failure of equipment, delays, and overwhelming demands all contribute to psychological distress. Symptoms may reflect this conflict, with guilt, reconstruction anxiety, general irritability, focused resentment, and loss of interest in work.[7]

Personality characteristics also affect rescue workers' vulnerability to stress. Simply being older and more experienced in itself is protective. "Hardiness"—a sense of commitment, challenge, and control—is a protective personality style for many workers.[8] Coping styles that emphasise sharing problems, constructive use of humour, and the use of social support also seem to be helpful.[8] Conversely, those who are drawn to action but deny their vulnerability will find it difficult to admit to stress or seek help. Fear that workmates will think them inadequate or that their career prospects will be damaged are the commonest reasons for distressed workers not taking advantage of stress counselling. Among volunteer bushfire fighters in Australia neuroticism and past psychiatric

disorder have been found to contribute to the development of post-traumatic disorder, particularly at lower levels of stress.'

Like the police, medical and hospital workers are often seen as immune to stress because of their training. In fact, they are equally likely to be affected but may not have access to support programmes. Studies of debriefing programmes provided after the Hillsborough disaster, where 95 people were crushed to death, showed that hospital staff could benefit: 139 out of 205 people attending debriefing programmes found them helpful, though some did not. Those who remained distressed six to nine months later had had higher levels of exposure, showed more distress symptoms on systematic measures, and were concerned about personal and organisational performance. Nevertheless, as with other rescuers, an appreciable minority found the experience positive, with a renewed appraisal of the value of life.[9]

The increased interest in the reactions of rescue workers has been accompanied by the development of programmes such as critical incident (or stress) debriefing. This is usually provided in groups by mental health professionals and peer support workers in the first 24-72 hours after the disaster.[10] Anecdotal evidence suggests that it is effective, though no controlled trials have been performed. Clearly also it should be only one part of a range of organisational, educational, and support responses.

Emergency organisations need policies that identify stressful circumstances and teach their staff to cope with them. They should also provide an effective safety net of debriefing and counselling when disasters occur. The support should be based on the expectation that workers will master their own stress. The aim is to help the worker through his or her experience to a "good enough" retrospective integration of it. When this policy fails workplace and health services must be aware of the potential impact on health, the nature of post-traumatic morbidity, and effective rehabilitation. Such policies of understanding and support also provide a positive environment for the smaller disasters that confront such workers every day.

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Lessons of Chernobyl

Psychological problems seem to be the major health effect at present

The accident at Chernobyl resulted in the largest short term release of radioactive materials to the atmosphere ever recorded from a single source. The major radionuclides released to the environment included isotopes of iodine, caesium, strontium, and plutonium and also highly radioactive fuel fragments or hot particles. The human impact of the accident has been immense. Hundreds of thousands of rescue workers took part in the clean up operation, more than 100 000 people were evacuated, and for many more restrictions on activities and foodstuffs have had a major impact on everyday life in three Soviet republics.

One legacy of Chernobyl is that surface contamination with caesium-137 in about 25 000 km^2 of land and about 2225 settlements is now at least 185 kBq/m^2 (5 Ci/km^2), with smaller areas having much higher levels or appreciable levels of strontium or plutonium. Minimising the effects of such massive contamination will pose challenging problems to Soviet scientists for many years. Technical problems, however, are not the only ones troubling the affected areas. Social tensions are also rife. Clearly perestroika, food shortages, and ethnic unrest all play their part, and these have been fuelled by inappropriate official secrecy: the first maps summarising environmental contamination were drafted in July 1986, three months after the accident, but they were not published until March 1989. Furthermore, ignorance about the likely effects of exposure to radiation has resulted in even local doctors attributing to the accident a wide variety of diseases never previously associated with radiation. Such was the atmosphere of mistrust directed at the authorities and at many Soviet scientists and doctors that the Soviet government asked the International Atomic Energy Agency (IAEA) to evaluate the consequences of the accident and the measures taken to protect the population that continue to live in the afflicted areas. These events led to the establishment of the International Chernobyl Project, whose final report was published last month.[1]

Much of the project was concerned with the health of people living in villages 30-300 km from Chernobyl that have appreciable caesium contamination. The report's major conclusion was that the largest effects on health currently attributable to the accident are psychological. For example, 45% of people in the surveyed villages agreed with the statement, "I think I have an illness due to radiation." These beliefs were not, however, substantiated by the IAEA team, who found no differences between the contaminated villages and nearby uncontaminated control villages in a wide variety of clinical observations and laboratory measurements, including the prevalence of thyroid abnormalities and haemoglobin concentrations. Additionally, people are concerned about continuing to live in areas with radiation because they feel trapped and their children's future seems uncertain. These fears are reinforced by the many restrictions on eating foodstuffs and on other activities which, ironically, the IAEA judged to have been too extensive. Many of the measures,

taken were unjustifiable on grounds of radiological protection, while some that were worth while, such as taking stable potassium iodide in the month after the accident to prevent uptake of radioiodine by the thyroid, were implemented by only about a fifth of the population.

Although the IAEA project found numerous health problems unrelated to Chernobyl, it found no health effects, other than psychological ones, that could be confirmed as directly attributable to radiation. This is not surprising for several reasons. The project's remit excluded those likely to have received the highest doses—namely, rescue workers, workers at the plant itself, and those who had been evacuated. Only about 1350 people currently living in the area and readily available were included in the survey. This number is big enough to identify major discrepancies between contaminated and control villages in the prevalence of common disorders or in the average value of variables such as haemoglobin concentration, but it is too small to detect a modest increase in cancers or other serious but rare disorders. Furthermore, many effects would not yet have had time to appear. Other studies of the effects of exposure to radiation have found the highest relative increase for leukaemia occurring within five years of exposure,[2] but for many other cancers increases even five to 10 years after exposure are modest compared with those in later years.[3] Hypothyroidism may also take many years to manifest itself.

Risk estimates based on the experience of other exposed populations provide a rough guide to the likely ultimate toll from Chernobyl in those continuing to live in contaminated areas.[4] With IAEA project estimates of dose in the 70 years after the accident and a dose rate reduction factor of 2 for cancers other than leukaemia, the estimated increase in the overall risk of fatal cancer is about 2-4% in the contaminated area, with the possibility of larger proportionate increases in the incidence of thyroid cancer and also in some cases of hypothyroidism. Accurate forecasting is, however, difficult. Official Soviet procedures for dose assessment often resulted in overestimates, typically by factors of 2-3. The largest doses are thought to have been thyroid doses resulting from shortlived radioiodines. These had completely decayed before the IAEA project, thus preventing any refinement of initial Soviet estimates. Furthermore, although much is known about the effects of radiation, the Chernobyl experience differs from other events that have been studied intensively to date: a substantial proportion of the dose was from internal irradiation, dose rates were low, and thyroid doses were of a mixture of shortlived radioiodines. In view of all these uncertainties monitoring of the population, such as has started in the Ukraihe,[5] seems desirable even though the data may require careful interpretation.

The IAEA team found Soviet scientists and doctors battling against a complex administration with inadequate resources, often in isolation from recent scientific developments, and in an atmosphere of public mistrust. They need our patience, sympathy, and any real help we can give them.

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Artificial blood

Mostly on the drawing board

The term "artificial blood" is loosely applied to substitutes designed to replace the oxygen carrying capacity of human red cells. Clinically acceptable solutions for replacing plasma volume have been available for many years, but the quest for a replacement to red cell transfusions continues. Its potential advantages are considerable—no risk of transmissible disease, no need to cross match, a shelf life of years rather than weeks, and an unlimited supply manufactured on demand.

Research has focused on two main approaches: developing synthetic oxygen carrying compounds and producing solutions of haemoglobin. Progress has been slow, for two main reasons—toxicity and brief intravascular dwell times.[1]

The development of genuinely artificial blood substitutes began dramatically with the finding that submerged mice survived in oxygenated solutions of perfluorocarbon.[2] Perfluorocarbons are biochemically inert and in their liquid form have a high solubility for oxygen, proportional to the partial pressure of oxygen. Their main disadvantages are the need for very high inspired oxygen concentrations (with the attendant dangers of oxygen toxicity) and their insolubility in water. This is overcome by producing emulsions, but these are unstable and must be stored frozen at −20 C. Reconstitution, warming, oxygenation, and the administration of a test dose to assess tolerance are then required before the solution is ready for intravenous infusion. The reticuloendothelial system quickly clears the microdroplets of emulsion from the circulation, resulting in a short intravascular half life of only 8-24 hours. Excretion occurs over seven days, mostly through the lungs. Uptake by the reticuloendothelial system and the possibility of "immune blockade" has raised concerns about safety. Intravenous infusion of certain emulsions also seems to activate complement and stimulate the release of cytokines, resulting in transient "allergic" reactions such as hypotension, leucopenia, and chest pain.

Fluosol DA20 was the first perfluorocarbon produced commercially for human use, delivering 5 ml oxygen/100 ml perfluorocarbon at 100% oxygen,[3] and animal studies also showed that Fluosol DA20 could sustain life at "zero" packed cell volume. Unfortunately, in surgical patients with acute severe anaemia (haemoglobin 30-40 g/l) who could not be given transfusions for religious reasons, Fluosol DA20 was ineffective in delivering sufficient oxygen to sustain life at the doses permitted (40 ml/kg).[4] Another use has, however, been found for it. Fluosol DA20 reduces ischaemic damage to the myocardium during percutaneous transluminal coronary angioplasty (presumably because of its small particle size and low viscosity at low rates of blood flow in small blood vessels),[5] and is licensed for this indication in the United States. Although not licensed in Britain, it has been used successfully on a named patient basis.

Alzheimer's disease, but this should not deter the prospective researcher or funding agency.

The Eurodem endeavour will be influential not because of the validation of the size of the effect of a specific risk factor but because of the care with which the authors have set out relevant methodological problems. Their reanalyses are reported with great caution, yet some issues stand out clearly. Case definition will remain imprecise and lead to far too many false negative cases until the present (provisional) clinical criteria[11] include pathognomonic objective tests. As gene-environment interaction provides the likeliest pathogenic model,[14] future epidemiological studies must be supported by molecular biological investigations.

A recent meeting in Bethesda sponsored by the National Institute of Aging and the World Health Organisation gave the authors of the Eurodem report a chance to air their concerns about future epidemiological studies. Epidemiological principles can be used successfully to investigate relations between genetic susceptibility and putative risk factors.[14] Simple genetic models can be applied to data where variation in genetic susceptibility is precisely known (such as the presence of a genetic mutation[1]). Hofman emphasised the importance of vascular disorders not only as possible models for Alzheimer's disease but also as likely causal processes.[14]

Exposure to noxious agents has become a matter of great public concern that transcends national boundaries. Experimental neuropathology provides the vital impetus towards successful identification of toxins that might contribute to neurodegenerative disorders,[15] but epidemiology has a major part to play. Hofman and his colleagues may not have established that any particular risk factor (other than family history) is of major importance in Alzheimer's disease, but they have certainly set out the directions that future research might most reasonably follow.

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Reforming health care in the United States

The American College of Physicians wants universal access to basic health care

At its best American health care may be the best in the world. Yet an increasing proportion of its citizens would find this is an empty boast. Between 30 million and 40 million Americans now lack any health insurance, and another 50 million are inadequately covered. Current projections suggest that these numbers will increase. The American College of Physicians has therefore identified access as one of the most urgent problems besetting America's health care system.

Access to health care decreases as its costs go up, and up is where they have been going. America will spend about $650 billion on health care this year compared with $75 billion in 1970, an estimated five fold increase when inflation is taken into account. Spiralling costs have generated ever greater pressures for cost containment, which have undermined the basic infrastructure on which the delivery of services depends—facilities and staff. Efforts by employers, the government, and third party payers to control rising costs are increasingly intruding on clinical decision making and are undermining doctor-patient relationships.

Current ways of paying for health care, entailing multiple public and private insurers and third party payers, are complex, confusing, costly, wasteful, and intrusive. Coverage under both private insurance plans and public programmes (Medicare and Medicaid) is generally difficult to understand and requires complex mechanisms for dealing with claims. Patients and their families are burdened with extensive paperwork.

The need for reform seems undeniable—but where to begin? Because the problem of access is inextricably linked to several other substantial problems—such as the cost and quality of health care, resource allocation, doctors' dissatisfaction, burdensome problems for patients, malpractice, and the limitations of the health insurance industry—the college believes that only fundamental change will do. To

evaluate various proposals for reform the college drew up a list of 16 criteria.[1] It came down against throwing more money at the problem—as this could make things worse—and urged extreme caution over building on the present structure. What was needed was a thoughtful re-examination of the system of health care from top to bottom.

So far the college has decided that the solution will be a nationwide programme, and it wants such a programme adopted as a policy goal for the nation. The college's main focus now is to define further the systemic reforms that are needed. To make the reform of health care a reality the college has identified two primary objectives: to further an environment receptive to comprehensive reform and to speak from a well informed position. On each of the main issues—containing costs, controlling use, determining benefits, deciding on mechanisms of financing, and reducing administrative costs—work is continuing deliberately and carefully.

According to the American College of Physicians nothing short of universal access to basic health care will be fair in the long run. How that goal is achieved has yet to be determined, although the college believes that it has identified its principal elements and proposed some realistic options. These are currently being reviewed by the members of the college, and the final proposals should be published next spring. America, it believes, can one day develop a system that is fair and equitable for all.

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Does triamterene cause renal calculi?

Not enough evidence yet to tell patients to stop taking triamterene

Over two million prescriptions for triamterene were issued in the United Kingdom last year so the possibility that this drug may cause renal calculi is important. As a potassium sparing diuretic triamterene is often prescribed in conjunction with a thiazide and acts on the distal tubule to inhibit reabsorption of sodium in exchange for potassium and hydrogen ions. Taken by mouth it is rapidly metabolised to parahydroxytriamterene and then to parahydroxytriamterene sulphate. Half of the drug is excreted in the urine, 20% as triamterene and 80% as metabolite.[1]

A case report in 1979 suggested the lithogenic properties of triamterene,[2] and this was followed by the observation of an abnormal urinary sediment in patients and volunteers taking the drug.[3] The sediment, resembling granular casts, was often deep brown and accompanied by hyaline casts, some of which were covered with small birefringent crystals; larger round brown bodies, appearing as Maltese crosses under polarised light, were also seen. This abnormal urinary sediment occurs in about half of all patients treated.[4] The crystals appear in the urine two to four hours after ingestion of the drug, and animal studies show that birefringent crystals and casts form within the medullary and papillary collecting ducts of the kidney.[5] This site of formation is supported by the histological findings in a patient who developed acute interstitial nephritis after massive intoxication with triamterene and hydrochlorothiazide. Tubular plugging by crystal laden tubular cells was found in renal tissue, although the crystals were not positively identified as containing triamterene or a metabolite.[6] Nevertheless, only one definite case of interstitial nephritis induced by triamterene has been reported.[7]

The presence of triamterene in a calculus may be suspected by blue fluorescence (440 nm) under long wave ultraviolet light, but thin layer chromatography[8] or infrared spectroscopy provides definitive analysis.[1] The composition of the stones varies: half of 66 stones containing triamterene were found to contain less than 5% and none contained more than 75% of material derived from the drug.[8] Triamterene itself, rather than its more abundant metabolites, was the commonest constituent. Others have also identified stones made mostly from triamterene[1] and Carr *et al* found that 21% of stones containing triamterene were made exclusively of it.[1] In the remainder triamterene was associated with calcium oxalate monohydrate and dihydrate, apatite, or uric acid.

But do these data mean that triamterene or its metabolites cause the stones? Triamterene is not invariably found at the core of every stone,[1] and Werness *et al* showed that triamterene and metabolites have no effect on calcium oxalate monohydrate, hydroxyapatite, or uric acid crystal systems, although they bind strongly to protein matrix.[10] In contrast, White and Nancollas showed that triamterene and its metabolites could induce growth of crystals in supersaturated solutions of calcium oxalate monohydrate.[11] The clinical relevance of these in vitro findings is not clear, and, most importantly, stones in the urinary tracts of patients taking triamterene do not always contain the drug.[12]

If crystalluria and casts are common sequelae to ingestion of triamterene might absorption or excretion be perhaps different in patients in whom stones form? Carey *et al* found no difference in absorption or excretion of triamterene in such patients,[11] and this was confirmed by Ettinger, who also found no difference between patients and controls in total recovery, hourly excretion patterns, or concentration of triamterene or parahydroxytriamterene in the urine.[11] The pH of urine does not seem to affect the solubility of triamterene or its sulphate metabolite.[1] More relevantly, Carey *et al* point out that those in whom calculi form early during treatment and with a family history are more prone to further calculi; this may explain their observation of a 35% incidence of previous renal calculi in patients who developed calculi while being treated with triamterene compared with a 4% incidence of previous calculi in patients who did not.[11] So perhaps the patient, rather than the drug, is the risk factor.

A specific lithogenic role for triamterene, and possibly its metabolites, remains unproved, although the occurrence of stones rich in triamterene must tend to support one. The evidence is not strong enough to warrant patients with a history of recurrent renal calculi avoiding taking the drug, but with increasing use further epidemiological information may become available. Currently in one reference laboratory stones containing triamterene are as common as cystine

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PSYCHOSOCIAL CONSEQUENCES OF DISASTERS

PREVENTION AND MANAGEMENT

DIVISION OF MENTAL HEALTH
WORLD HEALTH ORGANIZATION
GENEVA

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CONTENTS

reducing the effects of severely damaging events on man and his environment once they have has occurred.

The importance of preventive measures and preparedness, the integration of an emergency response within regular WHO programmes, and the linkage with development have been emphasized in the resolutions adopted by WHO in 1981 and 1985. Each of these aspects of coping with disasters should include consideration of the related psychosocial components. These can have an impact on people's behaviour before, during and after a disaster occurs, as well as being important in influencing the overall patterns of post-disaster morbidity.

Definition and description of disasters

Definition

A disaster is a severe disruption, ecological and psychosocial, which greatly exceeds the coping capacity of the affected community. This will be the definition that is used in this document. However, what constitutes a disaster for one community might not necessarily do so for another. The difficulties of conceptualization arise because, "upwards a disaster is unlimited, downward one has to draw a line somewhere". In common daily usage, the term "disaster" refers to a great misfortune causing widespread damage and suffering.

There is, however, no consensus on a scientific definition of the term: there are in fact more than 40 different definitions of disaster in the literature (Korver, 1987). A disaster is a very complex, multi-dimensional phenomenon. An event may be a disaster along certain dimensions, such as ecological, economic, material, psychological or social, but is unlikely to be one along all of these in any specific event. Often the number of human lives lost is an important criterion for defining a disaster.

The definition may be dependent upon the event itself, or solely on the consequences of the event. The term disaster ordinarily emphasizes fast, destructive change. This may exclude permanent problems from the disaster definition, for instance famine in many parts of the world, even when the consequences of the starvation are disastrous. To declare an event a disaster may influence, among other things, the amount of help offered. The concept also has emotional and political implications.

Much of the confusion in defining a disaster is caused by the diverse interests of those dealing with the event, be it in medicine, sociology, political science or ecology. The definition adopted usually reflects the role of the organization using that specific definition.

From a psychosocial perspective, it is important to consider both the medical disaster definition (an emergency situation in which the victims are so numerous that the treatment needs far outweigh the resources available at the moment: here there is an immediate need to bring in extra resources) and the sociological.

Common elements to be considered in the conceptualization of disasters include:

1. A disaster disrupts the social structure and cannot be handled by the usual social mechanisms. This disruption may create more difficulties than the physical consequences (Quarantelli, 1980).

2. There are several important variables which can moderate the impact of disasters. These include, the ability of the victims to adjust psychologically, the capacity of the community structures to adapt to the crisis and the amount of help available.

3. The concept of disaster changes over time and among different cultures. Among some populations, especially in developing countries, a lengthy first-hand experience of coping with natural disasters has produced the creation of specific "disaster sub-cultures", which are likely to affect their pattern of psychosocial reactions to the disaster situation.

4. Since catastrophic events are frequent in many developing countries, this may unfortunately raise the threshold for an event to be considered a disaster. Nevertheless this should not lead to a failure to recognize and respond to the adverse effects that may occur, even with repeated disasters; these may undermine the morale and resources of the community even further, and may lessen its capacity to adjust.

The term "personal disaster" (Raphael, 1985) has been used to refer to a severe trauma affecting a small group or a single individual. This document however, deals only with those disasters affecting large numbers of people.

Taxonomy

There are many possible ways to classify disasters which may have important consequences with regard to the way people react and the types of help required.

From the prevention and preparedness viewpoint, the following classification is generally used:

Natural disasters — Earthquake, flood, cyclone, hurricane, tornado, landslides, volcanic eruption, drought.

Man-made disasters — Technological disasters such as toxic, chemical and nuclear accidents, dam collapse or transport accidents.

Man-made disasters are caused by human failures or accidents, or are due to violence or war. The feeling that someone is to blame may make it more difficult for victims to cope with the situation. However, a clear distinction between what is man-made and what is natural is sometimes impossible, because of the increasing effects of man's actions on the overall ecological balance or other human contributions.

For instance in an earthquake, the poor construction of buildings can contribute significantly to damage and loss of life. The failure of authorities to provide adequate warning of a "natural" danger can contribute to the loss of life and damage. Any rise in the level of the oceans due to pollution causing a "greenhouse" effect, may increase the likelihood of floods. Famine or social conflicts may strike certain parts of countries, not just because of drought and crop failure but also because of transport problems, hindering the movement of food. Bush fires may or may not be started by man. These examples are just a few amongst many possible ones that demonstrate the blurring that can exist between natural and man-made disasters.

The speed of occurrence is another important dimension to be considered in assessing disasters and their consequences on the affected population. Perhaps the most well known typology of disasters however, is that of Barton (1969). He suggested four main dimensions: scope of impact (geographical, number of people); speed of onset (sudden, gradual, chronic); duration of impact (e.g.repeated episodes); and social preparedness of the community.

A further important dimension has been added (Green, 1982) which refers to whether disasters are central or peripheral with respect to a geographic community. In one which happens to a group of people who have come together by chance (e.g.an airplane crash), survivors return to their respective geographic communities where the physical setting and social support networks are still intact. Such disasters could be considered geographically peripheral. An intermediate type, according to this dimension, would be one which occurs to a group of people within a community and, hence, affects the whole community in some sense, but where there still unaffected members of the community and the physical settings (homes, neighbourhoods) remain unchanged.

The most central type of disaster would be one in which the whole physical and organizational structure of the community is deeply changed (e.g.earthquake, floods, etc.), because homes are destroyed, people are relocated in different surroundings with strangers, etc. In this central type the traumatic aspects are not limited to the impact of the physical event itself, but may continue for a relatively long period of time and include many subsequent additional traumas, changes, and disruptions especially of a psychosocial kind, requiring further adjustments.

Transnational character of many disasters

Many disasters are transnational or international in their effects and impact. For instance nuclear or toxic accidents may have effects on many countries across frontiers and at considerable distances from the place where the event occurred. The nature of frontiers (legal, official, political) cannot prevent this, and there are many implications for disaster response. Similar problems may arise in international transport accidents such as air crashes.

An adequate response to such transnational disasters has to be set up at the same transnational level. This means that international coordination by a specialized health agency such as WHO is undoubtedly needed in terms of preparedness and intervention programmes, in order to ensure consistent and uncontradictory responses in the various countries affected. Moreover WHO is in a special position to ensure a common scientific international language among the various researchers and clinicians active in the medical and psychological field. The adoption at an international level of the 10th Edition of the ICD is an important step in this direction (WHO, 1990).

Epidemiology of disasters and morbidity profiles of the affected populations

Estimates of the major disasters which occurred worldwide (excluding the United States) from 1900 up to 1988, indicate that, in these 9 decades, about 339 million people have been affected by floods, with a total of 36 million rendered homeless; 26 million have been affected by earthquakes, with similar numbers affected by typhoons and cyclones, creating another almost 10 million homeless people; finally, 3.5 million have been affected by hurricanes, resulting in 1.2 million people without homes. From 1970 to 1981, floods were the most frequent disaster, comprising more than one-third of all disasters occurring in that decade. Windstorms were the next most frequent disaster (one fourth of the total number), while earthquakes caused the greatest number of deaths and monetary loss.

The actual numbers killed in disasters is estimated to be some 3 or 4 times higher in developing countries than in the developed. The striking difference however is in the number of survivors who are affected, which is estimated to be some 40 times higher in the developing countries. One must presume that this indicates a massive psychosocial as well as physical need for this latter group.

The geographical distribution of disasters between developed and developing countries deserves attention, as there seems to be a relationship between the location of a disaster on the one hand, and the severity of its consequences on the other. Out of the 109 worst natural disasters which occurred between 1960 and 1987, as selected and studied by Berz (1989), 41 occurred in developing countries; however, the number of deaths caused among the affected populations was far greater in the developing countries (758 850 deaths in developing countries as compared to only 11 441 in developed countries).

In general the number of deaths and injuries and the amount of damage is closely related to the prevailing level of economic development. An UNDRO publication (1984) shows a list of disasters for the period 1960-81 resulting in the greatest numbers of people killed. All occurred in countries characterized by a low-income economy: Bangladesh (633 000 deaths), China (247 000 deaths), Nicaragua (106 000 deaths) and Ethiopia (103 000 deaths).

The extent of risk among many populations, especially in developing countries, has increased over the last few decades due to increasing population size, greater population density in vulnerable areas and the strong tendency of large populations towards urbanization. There has also been a concurrent increase in the magnitude of certain types of man-made disaster. Very little however is known about the stress-related disorders caused by such events, which represent an important area in need of investigation.

In disaster situations certain vulnerable groups tend to exist. High mortality may be seen among elderly people and young children. Children up to 2 years old may show lower mortality than their elder brothers or sisters, perhaps because parents protect their youngest children but cannot afford to help older ones. Pregnant or lactating women and persons already suffering from existing disease are also more vulnerable, as are the poor or certain minority groups who might for instance, have no choice but to live in flood-prone areas.

The morbidity: mortality ratio, as well as its relation to property destruction, is specific to each type of disaster. For example, in big earthquakes the ratio of morbidity: mortality is usually 3:1. Floods show high mortality rates but few injuries. Hurricanes cause fewer injuries and deaths, but great loss of property.

EPIDEMIOLOGY AND DESCRIPTION OF PSYCHOSOCIAL REACTIONS TO DISASTER

Historical perspective

The first systematic studies of the psychological and psychiatric consequences of a disaster were undertaken by Eduard Stierlin (1909) from Zurich who investigated 21 survivors of a mining disaster in 1906 and 135 persons two months after the earthquake in Messina in Italy in 1908. The history of traumatic neurosis in European medicine is well described by Fisher-Homberger (1975) who demonstrated that the understanding of the disorder during the 19th and early 20th century was very much influenced by political, military, economic and cultural factors, with an over-emphasis on an organic basis for traumatic neurosis. However, during World War I the psychological nature of the disorder was better understood.

During World War II, the study of how civilian populations reacted to disaster traumas was further advanced. The air raids against cities was the background for a series of valuable investigations carried out in England during the early war years. A striking finding was that the expectations of "mass neuroses" in a bombed civilian population did not occur. Unfortunately the war time psychiatric experiences have not been fully incorporated into the disaster literature, although psychosocial interventions in disasters have been influenced by insights gained during war, lately the Vietnam war. Among wartime psychiatric cases both stable as well as vulnerable personalities were found, but the latter did not recover within weeks as did the former. The military psychiatric experiences from World War II influenced civilian clinical practice with the introduction of the therapeutic community, group treatment, forward psychiatric treatment and crisis intervention.

Of special note is the Coconut Grove night club fire disaster in Boston in November 1942, which claimed the lives of 491 persons. This disaster has come to occupy a special position in disaster psychiatry because it represents one of the first systematic civilian studies on the acute psychological reactions in victims of physical injury, danger traumas and loss traumas (Lindemann, 1944). Until the 1970s however, the psychosocial disaster literature was periodic and unintegrated. Since the 1970s a rich literature, largely American and Australian, has been published. There is also important work in other languages (German, Russian, Spanish and French). As a research field, however, the study of the psychosocial consequences of disasters is still relatively untouched.

Phases of emotional reactions to disasters

Emotional reactions may be divided into the immediate experience during the disaster and those reactions occurring after the event, some of which may appear soon and others late.

The immediate experience

The immediate reactions reflect the most horrifying dimensions of disaster related to severe physical injury, exposure to extreme danger, witnessing death of close ones or mass deaths and injuries, traumatic experiences of helplessness, hopelessness, separations, and the need to choose between helping others or fighting for one's own survival. Maladaptive reactions during exposure to a disaster such as paralyzing anxiety, uncontrolled flight behaviour and group panic, may be incompatible with survival. In studies of disaster behaviour the individual's level of preparedness, disaster training and education have appeared as the most important determinants of a good outcome (Weisaeth, 1989). (Being able to cope in the immediate trauma situation also came out as a strong protector in terms of longer term psychiatric sequelae).

Panic is said to be rare in natural disasters, but in crowded areas like subways, trains and skyscrapers, disasters can evoke panic more easily. Health education programmes and previous training in simulated disaster situations can help affected populations to avoid panic and respond more appropriately.

Emotional reactions after the "event"

Many different emotional reactions may occur after a disaster. In the beginning many people feel numb, or even elated and relieved, often with strong positive feelings about having survived. Gradually however, the stress effects may show, although these reactions are usually relatively short-lived and may be considered a normal reaction to a traumatic experience.

Common post-disaster reactions include intense feeling of anxiety, which may be accompanied by "flashbacks" or intrusions and frightening memories of the experience. There may be nightmares, waking the person with panic. Any reminder may trigger these feelings, and the person may try to avoid all such reminders or to shut out feelings (avoidance response). Anxiety and intrusive memories or reexperiencing, especially of life threatening or gruesome encounters with death, may alternate with numbness and avoidance. The affected person may also be highly aroused, as he or she is fearful and trying to protect himself or herself from a return of the frightening experience. Normally all these reactions settle over the first weeks. If however, these reactions are maintained at a high level and for more than a few weeks, they represent a post-traumatic stress disorder (PTSD). Occasionally the symptoms may not appear for several months or more. Spontaneous recovery occurs in the majority of cases but in a small proportion the conditions can last many years.

In silent toxic or nuclear disasters, when no impressive destructive event occurs, the external danger may be invisible and people are likely to focus on their physical health. Uncertainty and insecurity may create anxiety and fear reactions and their accompanying somatic symptoms may induce a false perception of being physically ill, resulting in pressure on somatic health services.

Epidemiology of psychological disorders following a disaster

As stated by Perry and Lindell (1978) and by UNDRO (1984), different views have been expressed by various authors about the extent of psychological disorders following a disaster. Some hold the position that disasters represent catastrophic events producing adverse psychological reactions among most victims, while others suggest that the extent of the problem has been overestimated, and that psychological problems due to the stressful event(s) appear only among people with a preexisting vulnerability. The latter view can be found especially in some of the sociological literature, mainly from the US. There may be certain reasons why this view has been put forward: (a) some of the disasters cited involved little loss of life and mainly involve material damage, (b) poor detection methods were used to find psychological disturbance.

There may be a tendency in some cases to dismiss certain severe psychological reactions to disaster as only "natural". It should be noted however that severe bruising and fractures may be quite "natural" reactions to a fall from a height, but this does not diminish the intensity of the suffering or obviate the need to help those affected.

Up to a few years ago, little was known about the psychiatric epidemiology of disasters in developing countries. In fact with the exception of some recent work in the United States and Australia, very little is known of the true incidence of psychological traumas and related disturbances following disasters even in developed countries. Previous research was based on unsystematic clinical observations or crude indicators of psychiatric morbidity such as admissions to psychiatric hospitals (e.g. Ahearn, 1981). Only following disasters in recent years in Colombia 1985, Mexico 1985 and Puerto Rico 1985, have systematic studies been carried out. They suggest that victims present marked and prolonged psychosocial problems whose prevalence is significant. Because of the often devastating physical impact which natural disasters have on populations living in developing countries and because of the scarcity of resources there, interventions have generally been confined to rescue and to the provision of basic medical care, with a corresponding neglect of psychological needs and related epidemiological research and intervention. Furthermore, the existence of some clear "disaster sub-cultures" among populations with lengthy experience in coping with natural disasters, especially in developing countries, makes it difficult to apply findings from research carried out among populations only exceptionally affected by a disaster". The different culture patterns, social structures, and coping behaviours may reasonably modify the incidence, the severity, and the psychosocial outcome, pointing to a need for specific research on these populations.

The specific behavioural pattern, characterized by a stunned, dazed, and apparently disen-

gaged behaviour, called "disaster syndrome", has been described as a response to impact and immediate aftermath. It is said to occur in about 25% of those affected by disaster (Frederick, 1981; Raphael, 1986). On the other hand Duffy (1988) has stated that a "disaster syndrome", represented by the immediate post-disaster reaction, is present in up to 75% of victims during the first hours or days after the event. Anxiety or anxiety-related reactions are extremely common. They may continue from the high arousal that comes with impact or, more often, emerge after a latent period of a few hours or days. In different studies which employed a psychiatric screening schedule to assess the psychological status of the victims of the disaster, the percentage reacting over the first weeks as shown by the questionnaire score seems to vary from 70% or more to 20%, in large part correlating with the severity of the experience. Levels may remain high in the early weeks. Then, by 10 weeks, there is usually a significant drop with a gradual decrease continuing over the first year (Raphael, 1986).

Disturbances may carry over from the immediate disaster experience impact phase to the immediate post-disaster phase: for example in some industrial disasters studied, about 15% of the affected populations displayed the derealization/apathy symptoms of the disaster syndrome with absence of emotions, lack of response, inhibition of outward activity with stunned, shocked and dazed appearances. Disorganized flight behaviour is common, whereas brief psychotic reactions occur only in a small minority. The physical symptoms of anxiety and stress are more frequent. These symptoms are important in that they hamper the person's ability to carry out planned actions, and may become the starting point of a somatization process (which can be misinterpreted as physical injury, illness, toxic poisoning etc.).

According to Raphael (1986), psychological morbidity tends to affect some 30-40% of the disaster population within the first year following it. At two years, levels are generally less but with a persistent level of morbidity that seems to become chronic for some individuals and for some disasters. Disasters that are man-made and with high shock and destruction show persisting levels of over 30% severe impairment. Contrasting findings from different studies can be explained in terms of differences in sampling methods, methodologies, diagnostic categories, and types of disasters under study, as well as differences in interpretations of the same data. More specific evaluations of morbidity patterns have examined mortality, psychosomatic illness, mental health problems, physical symptomatology, consultation-based health care utilization, hospital admission and alcohol and drug usage. Mental health problems, as defined by a range of different measures, are shown as increased in systematic studies. The diagnostic inconsistencies among different studies and different research groups are especially important. The ICD-10 (WHO, 1990) provides a useful conceptual framework for clinicians and researchers active in this field, recognizing three main diagnostic categories of disorders caused by exceptionally stressful life events producing an acute stress reaction, or by a significant life change leading to continued unpleasant circumstances which result in an adjustment disorder. The three main diagnostic categories are: (i) acute stress reaction (F43.0); (ii) post-traumatic stress disorder (F43.1); (iii) adjustment disorder (F43.2). In addition the ICD-10 recognizes enduring personality change after a catastrophic experience (F.62.0).

A recent thorough review has analyzed the relationship between disasters and subsequent psychopathology for 52 studies which used quantitative measures (Rubonis & Bickman, 1991). The authors examined relationships among four sets of variables: (a) the characteristics of the victim population, (b) the characteristics of the disaster, (c) the study methodology and (d) the type of psychopathology. In the studies examined, between 7 and 40% of all subjects showed some form of psychopathology. The type of psychopathology with the highest prevalence rate was general anxiety (almost 40% of the studied subjects), although its variability is also among the highest. Phobic symptoms (32%), psychosomatic symptoms (36%) and alcohol abuse (36%) appeared to show slightly lower levels of prevalence, with depression (26%) and drug abuse (23%) somewhat lower still. Using meta-analytic techniques, the authors showed that in these studies a positive relationship emerged between disaster occurrence and psychopathology, indicating an increase of approximately 17% in the prevalence rate of psychopathology (compared with a predisaster or control group rate) as a result of a disaster. The number of female victims in the samples studied, the death rates, and the amount of time that had elapsed since the disaster event were all directly related to the amount of psychopathology.

Finally, higher impairment estimates were found for naturally caused disasters (e.g. volcanic eruptions) as opposed to those caused, at least in part, by humans (e.g. nuclear accidents). This latter finding however contradicts much of the literature published so far.

The severity of the stressor (for example threat or loss) has been strongly correlated in all studies, with the severity of the pathology or reaction engendered, although other vulnerability factors are also important. The main clearly defined syndromes that appear following disasters are the PTSD, the survivor syndrome and the disaster bereavement syndrome. As regards the first, social withdrawal contributes most to impairment. An interesting finding from some studies is that irritability, anger and aggression increased over the four-year follow-up. Irritability is in fact, a very common reaction, and is perhaps especially so with "man-made" disasters in which a human agency can be blamed. Bereavement disorders, when chronic, are notoriously resistant to treatment.

Not only psychological disorders but also physical disorders and mortality rates have been shown to be higher in survivors of disaster. In particular the rate of coronary heart disease morbidity and mortality is increased. This has been shown in a study of earthquake survivors (Katsayanni et al., 1986). Studies have also shown that this increase in physical disease is particularly marked in the year after the disaster amongst the relatives of people who died at that time. It is presumed that this increase in disease is caused by psychological factors.

Relationship between type of disaster and the type and severity of reactions

The severity of psychosocial reactions to a disaster will depend on many factors in the individual and the community. Where there is great loss of life there is likely to be much grief and perhaps disruption of family and community life. Loss of homes and property may destroy the sense of the community and create stress in association with the hardships. Where support is available and some meaning can be made of what has happened, and especially when there are opportunities for individuals and the community to be actually involved in their own recovery, the outcome is likely to be better. Where there is obvious blame, human negligence, malevolence or violence, and little support, the outcome is likely to be adverse. Similarly when there is little support or people feel helpless and unable to take charge of their own recovery, this also has a negative effect on the outcome.

Specific psychosocial consequences following disaster

Post-traumatic stress disorder

The most severe psychiatric disorder consequent upon disaster is represented by post-traumatic stress disorder. This arises as a delayed and/or protracted response to a natural or man-made disaster of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone,

As stated in the clinical descriptions and diagnostic guidelines accompanying ICD-10, typical PTSD symptoms include episodes of repeated reliving of the trauma in intrusive memories ("flashbacks") or dreams, occurring against the persisting background of a sense of "numbness" and emotional blunting, detachment from other people, unresponsiveness to surroundings, anhedonia, and avoidance of activities and situations reminiscent of the trauma. Commonly there is fear and avoidance of cues that remind the sufferer of the original trauma. Rarely, there may be dramatic, acute bursts of fear, panic or aggression, triggered by stimuli arousing a sudden recollection and/or re-enactment of the trauma or of the original reaction to it.

There is usually a state of autonomic hyperarousal with hypervigilance, and enhanced startle reaction, and insomnia. Anxiety and depression are commonly associated with the above symptoms and signs, and suicidal ideation is not infrequent. Excessive use of alcohol or drugs may be a complicating factor.

Some people may respond to trauma with symptoms which last only briefly or with milder symptoms which hardly justify a diagnosis of "disorder". Some workers in the field have referred to these as "post-traumatic stress reactions".

The onset follows the trauma with a latency period which may range from a few weeks or months (but rarely exceeds 6 months). The course is fluctuating but recovery can be expected in the majority of cases.

Grief

For those people who have experienced significant loss, the emotional reactions which occur

after the disaster are likely to be those of grief. There may be grief for the loss of loved ones, or home, treasured possessions, livelihood or community. The severity of the morbidity is greater for the individual when associated with personal loss due to death of a loved family member. The emotional reactions of grief include sadness, distress, anger and longing and yearning for what has been lost. The bereaved person may be preoccupied and miserable. Usually grief reactions diminish to some extent by 4-6 weeks, although stresses may complicate or prolong them and anniversaries may induce recurrences. A number of studies have pointed out a number of factors that might increase psychological morbidity among the bereaved: lack or weakness of social supports, female gender, loss of a child. There are circumstances of violence and the dead body has been unable to be found or viewed by the bereaved. For some of those who have suffered losses, grief may become chronic and the emotional reaction may intensify into severe depression.

Alcohol, drug abuse and family problems

A few studies have shown increases in alcohol and drug consumption following a disaster, while social withdrawal, particularly in association with numbing, can be the most frequent form of morbidity in interpersonal relationships. The prolonged stress of the aftermath, the preoccupation with painful memories or losses, or the disruption of home, family and community life and even work, may all adversely affect adjustment. Family conflicts and problems may occur. Children may be overprotected and sometimes family violence may result. For most families and individuals these problems are short lived and transitional, but for some they are delayed or become chronic. Others may respond to the challenge of the disaster and appear to show greater strength and coping, so that rather than social pathology or community breakdown, there may be enhanced social and community functioning.

Secondary psychosocial stressors

Certain specific stresses can arise in the wake of disasters, consequent upon social changes. These include the displacement of individuals to other geographical areas, housing people in camps, unemployment, inactivity and lack of recreational possibilities, the fostering of dependency in survivors, general disruption of the social fabric and the breakdown of traditional forms of social support. "Temporary camps" providing inadequate facilities, are known to house victims for years. Disruption of families can also have important psychosocial consequences upon the members and particularly on small children with no accompanying adults.

Unnecessary hasty procedures for dealing with dead bodies, under the guise of preventing outbreaks of communicable diseases, can lead to such rapid burials that proper identification may not be possible and full mourning procedures may not occur. Likewise, overenthusiastic vaccination programmes may be initiated for the same reason. Other misbeliefs may lead to unnecessary extra stress on victims of disasters.

Vulnerability

When disaster is not followed by new and additional stressors, early prediction based on an evaluation of risk factors (risk situations, risk individuals and risk reactions) may be possible, thus allowing the health workers to concentrate their interventions on high risk cases.

An immediate adverse psychological response to trauma can be a predictor of PTSD. Thus screening instruments measuring the mental state shortly after a disaster can be used to identify risk cases. By combining this with individual risk factors (such as previous psychiatric impairment) and the intensity of disaster stress exposure, high predictive power has been achieved.

The results from longitudinal studies can be summarized as follows: after exposure to a brief disaster trauma, a person without marked premorbid vulnerabilities may experience the symptoms of a post-traumatic stress reaction but should be expected to gradually overcome and finally to recover completely from these symptoms, provided that the conditions are made favourable for rehabilitation, that qualified treatment is offered when needed and that the person is motivated to work with his problems. The majority of survivors who develop long-standing PTSD have been found to suffer from some kind of pre-morbid vulnerability.

Stress upon rescuers

There are two categories of rescuer: the non-professional and the professional. The stress upon the non-professional rescuers may resemble that on the victims, inasmuch as they may be caught up in the impact of the disaster.

As volunteers or bystanders in the interim period before professional help arrives, they may suffer the terrible trauma of not being able to achieve success in their rescue attempt. Also for the professional, failure to be able to rescue victims, especially children, is a significant stressor, comparable only to the loss of a colleague. Even a professional rescuer, such as a fireman, may be overwhelmed by the magnitude of a big disaster as compared to an individual catastrophe. The available resources usually seem too small, creating feelings of powerlessness and of being terribly alone. As always, stress is better endured when experienced as an active participant rather than as a passive victim. In disasters affecting people one knows personally, such as in company and community disasters, rescuers especially need to adopt a very "professional attitude".

Exposure to death and dead bodies has been repeatedly identified as a major stressor following all such events. Children's bodies represent the most stressful types of exposures (Ursano, 1987). The psychosocial consequences on both survivors and rescuers of a large number of dead bodies also presents needs to be taken account of, and is probably best dealt with by having certain formal procedures laid down on how to deal with this situation. It is very unlikely that those who have died will have been suffering from infectious diseases. Some of the enforced "hygienic" measures seem to reflect people's fear of dead bodies, more than any actual health danger, and may lead to considerable psychological distress in the survivors.

It follows from the definition (exceeding the coping capacity) that in the initial phase of a disaster not only the victims but also the rescuers/health personnel are faced with a demanding situation where not everyone can be helped optimally. This is the essential difference between emergency medicine and disaster medicine. Although the practice of emergency medicine is the basis for disaster medicine, the latter calls for a much simpler and less resource demanding practice. Helpers may find it difficult to change their way of working. In particular, they may find it difficult to have to leave some people that need help without any help because of insufficient resources. It is important for the disaster workers to be well aware of the lowest level of interventions that is still acceptable and to be trained to tolerate feelings of insufficiency, powerlessness and helplessness.

The psychological effects of disasters on children

It has been pointed out (Yule and Williams, 1990) that several of the early studies of children's response to disaster trauma suffered from methodological limitations. For instance several of the scales frequently used to assess the psychological consequences of disaster were never intended to measure the effects of trauma on children, or have a poor validity for this purpose. There is now a consensus that teachers report less psychopathology among child survivors than parents do, and that both teachers and parents report far less than the children themselves. In this type of research screening instruments used on their own, without detailed interviews with the child, are of limited value. In combination, however, they reveal a considerable amount of post-disaster stress reactions among affected children (Pynoos et al., 1987). Regressive behaviours with clinging to parents and heightened dependency are frequent findings.

The early studies showed that in the majority of cases the disturbances are shortlived (Garmezy and Rutter, 1985), but only a few studies have investigated the effect of major disasters in which the children had been exposed to life threatening factors. In the aftermath of the Buffalo Creek disaster, Newman (1976) found, among children under 12 years of age, an enhanced vulnerability to future stress, and an altered sense of power over the self. The effects upon the children seemed to depend upon their developmental level at the time of the trauma, their perceptions of family reactions to the catastrophic event and the degree of direct exposure of the children themselves to the trauma. It should be noted that studies (Bloch et al., 1956) have found that children tend to reflect their parents' reactions.

As in many adult survivors of acute trauma suffering from PTSD (Weisaeth, 1989b), psychic numbing has also been difficult to detect in children and adolescents, and often takes the form of withdrawal into uncustomary behavioural patterns (Frederick, 1985). The sense of foreshortened future, which is a symptom of PTSD, resulting from the exposure to mass deaths may have particularly severe effects in children, causing them to give up their involvement in education, expectation of having their own families in the future, etc.

PSYCHOSOCIAL INTERVENTIONS IN DISASTERS

Prevention and treatment of psychological disorders

From the psychological point of view, the primary prevention of disasters must deal with denial as a common psychological reaction to be found among populations exposed to a threat. The negation of an imminent threat can make forewarning useless, and expose populations to avoidable risks by producing a delay in adopting preparedness measures. Therefore health workers may have an important role in reinforcing warnings and thus making timely and effective prevention possible.

Psychosocial prevention can also play an essential part in preventing and minimizing the psychological consequences of disasters, especially the occurrence of PTSD. In terms of intervention programmes aimed at preventing and treating psychological disaster-related disorders, the main needs following natural disasters exist in developing countries and among socioeconomically deprived individuals. Since in developing countries the resources devoted to mental health are often inadequate to meet even routine needs, the primary health care system is the first and often the only health network available in the case of a disaster. It should not be forgotten however that the population affected by a disaster might well retain considerable coping capacities. They should not be treated as completely helpless, and assistance should be directed at mobilizing local strengths wherever possible. Moreover, for socioeconomically deprived individuals, primary care is the only mean of extending health and mental health services. In addition, in many disasters, besides a certain number of people who have been severely affected by it, there will be a much larger number of less affected people who will however, display a variety of functional complaints and psychological disorders. Functional complaints and somatization disorders will be particularly common among people attending primary health care and medical facilities, as the majority of people in developing countries tend to express psychological distress in somatic terms (Goldberg & Bridges, 1988). In order to cope with general anxiety and also uncertainty about the possible health effects of the disaster, people focus on the more tangible aspects of their physical state of health, seeking out the health care system and requesting explanations. Especially in the absence of reliable data about the health effects of the accident (for example in the case of toxic, chemical and nuclear disasters), medical workers lack adequate explanations and may well respond with extensive and intensive diagnostic screening of populations and individual patients. The paradox in the situation, however, is that attempts to reduce such illness behaviour and such extensions of the diagnostic procedures, in order to diminish the probably unfounded attribution of symptoms to the disaster, would deprive people of a coping strategy if no alternative were made available. For all these reasons, the primary health care worker represents the crucial locus for the intervention. The proper handling of the psychological problems associated with a disaster is of great importance and must be included in the training programme of all health workers potentially involved in the care of affected people. The training of primary health care workers to give appropriate treatment to people attending health centres and showing emotional distress due to a very stressful event, deserves priority (Lima, 1986); such training represents one of the main preparedness activities.

There are other considerations which underscore the importance of integrating mental health services within the framework of the existing health system, and especially the primary care system:

1. Many potential users do not come to a facility which is openly labelled as a mental health service, since they do not see themselves as people needing specialized help but consider themselves only as victims of extreme adversity.

2. It is well known that the large majority of cases of psychological distress among attenders of health centres go unrecognized, do not receive proper care and represent an important burden for the health services. Better and prompt recognition and management of these disorders, including PTSD, can improve their outcome and reduce the burden on the health services.

3. The primary health care network, thanks to its central position in the community, can guarantee proper follow-up of victims and their families for as long as they need.

In this framework, the role of the specialized mental health team should essentially be one of supervision and training, and only especially difficult cases should be referred for direct treatment.

Two recent papers have reviewed the empirical evidence for the effectiveness of a range of treatments for post-traumatic stress disorder (Davidson, 1992; Solomon et al., 1992). With regard to drug treatment, amitriptyline and imipramine are both effective, and will help with disturbed sleep. Doses up to 200-300 mg/day may be required, although attention should be given to possible side effects. Treatment should be continued for at least 8 weeks. Other studies have examined the efficacy of behavioural techniques, consisting of different forms of systematic desensitization or flooding; these techniques have been found helpful, especially in terms of reducing PTSD intrusive symptoms. Cognitive, psychodynamic and hypnotic techniques also hold promise. Clinical experience tends to suggest that brief short term counselling may be helpful in the early stages of the disorder, before it becomes entrenched. This is particularly so if the person is able to deal with the effects of helplessness and fear that surround everybody after a disaster, through catharsis, support and cognitive restructuring of the experience. Further research however, is needed before any firm conclusion can be drawn as to the comparative effectiveness of different treatment methods.

Function of the mental health professional expert in preparedness activities

The mental health professional(s) at the national or subnational (e.g.provincial) level should be responsible for:

Teaching preventive psychiatry

This will involve educating and training the entire spectrum of professions concerned with disaster rescue operations in the basics of disaster psychiatry, such as emotional first aid. The target groups are not only the medical, paramedical personnel and ancillary staff (such as switchboard operators, who have a vital role to play) found in a hospital, but also personnel in the associated organizations such as the police, fire brigade, civil defence, the clergy, industrial safety personnel, and administrators with special responsibility for disaster planning etc.

Leadership

The senior professional should organize and lead the specialized disaster psychiatric teams made up of other mental health professionals as well as others that are activated during the acute phase of an actual disaster (loss support group, liaison psychiatric team, stress management/ debriefing teams, as set out below).

Mental health care during the first 6 months

The first 6 months after a disaster may require general counselling for those who present to primary care with recognition and referral of those with special mental health problems such as PTSD, depression and grief. Early treatment may help to prevent problems.

Planning long-term follow-up of victim groups

The second 6 months or so after a disaster, that is between the acute phase and the longer term, is an important time, as much of the psychological work is done then.

During this stage, one should be aware that "anniversary" reactions tend to crop up; certain days may serve as reminders of what the victims have been through. There may also be a need to follow-up avoidance behaviour, because this may indicate a delayed onset of symptoms in victims who have not displayed the full post-traumatic stress syndrome.

Mobilizing support at different levels

This includes the giving of advice to victims and helpers about coping techniques and the mobilization of support from family, friends, work mates and neighbours. A clearing house for information on available resources should be set up.

It may be useful to have some model pamphlets presenting essential information that can

be rapidly adapted to a particular disaster situation and distributed to relevant-groups, such as survivors, bereaved families, rescuers etc.

In massive disasters particularly in third world countries, killing tens of thousands of people, the only active element of the psychosocial organization that is possible in the turmoil of the acute post-disaster phase may be that at the senior staff level, trying to influence decisions and providing psychological support.

Functions of the mental health team at the disaster site

While the considerations described so far apply both to developed and developing countries, the following proposals, focusing on the functions of the specialized mental health team, are applicable especially in the developed countries. Only these countries can usually afford the heavy burden of setting up and maintaining a specialist mental health service which can be mobilized at times of disasters. Nevertheless, it is hoped that the following guidelines can provide useful leads for those working in developing countries.

Groups requiring psychosocial support

Psychosocial support at the site of a disaster should in principle be carried out by the rescue workers and emergency health personnel. The leader of the mental health team with collaborators should establish the priorities of psychosocial support activities, mainly based on their evaluation of the particular traumatic aspects of the disaster, taking into account the different groups which are to be considered:

1. The next-of-kin
2. The injured survivors and their close ones
3. The uninjured survivors

These groups are likely to have suffered the most severe stressful experiences and thus require support and preventive activities. Often a family may include all three above. Other groups need to be considered, but they usually have less pressing needs, namely:

4. Onlookers (particularly at risk are the helpless helpers)
5. Rescue teams (particularly when failing to rescue, especially children)
6. Persons doing body handling (particularly when they are non-professionals)
7. Health personnel (mass injury situations that demand difficult prioritizing)
8. Persons holding responsibility
9. Workmates (in company disasters), and
10. Evacuees.

Individuals at the disaster site displaying grossly deviant behaviour or other severe psychological reactions should be rapidly referred to psychiatric care.

Establishing an information/support centre

This centre can be located either at a hospital or at a convenient place not too far from the disaster area, (hotel, town hall school, etc.) but nevertheless far enough away from where rescue activity is taking place, so that congestion and interference is reduced. If the identity of the dead is uncertain (which is frequent), or the number of dead is unknown for a time, a great number of families will be distressed until they ascertain that their missing family member is safe. Establishing an information support centre has turned out to be useful. The existence of such a centre and its telephone numbers should be distributed by radio and TV. Families who are worried that one of their number is amongst the victims should be invited to come to the centre. Survivors may also be asked to gather there. Particularly after transport/communication disasters when people die far away from their homes, this centre may be useful, for several reasons: it gives the bereaved a chance to meet survivors to get a first hand report about what happened to their loved ones, how they died, perhaps even what they uttered before they perished, and what was done to rescue them. The survivors and possibly also onlookers and rescuers have information that often cannot be given by others.

For the survivors it is often an important experience to be of help to the bereaved.

The main functions of such an information/support centre are:

1. To provide rapid, authoritative information about tragic news that can be conveyed in a humane, direct way in a setting sheltered from public and media attention,
2. To provide support and a holding environment for both survivors and helpers,
3. To serve as a forum or meeting place where affected individuals and families can support each other. Self-help groups may develop from this forum,

4. To be a place where the police can collect identification data about missing/dead persons from their close ones,
5. At times the police should be able to use the centre to interrogate survivors about the disastrous chain of events as a part of their investigation,
6. The information/support centre should help to reduce the convergence of people on the disaster site that may create congestion and therefore movement problems for rescuers.

A meeting may be organized for everyone affected (this may be possible for up to one thousand people) or at least one or two representatives from each affected family. At such a meeting information can be given about rescue, identification, investigation of causes, insurance, psychosocial support services and religious services.

Attempts can also be made for early identification of persons at risk. The Post-Traumatic Symptoms Scale – 10 for instance, can be used after a few days. The survivors' mental state can be evaluated, as can the possibility for mobilizing social support from people's own networks (family, work colleagues, friends, neighbours).

Specific procedures for helping survivors

The mental health team should reach the scene of the disaster as soon as possible. There have been very positive responses to anticipatory guidance, i.e., information about the natural post-traumatic stress reactions that may be expected. Information meetings are effective means to talk about this and what the survivors themselves and their close network can do to help. Anticipatory guidance works by helping the victim accept the reactions as normal and expected, and not as pathological, thus reducing uncertainty and feelings of helplessness. Nightmares suffered by the victim are often alleviated by physical contact; if this fails it may be better to wake the patient and let him go back to sleep again afterwards. Hypnotics may be given briefly for severe sleep disorders.

At this early stage most survivors are psychologically open and willing to talk about their experiences, an attitude, however, that may soon change into a defensive, withdrawn, non-cooperative position if time is allowed to pass without attempting to make contact. Therefore it is of utmost importance that the survivors are encouraged to seek help if problems develop.

When disasters involve people away from their home areas, it may be necessary to help them to establish supportive contacts with health or social service professionals in their home district. One of the first needs of survivors in these circumstances, is to be able to inform their families about their fate, preferably even before the media have announced news of the disaster. Some may have an urgent need to get home themselves. This makes organization of a mental health support service more complicated than if the victims are local people or members of a homogenous social system.

Help for bereaved families

It has been demonstrated quite clearly that the family is the unit providing the most important source of strength for enduring a disaster loss. There is strong evidence that sudden and violent death causes more pathology in the bereaved than expected losses and this can be made worse by the terrible circumstances surrounding the death in disasters, perhaps even witnessed by the family. Equally distressing however, are deaths happening far away from them, possibly with times of waiting and uncertainty for the family until the death is confirmed.

Sometimes the bereaved may be unable to travel to the site or they may never see the dead because the remains may not be identifiable or even found. Frequently, this failure to retrieve the body or to identify the remains has complicated grief work. In the acute phase, measures taken to alleviate the consequences should have as the first goal, to help the family fully grasp the death of one or more of their number, and secondly to help start them on the road to accepting the loss. The full realization of the loss seems to be helped by the identification of the dead body and an awareness of the physical aspects of death, as well as the circumstances in which it happened.

Experience in Norway

The psychiatric team working with the bereaved families after a disaster, (the loss support group), usually sets up its headquarters at the local hospital, for example in the outpatient department of internal medicine. Each team consists of a psychiatrist, chaplain (priest), psychiatric nurse, clinical psychologist and sometimes a social worker or others experienced in loss and grief reactions. Gathering the bereaved families in one place pro-

tects them from wandering aimlessly around or engaging in unplanned searches for missing family members. Some experience indicates that the support group should work exclusively with the bereaved families and not combine this work with support to survivors, because of the entirely different needs of the clients. Each family has two group members designated as personal contacts. The group will work in close cooperation with the police which is the agency that carries out the identification work.

In disasters where people die away from their homes, the team will have some hours to organize the reception of the bereaved families. If there is a large number of dead, it is important to join the different families into a cohesive group by, for instance, lodging them in the same hotel. If the dead come from a similar background, as in a school-bus accident, the parents will already have a natural affinity with each other, and this will strengthen the bonds for an extended period. If the dead make up a group which has come together by chance however, as in a some airplane crashes, the bereaved may form a group only during the acute phase when they are sharing many of the same services and undergoing many of the same experiences.

The first day after a disaster is usually filled with a succession of practical problems to be solved. The bereaved families are encouraged to travel with a companion (who might be a local priest or a friend of the family), because it has been shown that the breaking of the strong bonds that often arise between the team and the bereaved family will be made less difficult in the aftermath of the event when a continuing link to an after-care service at the home place is provided through this person.

Role of the Psychosocial Support Team

The psychosocial support team may be involved in the following activities for the bereaved families:

Notification of death

Seeing that this duty is carried out in an appropriate way by the local police, priest, etc. It is important that notification is given in such a way that the family can be helped to grasp what has happened. It is a common experience that the bearer of the sad message is not in possession of the full facts about the death; this is a burden for both parties involved. If the body has not yet been recovered, the next-of-kin will nearly always express a strong wish to travel to the scene of the disaster.

Identification of the body

A member of the team should be present when the next-of-kin is asked by the police to make a positive identification of the body.

Viewing the dead

It is important that the bereaved are provided with an opportunity to see the body of the dead if they wish and if this is possible, and that they are provided with information about the death. It is also important that as far as possible, appropriate funeral and mourning rituals are provided in accordance with the practice of the bereaved's culture. An important task for the support group has been to arrange for this viewing of the dead bodies. This must be scrupulously planned after evaluation of each family and considering the state of the body. Meeting the dead gives the family a chance to see, talk and touch and to fully comprehend that the loss is real, that the uncertainty is over, and that they must take a final farewell. If the face is too mutilated to be seen, other parts of the body may be recognized. For children it can be a help to leave something in the coffin, a favourite doll, a drawing or a letter to the dead mother or father.

Information about the circumstances of death

Regularly the family has many questions about how the dead person was found and the manner of death. Therefore they should be given an opportunity to meet survivors who have something to tell, the rescuer who found the body, and any nurses and doctors who tried to resuscitate the victim. It may be necessary to ask the pathologist to provide information.

Visiting the site of death

The team normally encourages viewing of the scene of the disaster to be carried out in groups, and a rather private memorial ceremony may be arranged there. This allows the bereaved families to come close to their dead and express their solidarity. This final farewell must be shielded as much as possible from the intruding gaze of outsiders and the media.

Public memorial service

The bereaved families should also be helped to

attend some kind of public memorial service. Public mourning is an important symbol of the wider society's support to those bereaved.

Personal relationships are particularly important in the emotional reactions after disasters, providing support and help in dealing with the stress. People are also very distressed when separated from those they love during and after a disaster, and information and support services to help the reunion of family members are likely to be helpful. Special relationships and closeness between people of all social groups who have suffered the same stressful experience together may provide a "therapeutic community" effect after the disaster, where people talk through what has happened, share feelings and support one another in several ways that may help recovery. Similar bonds may be formed between victims and rescuers.

The physically injured

Many hospitals are capable of handling 20 or more injured cases, but not many can take care of the one hundred or more close family members belonging to this number of injured. This may be a reflection of the usual emphasis on physical injuries in disaster planning. The surgical and intensive care personnel should therefore be reinforced by a psychiatric liaison team who can have responsibility for both the injured and for their family members. As regards handling the injured, the most common error in psychological handling is leaving the injured alone; they are especially vulnerable to being abandoned in darkness.

Crisis intervention

"The good talk" is the psychotherapist's main tool. It is as important as the scalpel to the surgeon and contains several therapeutic elements: the interpersonal contact, the verbalization which increases control, the cathartic effect of ventilating emotions and the need for working through the experiences again and again, if the fragmented and overwhelming impressions are to be neutralized and integrated. To turn the passive reliving of the trauma, as in nightmares, into an active reconfrontation seems to work well if the patient feels that the therapeutic environment is safe enough. It is natural to use the group approach with victims of collective trauma because, having faced danger together, strong bonds have been created between them.

Debriefing

The majority of rescuers report a need to work through the emotional disaster experiences by sharing their feelings with others. Debriefing should aim to:

— review the helper's role;
— ease the expression of feelings;
— explore particular problems encountered and solutions found;
— identify positive gains;
— explore consequences of disengagement;
— identify those at risk;
— provide education about normal reactive processes to acute stress;
— explain how to cope with stress adaptively.

The psychiatrist can act as the formal leader of the debriefing group or may give training to professionals in rescue organizations so that they can lead such activities. Frequently it is a great advantage to have taken part in the rescue operation when leading such a group, but there may be occasions when a neutral professional should take on this role. Debriefing involves going through, in detail, the sequence of events as experienced by each participant. The rescuers should also share with the rest of the group their thoughts and feelings during and after the disaster. It is generally easier to begin the debriefing by first reporting factual information. The description of the professional activities of the rescuers can lead on naturally to the more delicate issue of their emotional and psychological reactions. Reviewing how helpers felt and coped requires consideration of positive as well as negative aspects. On the negative side, these individuals may have experienced a sense of despair, a fear of being useless and overwhelmed, or they may be having problems at home because of their involvement in disaster work. Some may suffer from what has been called "performance guilt" believing that their contribution was inadequate. Positive reactions may include a feeling of satisfaction of a job well done, the finding of a victim alive, the forging of important relationships among helpers, or a sense of reassurance about having been able to cope. The sustained emphasis on the positive aspects of the work provides a powerful antidote to the sense of being overwhelmed, and helps to achieve a feeling of mastery over the unpleasant features of disaster work. The briefing session should encourage the expression of these positive aspects. Sometimes a powerful continuing rela-

tionship may develop between a helper and one or more of the person rescued. Both this and powerful relationships that may have developed with other helpers can cause problems by cutting across family relationships.

Role of information

Accurate information is very important at every stage of disaster response. As part of preparedness, people should be provided with clear information about what to do in the event of a disaster affecting their community. Such information should be relevant to disasters that are frequent or likely to occur, but also be of general utility for unexpected circumstances. It should convey the nature of the threat and what to do about it in simple and concrete terms. Information in the event of an imminent threat should be reported through at least several channels including TV and radio and should be presented by those who are seen as trustworthy leaders. Training, including information on what to do, should be incorporated into community life in places which are frequently subjected to threat.

During disasters, particularly in developing countries, victims are often poorly informed about the events that are occurring. Rumours are frequent, authorities give conflicting information and ineffective action follows. Illiteracy, a multiplicity of languages or dialects and a lack of media, can all contribute to difficulties in disseminating information rapidly and accurately.

The responsibility for transmitting information rests with both public authorities and the mass media. The authorities should take and retain the initiative in communicating with the public in the event of an emergency. Communication within the government should be well coordinated, and the authorities should seek to establish a climate of trust with the media, which should handle the information given in an open and unambiguous manner. To achieve these objectives, the national authorities responsible for the various aspects of disaster protection should coordinate their actions as far as possible. International organizations may also be sending out information. Diverse interpretations from the various national and international organizations of the potential public health consequences of a disaster, can seriously confuse the public, and create difficulties for national authorities.

Developing country populations are notoriously non-compliant with warnings for evacuation. While a variety of psychological mechanisms can be invoked to understand these reactions, a more concrete approach must also be taken. The evacuation order expects the victim to leave behind all his possessions with no protection against looting. Often survival is dependent upon small-scale agriculture or livestock, making it very difficult for people to leave behind all their wealth and means of subsistence. Failures of prediction can also diminish trust, when evacuation orders are given for events that never occur.

Accurate, trustworthy, and easily understood information about a disaster should be provided to the population at a local level. Such information should be provided in collaboration with local leaders and community representatives. In particular:

— specially prepared brochures and pamphlets, updated as necessary, should be widely distributed to the population of the affected areas, as far as possible in collaboration with the local media;

— dialogue should be encouraged between the community, the authorities, scientists and health professionals, as also envisaged by the European Charter on Environment and Health;

Possible adverse effects of public information

Public information can however lead to adverse psychosocial consequences by creating a sense of confusion and mistrust. Reassuring assertions by experts may be contradicted by other experts or by later events. It is the right, even the duty, of scientists to give an opinion on a scientific matter, but they must do it in a way that will avoid any confusion between facts and judgments on facts. A further difficulty is in the nature of communication between scientist and non-scientist. The latter may be trained to think in arbitrary terms requiring "yes" and "no" answers and they may in consequence be bothered by the scientist's answers in terms of gradation and multiple qualifying considerations. This pressure for what might be thought of as "bipolar" thinking and decision-making is bound to be a source of great exasperation, misunderstanding and irrational decision: the authorities feel they are getting answers which are impos-

sible to use, while the scientist feels he is being confronted with unanswerable questions and coerced or tempted into committing himself.

In considering the provision of information to "victims", it is necessary to consider their definition. Traditionally victims of a catastrophe would be defined as those who were physically touched by its effects. On the contrary, however, the notion of victim cannot be limited to those persons physically exposed to toxic emissions or physically affected by the disaster. The victim group of a major disaster potentially encompasses all those who receive the bad news of the accident. For larger populations, the bad news will not necessarily be accompanied by directly visible events or damage. This is especially the case of toxic/nuclear disasters, and many of the following considerations refer specifically to this type of disaster. The Chernobyl disaster was especially striking in this regard. In the first weeks and months after the accident, very limited public information was provided to the affected populations. Over the following years however, these populations have been exposed to a barrage of information, with many contradictory and inconsistent news items and rumours, all of which have resulted in an information overload. The "victims" therefore now include large numbers of people who are suffering because they think they may be affected by the accident, but who in fact have never been exposed to toxic levels of radiation.

International organizations with responsibilities in the field of public safety and health have therefore a clear duty to provide both general and specific background information. Diverse interpretations from these organizations of the potential public health consequences of an accident could seriously confuse the public, and create additional difficulties for national authorities. Accurate, trustworthy, and easily understood information about radiation and its health effects should be provided to the population at a local level. Equally or even more important, is the way in which the authorities should present information if an accident occurs. In many cases, people have been flooded with information and nobody has shown them how to deal with it. One of the few "principles" in this field that seems to be useful is that comparisons are more meaningful than absolute numbers or probabilities, especially when these absolute values are quite small. The key role which can be played by an international organization is crucial at this level, since the information provided by it is generally seen as more "neutral" and "authoritative" than that coming from other sources, and it can therefore facilitate public compliance with necessary measures, prevent or minimize worries and fears likely to produce extensive psychosocial consequences, and finally help to restore a cooperative climate.

Building a better public understanding of risks and informing the public correctly in the case of an emergency is only a part of what needs to be achieved if people are to be enabled to respond more rationally to a future emergency. The central issue then is how to facilitate an evolution from the provision of information and recommendations, to a situation of effective learning, which allows people to develop better coping strategies during and after an accident. Setting up such effective learning implies more than providing available knowledge of the risks associated with industrial activities and substances through improved risk analysis and assessment. It also implies improving the knowledge and understanding of the reactions and needs of individuals and groups in times of emergency.

This last supposes a substantial change in the current methods of risk analysis, risk assessment and risk management (See MNH/PSF.91 document).

TRAINING AND INFRASTRUCTURE FOR A PSYCHOSOCIAL RESPONSE IN DISASTER RELIEF

Training programmes for primary health care workers and other relief workers

Target groups for training programmes should come from both the health and other sectors as the first group. These should include primary health care workers, often medical doctors of first aid teams, community nurses, or other trained health care workers such as social workers, administrators from local and national administrations, policemen and firemen in reserve teams.

Training programmes for health care providers should include the health aspects of disasters, general psychological and psychophysiological concepts about people's reactions after a disaster and other stressful situations, and variations in the way different groups of people perceive the risk from different types of hazards. The programmes should also include simple ways of dealing with psychosocial problems and the teaching of simple skills for the recognition, possibly using a checklist, and the treatment of psychologically distressed victims (interviewing skills, counselling, brief and simple psychotherapeutic methods, targeted pharmacotherapy, group therapy, etc.).

For administrators the training can help them to identify vulnerable groups, demonstrate the reason why mental health services should be integrated into the general disaster plan and how a psychosocial component can be included in a comprehensive disaster plan.

The training of general health workers in mental health seems to be effective and long-lasting. In the context of a WHO collaborative study in six developing countries, general health workers were assessed after training aimed at improving their knowledge, attitudes, skills and capacity to provide mental health care; it was shown that the improvement was maintained up to follow-up at 18 months and was of equal magnitude in all countries (Ignacio et al., 1989).

Planning and coordination of interventions in case of disasters

A senior mental health professional should be identified at a national level to head and plan mental health resources and consulting for disaster preparedness and relief measures. Since national or local disaster teams are primarily concerned with the provision of emergency medical care and are often headed by a surgeon for instance, it can be useful if the professional coordinating mental health inputs is also a physician (e.g.a psychiatrist), in order to be able to operate more easily in these circles and within the disaster circumstances. Such a specialist liaison officer will take part in the multidisciplinary decision-making groups and also coordinate mental health aspects and mental health teams when these are available. Most importantly, he or she can act as a consultant to train and support the preventive and other activities of the primary health care workers.

Attention should also be paid to the mental health needs of the care givers themselves, who are faced with heavy demands during disasters and who are themselves exposed to a substantial risk of stress-related disorders.

As for service planning, it must be remembered that services should be provided on the basis of the actual needs rather than on the basis of the demand: this applies both to the timing and to the magnitude of the interventions (Ross & Quarantelli, 1976).

A major boon for the overall field of disaster prevention, preparedness and mitigation should come from the UN General Assembly Resolution 42/169, designating the 1990s as the International Decade for Natural Disaster Reduction (IDNDR) (Lechat, 1990; WHO, 1989a, 1989b). The objective of this decade would be to reduce the loss of life, property damage and social and economic disruption caused by natural disasters, particularly in developing countries. In the context of the IDNDR, WHO will play a major technical role in the health sector, including in the specific area of mental health.

Given the above constraints and consideration, the following points need to be highlighted:

1. A long range plan, including a full scale mental health intervention strategy, should be developed at national and international level. Many preparatory steps must be taken. The comments that follow present a progression from the current position towards an ultimate goal which is unlikely to be fully reached in less than 5-10 years.

2. Concurrently work on preparedness response and rehabilitation is needed, with the full understanding that these levels may proceed at different paces and influence each other (e.g.while preparedness efforts are poor, response measures may need to be emphasized; when preparedness improves other response measures may be reduced).

3. Below, three possible models for a psychosocial response to disasters are described; these may vary from country to country and they will need to be adapted to local realities.

Model 1 (International reliance)

This is the current structure seen in most developing countries.

An international consultant may be called upon to provide mental health assistance after a disaster has occurred, typically to the Ministry of Health, through WHO. The consultant will meet with an emergency committee and will acquire information on the country and the disaster. The consultant can advise the national Ministry of Health and the health authorities of the disaster area (and a local mental health officer if one exists) on the setting up of an appropriate emergency structure for ensuring a psychosocial component within the disaster relief operation.

The mental health workers in the area will be involved in some direct patient care, but the international consultant should promote the development and implementation of a model of care in which the general or primary health worker will take the responsibility for providing mental health care to victims with the support of mental health professionals. The role of the international consultant will be of educating the mental health officers at the national and local levels, who in turn will take the responsibility for training the local health workers in relevant mental health issues. The consultant should make available appropriate materials.

Model 2 (National reliance)

Continuing efforts to achieve disaster preparedness even before a disaster occurs, should be taken to ensure national capability for managing the mental health consequences of disasters. These include the development of appropriate training materials (e.g.manual, slides, video tapes) which will be used to train national staff to be responsible for the disaster mental health activities within their home country. Without there being a disaster, a workshop could be convened, to be led by one or more international consultants with the national mental health authorities and designated staff who would be responsible for a disaster mental health programme. The goal of the workshop would be to develop the appropriate training materials and plan for their use. When a disaster strikes a country, the international consultant should no longer be needed and the country will have attained a greater degree of self reliance.

Given that an international consultant does not have to be recruited for work to be initiated, interventions can be implemented much earlier, probably within one week of the disaster. It will also be possible to involve the mental health workers almost entirely in supervision and support of direct service providers.

To achieve Model 2, the following preliminary steps are suggested:

1. Development of a core of training material for national or Regional use: manual, slide set, video, etc. These should be available for various levels of staff, e.g.

   (i) the mental health professional;
   (ii) the general health professional;
   (iii) the auxiliary health workers;
   (iv) the community (non-health) workers.

2. Compilation of a literature review accessible to non-mental health professionals.

3. Workshop/conference on "disaster mental health training" for the national mental health leaders and/or persons designated by them.

4. Specific allocation of money from the general health budget should be obtained in order to implement the above mentioned plans.

Model 3 (Local reliance)

Later on, and in zones at clear risk for disaster, the local mental health team (if one exists) should be responsible for managing the psychosocial components of disaster relief in its area of responsibility, and a local disaster committee should be formed, rather than relying on the national authorities when disaster strikes. This requires that the Ministry of Health organizes training for selected local mental health officers.

Using this model, mental health interventions can occur sooner. The mental health officers will only be directly responsible for those referred by the general health worker, including those requiring hospitalization. The greater proximity to the community allows for a much greater degree of community participation.

POSSIBLE RESEARCH PRIORITIES

1. Much of the research on the psychosocial effects of disasters has been carried out among Western populations. It is therefore imperative to carry out extensive research with populations from developing countries, those that are most affected by natural and man-made disasters, both large and small-scale; this research will allow the study of cross-cultural variations in frequency, symptomatology, temporal patterns and outcome of psychological disorders, and will clarify the moderating effect of culture on these disorders. This research, to be practically and ethically feasible, needs to follow strict guidelines, and should adopt a rigorous research methodology. To achieve this, every effort should be made to obtain reliable pre-disaster baseline health data (preferably from various sources); to have a control group; to have high follow-up response rates; to use a longitudinal design, and to find valid screening instruments to be employed as a first step in mass screening programmes in the acute post-disaster phase.

2. Although there is agreement that social support and intense kin relationships are highly supportive and facilitate post-disaster recovery among victims, little empirical evidence is available in this regard. Therefore, the specific role of these variables in modifying the overall frequency, severity and course of psychological disorders needs to be further explored, as do the importance of personal vulnerability and prior psychopathology in their occurrence. Specific groups, particularly dependent on social support (such as children, the elderly, the physically ill) should be carefully investigated.

3. Investigations into physiological determinants and correlates of psychological and psychiatric disorders, especially PTSD, so far mainly laboratory-based, should be strengthened and should be mainly clinically based. It would therefore be useful to find reliable, valid and feasible physiological measures of stress to be used as diagnostic tools. For practical reasons, this research is more feasible with individual victims of a single trauma or in more limited accidents or disasters occurring in developed countries.

4. The diagnostic specificity of the symptoms of PTSD also needs to be further explored, as does the natural history of this disorder.

5. An important area of research is comorbidity, especially among persons suffering from PTSD: for instance, substance abuse, frequently associated with PTSD, has been interpreted as a long-term attempt to numb oneself against intrusive images and nightmares, thus representing a secondary response to primary PTSD symptoms.

6. The experience of facing a trauma as an individual, versus the effect of trauma when experienced with others needs to be investigated.

7. Finally, treatment of the main psychological and psychiatric post-traumatic disorders is an important area for research. The main psychotherapeutic and pharmacological treatment methods deserve detailed consideration and need to be adequately tested and verified for cross-cultural applicability as well as for general effectiveness.

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The Urban Disaster: Preparing for the Worst

When natural disasters, such as earthquakes, hurricanes, and floods strike urban areas, the loss of life and property can be devastating. In urban areas, it is often the poor who suffer the most because of the conditions under which they have to live. Yet, as this issue of TUE points out, much can be done to mitigate the impact of both natural and man-made disasters. We will also indicate where more detailed information is available.

According to a 1979 report of the United Nations Disaster Relief Office (UNDRO), typhoons alone did about US $10 billion worth of damage to Southeast Asian countries during the 1960's. The floods which devastated the Philippines in 1972 are estimated to have set back that country's development efforts by three to five years. Honduras may not yet have recovered the productive capacity destroyed by Hurricane Fifi in 1974. The annual growth rate of Central America as a whole is estimated to have been reduced by 2.3% between 1960 and 1974 as a result of natural disasters. Bangladesh, Chad, and Ethiopia are other nations still suffering from natural disasters encountered during the 1970's.

While accurate statistics on this subject are seldom available, the U.S. Department of State estimated that between July 1, 1970 and June 30, 1971, over 51 natural disasters took place, causing 500,000 deaths and affecting 68,000,000 people. In 1973, there were 25 major disasters, killing over 100,000 people, while causing more than US $1 billion worth of damage to areas containing about 225 million people. The annual loss of life and property resulting from natural disasters is indicated in Figure 1, based on International Red Cross statistics. It should also be noted that an estimated 95% of deaths from disasters occur within developing countries.

Ian Davis's SHELTER AFTER DISASTER, 1978 (Oxford Polytechnic Press, Headington Oxford OX3 OBP, England) is an excellent source of information. Mr. Davis (with Everett M. Ressler and Ken Westgate) has also prepared a course of six slide lectures, entitled HUMAN SETTLEMENTS AND DISASTERS, available from the Commonwealth Association of Architects Projects Unit, 326 Grand Buildings, Trafalgar Square, London WC2N 5HB, England.

	Persons killed	Persons injured or left homeless
Earthquakes	2,662,165	28,894,657
Volcanic eruptions	128,058	337,931
Floods	1,287,645	175,220,220
Landslides	3,006	44,673
Avalanches	3,059	150
Cyclones	434,894	17,648,463
Hurricanes	18,513	1,197,535
Typhoons	34,103	5,437,054
Storms	7,110	3,432,641
Tornadoes	1,175	342,459
TOTAL	**4,579,728**	**232,555,783**

Figure 1
Results of Natural Disasters Between 1900 and 1976 Worldwide

Urban areas appear to be hardest hit by earthquakes and so-called "meteorological disturbances" (hurricanes, cyclones, typhoons, or tornadoes). The earthquake that struck Managua, Nicaragua in December 1972 killed more than 10,000 people. Guatemala suffered from an equally devastating earthquake in February 1976, losing over 200,000 dwelling units. At least one-third of the estimated 1.2 million people left homeless lived in Guatemala City, the country's largest urban area. About 40% of the city's housing stock or 60,000 dwelling units were destroyed. It takes many years for a city to recover from such devastation.

In Guatemala City, many of the homes that were destroyed were on hillsides without vegetation and thus subject to erosion. Thousands died as landslides took their houses down the slopes. Because most of the houses were badly constructed, using walls of unreinforced adobe, they crumbled with the first tremor.

In Japan, on the other hand, houses are traditionally built on solid foundations, using lightweight wood frame structures to withstand earthquake tremors. In certain villages in India which are subject to flooding, it is common for houses to have raised floors (i.e., to be built on platforms) to protect them from excessive damage. Many of the streets are narrow and deep to drain away the flood waters. Paved roads have been added to allow quick evacuation; but tall evergreen trees are kept for climbing to escape the floodwaters.

The Urban Edge is published monthly by the Council for International Urban Liaison, 818 18th Street, NW, Washington, D.C. 20006, as a clearing house for practical experience in low cost service delivery and employment creation projects in developing countries. Material appearing herein may be reprinted with source citation. Copies of reprints appreciated. Herbert H. Werlin, *Editor*. George G. Wynne, *Publications Director*.

In Upper Volta, the United Nations has been assisting the government in its efforts to steer the growth of the capital city, Ouagadougou, away from areas subject to soil erosion and pollution during flash floods. In the Tondo project in Manila, the World Bank has assisted residents to decrease the danger of fires by widening alleys, providing fire hydrants, reducing the size of housing clusters, requiring fire walls to be built, and creating open spaces or greenbelts around hazardous fire areas.

In a low-income village within Bangkok, Thailand, Dr. Shlomo Angel, an Israeli urban planner employed by Bangkok's Asian Institute of Technology, has been working with residents to develop a fire fighting system, using a water pump powered by a rebuilt Toyota car engine.* With the financial assistance of the Canadian government and several Thai agencies, residents dug tunnels, installed pipes, and constructed sub-stations containing hoses and extinguishers to be used with the five fire hydrants placed strategically around the village. Officials of Bangkok's Fire Brigade then trained villagers in fire fighting techniques, which they demonstrated by putting out a fire within two minutes of the sounding of an alarm. A videotaped program of this project is used by the Thai government to promote more such self-help projects.

Other possibilities for reducing the potential for urban disasters are contained in a series of volumes recently prepared by UNDRO, entitled DISASTER PREVENTION AND MITIGATION: A COMPENDIUM OF CURRENT KNOWLEDGE, available from the New York or Geneva United Nations Sales Section. Volume 5 (LAND USE ASPECTS), Volume 7 (ECONOMIC ASPECTS), and Volume 10 (PUBLIC INFORMATION ASPECTS) appear to be particularly useful to urban officials. Some of the recommendations emphasized include:

- *Vulnerability Analysis*

In many cases, the residential areas where the poor live are in sections of a city most subject to flooding, fires, landslides and earthquake destruction. These areas are also near important sources of employment and to resettle the urban poor away from these sections without considering the social and economic implications, is likely to do more harm than good.

To minimize the need for large scale urban resettlement, UNDRO stresses the importance of "vulnerability analysis," including the following steps: (1) scientific data collection in order to prepare maps identifying the location and intensity of risk; (2) calculations of the costs and benefits of alternative locations; and (3) feasibility studies of ways to reduce existing dangers. Following a vulnerability analysis, various types of public works or regulations may be introduced.

UNDRO has been working with Philippine officials to develop a vulnerability map for Greater Manila primarily for flood protection. This map will indicate the most effective protective measures to be taken in the process of developing urban plans and regulations. Such a map is intended to be progressive in nature so that it can be periodically adjusted to movements of population and major construction activities.

Government agencies often combine fiscal or financial incentives with building codes and zoning regulations to guide development into safe and desired areas. By the location of infrastructure and services or by public land acquisition, it should be possible to provide safe areas for low-income housing. However, the right of pre-emption or expropriation may be necessary to control land-use changes and the land market for disaster prevention. Hazardous land may also have to be acquired in this way.

- *Improved Housing*

We pointed out in a previous TUE issue (5:79) that agencies and institutes in countries such as Peru and Ghana are doing research on the design of low-cost disaster resistant houses. A "safe house" is estimated to cost 15% more to construct, requiring the tying together of such building components as roofs, walls, foundations, and frames to resist lateral and lifting forces of earthquakes, winds, and floods. A training book that uses comic strip techniques to illustrate self-help construction methods for such a house (see figure 2) is available in several languages from Oxfam, 274 Banbury Rd., Oxford OX2 7DZ, England.*

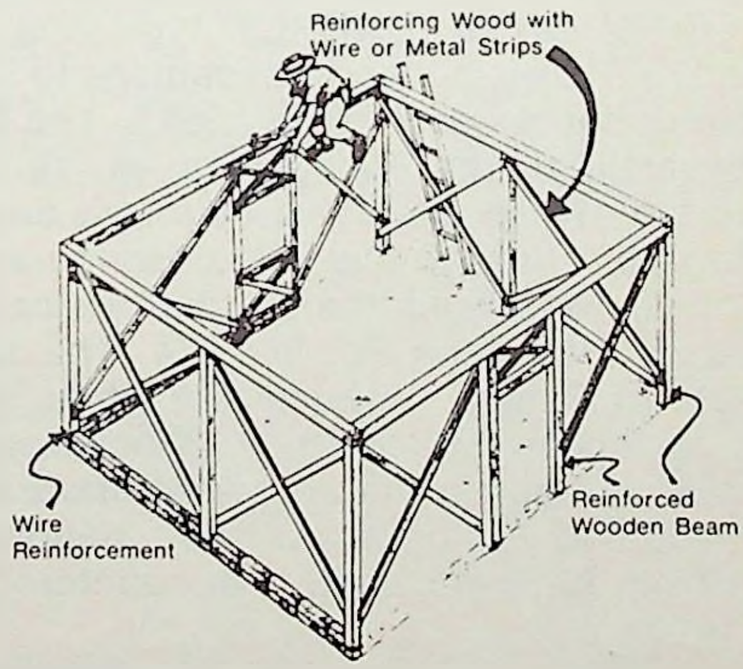

Figure 2. Oxfam/World Neighbours Educational Comic Book

Probably the most scientific study of methods to construct low-rise buildings to better resist extreme winds was undertaken between 1973 and 1977 by the U.S. National Bureau of Standards with the financial support of USAID's Office of Science and Technology. Much of the research was carried out in the Philippines, using the wind tunnel at the University of the Philippines. Five volumes emerged from this study in 1977 and are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (SD Catalog No. C13/29/2:100).

Also see the 1975 United Nations publication: LOW-COST CONSTRUCTION RESISTANT TO EARTHQUAKES AND HURRICANES, ST/ESA/23.

*Article by Nancy Nash in THE ASIA MAGAZINE, September 17, 1978.

*From an article by Ian Davis in DISASTERS, Vol. 1, No. 2. This is the leading international journal of disaster studies available from the International Disaster Institute, 85 Marlebone High Street, London W1M 3DE, England.

These volumes show how strong, inexpensive, locally available building materials can be integrated with good building design. The emphasis is not only on appropriate materials but also on cultural acceptance and the use of unskilled labor. While this research is based on conditions in the Philippines, Jamaica, and Bangladesh, it is obviously relevant to all countries experiencing extreme winds.

• *Preparedness Measures*

According to research done by the U.S. United Nations Association, only about one-third of developing countries have national disaster organizations and plans. Yet, the importance of predisaster planning has often been shown. In the People's Republic of China, for example, the following steps were taken to minimize the effects of a 1976 earthquake which killed or injured about 400,000 people:*

"(1) Local people and authorities commenced action while waiting for outside help.

(2) Immediate treatment of injured was carried out and help given within the community.

(3) 20,000 medical workers were rushed to the area from the surrounding countryside along with all needed medical supplies.

(4) Efforts were made to rescue people trapped in buildings.

(5) Special groups were set up to evacuate the injured.

(6) A mass sanitation plan was put into action.

(7) The many dead were buried."

To respond in this way, governments must take the following steps: (1) maintain up-to-date information on health conditions, medical facilities, transportation routes, local resources, channels of communication, and other aspects relevant to disaster prevention and assistance; (2) train officials and local leaders in the assessment of damage and needs, simple first aid and rescue procedures, and implementation of relief efforts; and (3) develop stockpiles of such items as construction materials, warm clothing, tools, and nonperishable food; and (4) inventory easily available construction materials in the region.

Warning systems

Many lives can be saved by developing adequate warning and public communication systems. India has demonstrated the effectiveness of contacting local officials by radio or telephone for flood warning purposes and then relying on word-of-mouth to convince people to move to safety. A simple warning system, using church bells and village bicyclists, seems to work well on certain South Pacific islands.

To be effective, warning messages should be specific, consistent, urgent, and continuous, including information on what can be done to prevent, avoid, or minimize the damage. They should be disseminated through many channels, with some central point for journalists, broadcasters, and officials to get prompt, reliable answers to questions that arise. To improve communication and working relations, it is useful to arrange periodic meetings for administrators, scientists, technicians, local political leaders, and representatives of the mass media to discuss disaster prevention and mitigation procedures.

*From the proceedings of a 1980 W.H.O. seminar in Manila, Philippines available from its Western Pacific Regional Office in Manila.

Assisting Disaster Victims: Appropriate Strategies

Alcira Kreimer has pointed out in several articles (in EKISTICS, Nov./Dec. 1979 and HABITAT INTERNATIONAL, No. 3, 1980) that relief agencies make too sharp a distinction between emergency shelters and permanent housing in developing countries.* The truth is that most of the urban poor normally live in temporary dwellings on illegally occupied land or within unauthorized settlements. They must live this way because of the inadequacy of financial institutions, infrastructure, services, land use control, and access to employment. Consequently, what disaster victims really need are opportunities to improve their standard of living.

While tents and other forms of emergency shelter may be useful for a short time, any program to provide shelters after disasters should be integrated within more general urban development projects. Paternalism must be avoided. Relief agencies can do most good by mobilizing local labor rather than by themselves undertaking reconstruction. Instead of expensive prefabricated dwellings, the use of local materials should be encouraged wherever available, together with the use of labor-intensive methods, in order to start the construction of permanent dwellings as soon as possible after the disaster. In other words, helping people to help themselves is the most effective form of relief. Effective assistance also necessitates:

• *Adequate Information*

The U.S. National Academy of Sciences (2101 Constitution Ave., N.W., Washington, D.C. 20418) has recently published a series of volumes on disaster relief. In its volume, ASSESSING INTERNATIONAL DISASTER NEEDS, it presents three categories of needed information corresponding to three stages within an emergency period: (1) first 24 to 48 hours; (2) 48 to 96 hours after the disaster impact; and (3) recovery and long-term rehabilitation requirements.

The following is a checklist of the types of information which when collected immediately after the impact of a disaster can enhance international relief efforts:

*Professor Kreimer has sent to TUE's editor a description of her interesting project to study housing reconstruction in the Dominican Republic and Dominica. Interested readers may write to her about this at the Department of Urban and Regional Planning, George Washington University, Washington, D.C. 20052.

"1. number of people injured;
2. location of the injured population;
3. accessibility to the disaster sites;
4. type and severity of trauma;
5. age and sex distribution of the injured;
6. extent to which local facilities can treat the injured;
7. support needs (drugs, personnel, leadership, etc.);
8. potential threats to survivors (e.g., aftershocks, further flooding, fire, disruption in services, damage to public utilities);
9. condition of essential lifeline systems (transportation to the affected area, communication facilities, water and sewer systems, etc.);
10. inventory of medical supplies, health facilities, and manpower at the site of the disaster and in the remainder of the country; and
11. housing losses and housing needs."

In regard to long term recovery and rehabilitation, there must be continuous monitoring of short-term relief programs to detect conditions that could hamper recovery, thereby facilitating the replacement or modification of counterproductive relief measures. As time allows, needs and resources should be more carefully determined so that they can be more adequately matched. Ways should also be found to improve building practices and to design and operate more disaster-resistant transportation, communication, water and energy "lifelines."

• *Appropriate Technology*

As mentioned earlier, temporary housing supplied by foreign donors is often inappropriate. For example, the polyurethane igloo-shaped houses provided as temporary dwellings to families in disaster-struck Peru, Turkey, and Nicaragua were extremely dangerous because of the use of open-fires in these countries for heating and cooking. In these and other countries, many of the tents supplied were either unused or used by military personnel rather than the victims for whom they were intended.

In Guatemala, on the other hand, the iron sheeting, timber sections, and tools provided by Oxfam to earthquake victims were highly appreciated. The use of galvanized iron sheets, together with wooden poles, for converting emergency shelters into permanent housing has been demonstrated by Mr. Gurudev Singh of Ahmedebad's School of Architecture in the June/July 1980 issue of AFFICHE.* Using this progressive housing technique, the occupant can add desired components and rooms as and when building materials, time, and finance become available. This design permits the use of low skill technology, speedy erection techniques, inexpensive materials, and variation in dwelling form according to individual needs at all stages of construction.

*This is an architectural journal concerned with human habitation in developing countries. It is available from its editor Adarsh Narayan, 10 Barley Mow Passage, Chiswick, London W4 4PH, England. Also see the National Academy of Sciences' 1978 volume, THE ROLE OF TECHNOLOGY IN INTERNATIONAL DISASTER ASSISTANCE.

• *Appropriate Assistance*

Mr. J. Dupaigne, the director of Martinique's Civil Engineering Department in Fort-de-France (P.O. Box No. 661) has sent us an interesting description of financial and technical assistance provided by the French government to victims of cyclones during 1979 and 1980. The objectives of this assistance were: (1) to identify those legitimately hurt by these disasters; (2) to enable victims to quickly and easily build cyclone resistant housing; and (3) to rehouse those unable to reconstruct houses. The following methods were used to meet these objectives:

(1) *The use of investigators.* A number of investigators familiar with construction techniques and local dialects were employed. Each was provided with a car and a camera and was responsible for about 100 contacts per month. Through this method investigators were able to identify owners of destroyed housing, their social and economic situation, and their capacity for self-help reconstruction.

(2) *Indemnification in money and/or materials.* In most cases, funds were provided to families capable of self-help building. However, these funds were distributed gradually depending on the pace and quality of construction. By virtue of periodic supervision and guidance, most of those receiving this help used it properly. In some places, because of inadequate availability of materials, supplies were provided instead of funds.

(3) *Cooperation with local charities.* For the aged or handicapped and for those living on unsuitable or unrestorable land, other arrangements were made with the assistance of local charities. In some cases, housing which can be temporarily rented has been made available together with funds for this purpose. The preferred alternative, however, is to give victims a small house or a skeleton of a house which can be enlarged by self-help methods.

International Relief Programs

Stephen Green prepared in 1977, INTERNATIONAL DISASTER RELIEF, a useful description of existing programs for the U.S. Council on Foreign Relations, 58 E. 68th Street, New York, N.Y. 10021. The following information presented might be of interest to our readers:

• *The United Nations Disaster Relief Office (UNDRO)*

UNDRO was created in 1971 in Geneva to mobilize, direct, and coordinate responses of U.N. agencies to requests from disaster-stricken states. It also promotes the study, prevention, control, and prediction of natural disasters. During relief operations, the Resident Representative of the United Nations Development Program (UNDP) ordinarily becomes the local agent of UNDRO. However, the U.N. Secretary General may appoint a representative of another agency, such as the United Nations Children's Fund, the Food and Agricultural Organization, or the World Health Organization, to undertake this responsibility.

During recent years UNDRO has developed a working relationship with private organizations through the so-called "Steering Committee," consisting of representatives of the Oxford Committee for Famine Relief (OXFAM), Catholic Relief Services (CRS), the World Council of Churches (WCC), the Lutheran World Federation (LWF), and the League of Red Cross Societies. This Steering Committee, which meets in one of the offices of the International Committee of the Red Cross in Geneva, has become an important central coordinating body for worldwide relief activities. Besides consulting regularly on relief operations, the Steering Committee maintains relevant information about dangerous conditions in developing countries, national disaster plans, and strategies for dealing with disasters.

UNDRO has been encouraging developing countries to form permanent disaster committees, within which private and public agencies can establish arrangements for dealing with major disasters. Currently, about 20% of the most disaster-prone developing countries have formed such committees.

• *The Red Cross*

In most developing countries, the Red Cross, which began in 1863, is the most active private organization in preparing for disasters and in carrying out relief operations. There are now National Red Cross Societies in more than 125 countries, under which local Red Cross societies operate in many cities in cooperation with local officials.

National Red Cross Societies are united in a federation, the League of Red Cross Societies. Representatives meet every four years at an international conference in Geneva to discuss relief operations and joint actions. Between international conferences, intra-Red Cross policy matters are dealt with by the International Committee of the Red Cross, which functions as the League's secretariat under the direction of its joint policy coordination committee.

• *The Office of U.S. Foreign Disaster Assistance (OFDA, USAID, Washington, D.C. 20523)*

The U.S. government has had a long history of relief activities, beginning with a $50,000 appropriation in 1812 to help earthquake victims in Venezuela. However, until recently, most U.S. assistance has come from non-governmental agencies. While much aid continues to be channeled through private voluntary agencies (now grouped together within the American Council of Voluntary Agencies for Foreign Service, Inc., 200 Park Avenue South, N.Y., N.Y. 10003), an increasing amount of assistance comes directly from the U.S. government in the following forms:

(1) *Surplus food.* Public Law 480 permits government held surplus food to be used to benefit needy people, particularly disaster victims in developing countries. USAID's Office of Food for Peace is responsible for authorizing and administering the use of food for emergency purposes via free distribution or food-for-work programs.

(2) *Ambassadorial assistance.* The U.S. Ambassador has the authority to spend up to $25,000 for immediate relief when a disaster has occurred. This amount can be given directly to the stricken country's government, or it can be made available to the Red Cross or other voluntary agencies for relief work. Beyond that, expenditures must be approved by USAID's Office of Foreign Disaster Assistance (OFDA).

(3) *Supply stockpiles.* To save time, OFDA maintains in Guam, Italy, Singapore, and Panama stockpiles of tents, blankets, coats, stoves, auxiliary generators, plastic sheeting, water pumps, hand tools, and medicines. How much of this material is used during a particular disaster depends on OFDA's matching of requests with logistical requirements and other considerations.

In addition to coordinating relief efforts, OFDA undertakes considerable research to develop technology to monitor disaster-prone areas. By using satellites and new instruments or techniques, it informs foreign officials of possible earthquakes, volcanic eruptions, droughts, or floods. OFDA also undertakes many training programs and conferences for U.S. and foreign officials to facilitate pre-disaster planning and post-disaster relief.

• *The World Bank*

As indicated by its original name, "The International Bank for Reconstruction and Development," the World Bank has always been concerned with post-disaster relief. However, it is introducing new approaches in its Urban Reconstruction Project for Nicaragua where extensive damage was suffered during its recent civil war. During the prolonged fighting, considerable sections of most major cities, particularly the low-income settlements (*barrios*), were badly damaged or destroyed. As a result of the war, the already limited access of inhabitants to services, employment, and credit facilities was much further reduced. In some places, 90% of the smaller enterprises were rendered inoperative by damage to workplaces or inventories, causing an estimated 60% of the population to be unemployed. With about two-thirds of the country's buses destroyed or severely damaged, many people could not reach jobs even if they were available.

To assist the government in its reconstruction efforts, the World Bank is lending US $22 million. About half of this amount is intended to rehabilitate Managua's Public Transport System; one-third is for repair and improvement of infrastructure and urban services; the remainder is to be lent to small-scale firms or cooperatives for reconstruction, replacement of equipment, and working capital.

To make these funds available as quickly as possible, the World Bank is attempting to avoid potentially delaying problems, such as land acquisition and complicated engineering requirements. Procurement and disbursement flexibility is being maximized, and components or subcomponents are being simplified. Available help from USAID and other international organizations is being sought. In these and other ways, this project may help to define strategies to facilitate reconstruction efforts in other countries as well as Nicaragua.

Algeria: Reconstruction of El Asnam

In October and December 1980 property in the Wilaya Governorate and in the town of El Asnam (population 120,000) was seriously damaged by earthquakes. A preliminary survey of some 8,000 buildings in the most affected areas of El Asnam indicated 20% were sound (labeled green) and 24% were total losses (labeled red): the remaining 56% (labeled orange) were in doubt. The Government is considering the need for survey teams consisting of structural engineers, quantity surveyors and artisans to survey the damage in the buildings labeled orange, assess the feasibility of structural repair and the cost of recovering the building. The magnitude of the potential cost savings in rehabilitation vs. destruction/reconstruction is considerable. Expatriate structural engineers may ultimately be required, but the need for a nucleus of structural engineers specializing in this sort of work is clearly established and ideally every country likely to be affected in this way should have a register of qualified and experienced structural engineers who can be called upon in an emergency.

Earthquake Institutes

The following is from an article by Peter Collins which appeared in the November 1980 *Development Forum*, available from DESI/DPI, Palais des Nations, CH-1211, Geneva 10, Switzerland.

"Because of the enormous damage to property and human lives that may result from a serious earthquake, many countries have found it worthwhile establishing specialized seismological research institutes. One of the most up-to-date in the Mediterranean basin is at Skopje, Yugoslavia, a city that was devastated in 1963, with the loss of over 1,000 lives. The Institute of Earthquake Engineering and Engineering Seismology was set up in 1965, with the help of the UN Development Programme (UNDP) and the UN Educational, Scientific and Cultural Organization (UNESCO). Its new laboratories, opened earlier this year, contain a complete range of equipment for testing all types of structures, either as full-scale replicas of individual parts, or as scaled-down models of such things as bridges or even complete buildings. The equipment includes a giant "shaker", a kind of oscillating table to reproduce the effects of an earthquake of any intensity so far recorded.

"Computerization will also play a large part in a new UNDP/UNESCO-sponsored project in southeast Europe aimed at setting up a communications network for rapid data transmission and analysis of seismic incidents. Covering Bulgaria, Greece, Romania, Turkey and Yugoslavia, it also includes cooperation in research and training in relevant fields and, on the longer term, the development of a basis for physical planning and building design to reduce earthquake damage."

Responding to Disaster: From Myth to Reality

by Ian Davis

Mr. Davis, Principal Lecturer with the Department of Architecture at the Oxford Polytechnic (Headington Oxford OX3 OBP, U.K.) has pointed out in various publications that much of the help given to disaster victims is misguided. It stems not only from the pressure "to do something fast," but also from misconceptions of the real situation and needs of the victims. Based on visits to a number of disaster areas in 1976 during the critical periods in reconstruction, Davis here attempts to provide facts in place of the following myths extracted, with his permission, from his book earlier mentioned, SHELTER AFTER DISASTER:

MYTH ASSUMED SITUATION	REALITY ACTUAL SITUATION
(A) SOCIAL ATTITUDES	
1. The public will show signs of panic or will be dazed into a state of inactivity.	No evidence to support this belief.
2. Local organisations are likely to be ineffective and inadequate.	The evidence indicates the reverse.
3. Morale is likely to be low, with looting and other forms of deviant behaviour; a situation that rapidly deteriorates into chaos.	Again the reverse is likely to be true, except in droughts, famines and refugee camps.
4. People in a dazed condition will be passive, awaiting aid and assistance.	The reverse: the normal reaction being a highly motivated self-preservation instinct, enabling people to find solutions to their own problems.
5. Following the disaster, there will be acute shortages of food, blankets and medical supplies.	A variable situation, but in most contexts goods will be locally available (exceptions may include widespread droughts and extensive famines).
6. After a disaster, people will eat unfamiliar food, from a desire to survive.	The reverse: all nutritional evidence suggests that people behave more conservatively than usual.
7. There are serious risks of epidemics, from bodies lying in the ruins.	No evidence of this risk; therefore no need to adopt measures such as ignition of ruins, which disrupt reconstruction processes by destroying building materials.
(B) RECONSTRUCTION	
1. Some form of temporary housing is needed prior to reconstruction.	Reconstruction, in the third world, usually start immediately, and takes place irrespective of government plans for relocation etc.
2. Clearing rubble is a first priority once people are rescued.	Apart from clearing streets to provide access routes, the rubble is best left for recycling into new homes.
3. Crash reconstruction programmes by agencies and governments are a highly effective way of solving housing needs.	The reverse is true. An indigenous response will *always* be the most rapid and effective form of provision, particularly of temporarily unemployed people to build their own homes.

DM-2

Asghar Ali Engineer

COMMUNAL VIOLENCE – Recounting Five decades of Carnage in India towards a Policy on Disaster management.

Introduction

Hundreds of people are killed every year in India in recurrent Communal Riots. There exists no concept of disaster management for these man-made calamities. It is high time that some definite policy for management of such unnatural disasters is evolved by the government.

Without understanding the causes of communal violence it will not be possible to evolve any rational policy to control it. Towards the evolution of such a policy it thus becomes necessary to throw light on its causes. Before going into a discussion on the possible measures for disaster management in respect of communal violence we will discuss the causes of such recurrent violence in post-independence India.

Pre –Independence India and Genesis of Communalism

Communalism, as most of the scholars of this subject agree, is not a medieval but a modern phenomenon. All researches in medieval history clearly show, that there were very few instances of Hindu-Muslim riots in the medieval period. Two major riots between Hindus and Muslims reportedly occurred in the early eighteenth century in Ahmedabad on the question of common wall between a Muslim and a Hindu neighbour. Khafi Khan, a chronicler of the Aurangzeb period, has thrown light on these riots. There was large scale destruction of properties. The entire cloth market belonging to the Hindus in Ahmedabad was set ablaze. The culprits were duly punished by the Moghul emperor Alam Shah. One more riot was reported during the time of Nadirshah's invasion on Delhi. Some Hindus and Muslims were killed in this riot. But there are no other instances of large scale communal violence in the pre-British period.

Communal violence exhibit a period of systematic occurrence only during the British period. Several riots occurred from the late eighteenth century onwards specially in North India. By the later half of the 19th Century, communal violence increased and started spreading out from North India to parts of the then Bombay State. In 1893 Bombay witnessed large scale violence which spread to Junagadh and some other parts of the present day Gujrat.

Why did communalism and communal violence increase during the British period? Many scholars maintain that communalism is a modern phenomenon. It's genesis can be traced to the colonial period. The Marxist scholars maintain, that since there were fewer jobs and more claimants from both the main religious communities, communal attitudes were born. According to them the stunted growth of industries during the colonial period gave rise to communalism. Also that the British policy of divide and rule played a vital role in the perpetuation of communalism.

This analysis however cannot provide the key to the understanding of the complex phenomenon of communalism. The elites of both the communities played an important role in promoting it. Before the arrival of the British, caste and regional identities or identities based on *biradaris* took more important place than religious identities especially among the people of lower castes. Thus we often come across terms like **Rangrez Qaum** (dyers' community) or **Tanboli Qaum** (those selling betel nuts) or **Teli Qaum** (Oil Pressers) etc. These identities were more important for the low caste Hindus and Muslims than the religious identities. But for **Ashraf** Muslims (i.e. Muslims of higher social status) and Hindus of upper caste (Brahmins and others) religious identities were more important. Even among them caste and sectarian identities had its own importance. There was, however, no religious divide.

Things changed with the coming of the British for a number of reasons. The British rulers partly out of ignorance of the Indian society and partly out of political mischief attempted to create an identity of homogeneous religious communities which did not exist. The seeds of Communalism lay therein. The Homogeneous `Hindu community' or `Muslim community' with uniform political interests is at it's best, a political myth. Both communities were internally divided along regional, linguistic, sectarian and caste lines.The British rulers identified Hindus and Muslims as two distinct communities with divergent political interests. The native pre-British rulers had not indulged in such political categorisation. It is also important to note that for long no such division existed in the South. Thus communalism was a north-centred phenomenon.

The upper class, upper caste elites from the North used these categories for winning maximum concessions from the British rulers. They, in their own interests, helped create separate `Hindu' and `Muslim' identities. The diffused composite identities specially among the low caste Hindus and Muslims were sought to be erased and new pure `Hindu' and pure `Muslim' identities were sought to be created by these elite by launching *`shuddhi'* (purification) and *`tablighi'* (preaching) movements. These movements mostly launched by the urban elite widened the gulf between two communities and created artificial identities. This helped generate communal categories which intensified communal feelings.

As the freedom struggle intensified the British felt insecure and used these categories to divide Hindus and Muslims. Similarly, the elite of the two communities intensified their communal demands for exacting maximum concessions and constitutional guarantees. The elite of the two communities divided our country.

Our attempts to create a modern nation were marred by communalism and the communal question became the most important question on the eve of independence. Mr.Jinnah, the Muslim League Supremo, went to the extent of propounding a two nation-theory - Hindus and Muslims being two separate nations. This was, in a way, culmination of the process of homogenising the two communities which began in early nineteenth century. Communalism emerged as a by product of nationalism during colonial years.

Communalism can then be seen as an outcome of the clash between the elite interests from the two communities rather than clash of religious beliefs. The communal discourse is not a religious but a political discourse. The Muslim religious divines - the `Ulama - did not side with those Muslim elites who translated separate religious identities into incompatible political identities. These religious divines like Maulana Husain Ahmad Madani, Maulana Abul Kalam Azad and others maintained that nationalism was a political and not religious category and hence composite nationalism was in no way incompatible with religion. In fact they argued that the Prophet of Islam himself created a composite political community in Madina. Since communalism is a product of clash of interests rather than clash

of religious beliefs its architects are political and not religious leaders. Thus Jinnah, a politician representing upper class Muslim interests, became architect of Pakistan and not Muslim religious leaders. Similarly it was Hedgewar and Sawarkar, who became spokespersons of Hindu communalism than any Hindu religious leaders.

Communalism and communal violence are two stages of the same phenomenon. Communal violence can be provoked only if communal feelings exist intensively among a section of the community. Since communal discourse was being employed by a section of Hindus and Muslims, intense communal feelings were generated resulting in communal violence on petty questions like music before mosques, cow slaughter etc. In fact these were not the actual but instrumental causes of riots. Before partition several communal riots took place, both major and minor, on such questions.

Post Partition Period : Role of Mainstream Political parties and Beginnings of Fundamentalism

It was expected by the Congress leaders like Pandit Jawharlal Nehru and others that partition will solve the communal question and that India after independence will be free of communal virus. This was, at best, an expectation. Nehru also thought that the remnants of communalism will disappear with spread of education and science and technology. However, nothing of the kind happened.

There were various reasons for this. Firstly, the partition left deep scars on the Hindu psyche and a section of Hindus held all Muslims responsible for partition. They thought that Muslims in India are, by and large, supporters of Pakistan. Secondly, a large section of the Congress leaders were themselves affected by communal virus. Even person like Nehru could not reform them. In fact some of them were his rivals in the Congress Party. Nehru repeatedly wrote letters to the Congress Chief Ministers in this connection but did not succeed in changing their attitudes. Govind Ballabh Pant, for example, turned deaf year to Nehru on the Babri Masjid issue which again exploded in late eighties in a big way. If Pant had been honest to the Congress ideology he would have got the Ram Lalla idols removed from Babri Masjid which were planted there in December, 1948.

Thirdly, political and economic competition again started between Hindus and Muslims resulting in spread of communal ideology. Though as pointed out before, the Muslims were far from being homogeneous politically, linguistically and culturally, were perceived as such and the Hindu right posited the Muslims as being antagonistic to the Hindus. These constructed communitarian categories continued to keep communalism alive and kicking in the post-independence period as well. This communal discourse pitted the two communities against each other. They were thought to be political foes.

Fourthly the RSS formed by Hedgewar in 1925, though temporarily banned after Mahatma Gandhi's assassination, was allowed to function again and it began to flourish. Its sarsanghchalak Guru Golwalkar wrote in his book *We, Our Nationhood Defined* that Muslims and Christians are guests in this country and that guests should not overstay and tax hospitality of the host. Muslims were, according to the RSS, invaders from Arabia and Central Asia and as invaders they had no place in Indian society. Moreover, according to the RSS Muslims divided the Akhand Bharat and they are coming in the way of *akhandta* (oneness) of the Bharat Mata (Indian motherland). Guru Golwalkar preached that either Muslims in India should be deprived of their citizenship rights and allowed to live as non-citizens or they should leave India.

The RSS propaganda reached millions of people through thousands of RSS shakhas throughout India. Moreover, it caught young Hindu children and drilled these ideas into their minds and

they grew up with such communal attitude. The school text books also distorted Indian history and portrayed Muslims as invaders and persecutors of Hindus and rapists. Unfortunately neither Nehru nor Indira Gandhi ever succeeded in removing these text books. Thousands of students study these text books every year and grow up with these ideas about Muslims. One can imagine what damage continues to be done year after year and how difficult is to build a secular society.

COMMUNAL ASSERTIONS IN POST INDEPENDENCE INDIA : EVENTS ,CAUSES AND OUTCOMES

India witnessed communal violence on account of partition right upto 1948.

(Post Partition Communal Riots in India)

Major riots took place on the eve of partition. Thousands were killed on both sides. In Calcutta the Muslim League gave call for direct action in 1948 resulting in great slaughter of human beings. The Hindus retaliated and the riots were intensified. Similarly Noakhali in Bengal and several villages in Bihar too faced communal catastrophe. The refugees coming from West Punab in Pakistan retaliated and Delhi witnessed unparalleled communal frenzy in which thousands were killed. The law and order machinery had absolutely broken down. The authorities threw up their hands in despair. What was worse the law and order machinery itself was split on communal lines. However, these were partition riots and bloodshed on such scale never repeated again. The authorities, it must be said, did not anticipate such communal massacre and were hardly equipped to meet with such a catastrophic events.

The partition riots, as pointed out before, were an exceptional phenomenon and they could not be bracketed with other communal riots. There was lull on communal front for the time being after partition riots.

During fifties India did not witness major riots though skirmishes between the two communities continued to take place. According to the *Sixth Report of the National Police Commission* (Government of India, 1981) there were in all 84 communal incidents in 1954 in which 34 persons were killed and 512 injured. In 1955 about 75 riots took place in which 24 persons were killed and 457 were injured. Nineteen fifty six saw in all 82 incidents in which 35 persons lost their lives and 575 got injured. There were 58 incidents in 1957 in which 12 persons were killed and 316 injured. In 1958 only seven persons were killed in 40 incidents and 369 were injured. The year 1959 had in all 42 incidents causing 41 deaths and injuries to 1344. But in 1960 only 26 riots took place accounting for 14 deaths and 262 injuries.

Thus it will be seen that maximum casualties between 1954 and 1960 took place in the year 1959 when 41 persons died and 1344 got injured. These casualties were nothing compared to the major incidents which began to take place from early sixties. The reasons for low intensity riots during the decade of fifties immediately after independence were many. One of the important reasons was that after the major cataclysmic event of partition there was no burning issue on which the communal cauldron could again boil over. The Muslims themselves were terrified after the partition riots and were maintaining a very low key political profile. Also, most of the Muslim demagogues had migrated to Pakistan and those who stayed back had gone through fire and were not prepared to risk another confrontation. The Congress Muslim leaders were of course supporters of secular politics and were advising Muslims in India to be part of secular democratic politics and give up separatist trends, if any. Thus Mir Mushtaq Ahmad, a Muslim leader from Delhi wrote in 1952: "The time has... come when the

* Government report : what about other reports?

bells must toll for the Muslims, too. Let them shed their independent political entity and come out of their isolationist groove of sect, community and the like...throw in their lot with the social philosophies which are making a bid for economic emancipation through a gigantic movement of Indian peasants, working class... and thus gain for themselves their rightful place with the afflicted millions of this country." (Mir Mushtaq Ahmad to Ashok Mehta, 19 June,1952, Mushtaq Ahmad papers,NMML).

Similarly Dr.Zakir Husain advised Muslims to be an integral part of secular India and he undertook to build a united nation in a democratic secular State and the role and status of its forty million Muslim citizens within it, to weld together diverse cultures into a harmonious whole and to promote its growth `in such a manner that each culture shines and lends beauty and strength to the entire whole.' (A.G.Noorani, *President Zakir Husain - A Quest for Excellence*, Bombay,1967).

Thus it will be seen that such sane advises tendered by Muslim leaders like Zakir Husain, Maulana Abul Kalam Azad and others had great impact on the minds of Muslims and they avoided any kind of confrontation with the majority community. Also, during the fifties other major controversies arose which engaged the attention of the entire nation. The Linguistic reorganisation of states generated several controversies. The reorganisation of Punjab and the Bombay state, for example, proved to be highly difficult job. Master Tara Singh undertook fast for inclusion of Fazilka and Abohar in the Punjab. The Maharashtrians demanded inclusion of Bombay into Maharashtra and not in Gujrat. Linguistic riots broke out on large scale in Bombay. Several people were killed in these riots. These controversies occupied more political space than communal controversies during this period and hence the decade of fifties proved to be comparatively less hot communally. The loss of lives was minimum during this period.

1960s : The period of Communal Reassertion : However, things began to change from early sixties. The communal politics surfaced again and began to occupy major political space. As pointed out before, the potential for communalism and communal violence increases with increased political and economic competition between the elites of the two communities. By the early sixties Muslims had also overcome the fear of communal holocaust during partition and had begun to regain confidence. Some of them were also regaining some of the lost economic space. The first major communal riot thus took place in Jabalpur in Madhya Pradesh. Madhya Pradesh is also part of Hindi heartland, also called cow-belt. The Jabalpur riot of 1961 was the first major riot of the post-independence India.

In the sixties, high casualty in the WB riots between January to March 1964. 264 killed in Calcutta and 346 in Bihar and Orissa. August 1967, 200 were killed in Ranchi. November 1969, 1000 killed in Gujarat. '79 April 117 killed in Bihar. August 1980, 119 killed in Moradabad. September 1982, 100 killed in Meerut. 1982, 1026 killed in Meenakshipuram. May 1984, 230 killed in Maharashtra, October 1984, 1277 killed in Delhi and other places, May 1987, 100 killed in Delhi and UP, 1026 killed in Bhagalpur in 1989, October 1990, 87 killed in Bijnore. December, 1990, 200 killed in Hyderabad, 100 killed in Aligarh, December, 1992, 200 killed in Bombay, Maharashtra, 300 killed in Surat, January, 1993, 215 killed in Gujarat, 557 killed in Bombay, 98 killed in Manipur,

(The Jabalpur Riot)

The Jabalpur riot, as far as its immediate cause was concerned, was result of competition between a Hindu and a Muslim *Bidi* manufacturer. Before we proceed further it would be in order to stress that there are several factors behind a communal riot, local as well as trans-local or national. Also, there are micro as well as macro causes behind any riot. We have riots which are systematically planned and engineered by identifiable forces and there are riots which break out spontaneously, and even unintentionally. It is much easier to control riots which break out spontaneously than those which are

well planned ones. Then there are immediate triggering events which are not the real causative factors. To properly comprehend the causes behind a riot, one must understand all this.

Also, rumours play an important role in a genesis of any communal riot. Behind every communal riot, there is invariably a role of rumour. No major communal riot can take place without spread of rumours. Sometimes even news papers, particularly the vernacular newspapers inflame the communal passions by spreading false rumours in the name of news. There are several such instances from Jabalpur to Meerut to Ahmedabad to Bhagalpur riots.

As far as the Jabalpur riot was concerned there were complex causative factors. One cause was, as already pointed out, the competition between two *Bidi* manufacturers, one Hindu and another Muslim. In fact the Muslim *Bidi* manufacturer was getting gradually greater and greater share of this business and was trying to break the monopoly of the Hindu *bidi* manufacturer. Meanwhile it so happened that a girl called Usha Bhargava, who was studying in college became friendly with a Muslim boy. However, rumour was spread that the Muslim boy raped Usha Bhargava and eloped with her. This rumour spread like wild fire and became the triggering cause of communal violence. This story of elopement of a Hindu girl with a `Muslim goonda' triggered the violence. The local Hindi newspapers played very provocative role.

A senior journalist from Bombay Mr. S.B.Kolpe visited Jabalpur for investigation. It would be interesting to hear the story from his pen to realise what role media plays in spreading communal violence. Mr. Kolpe writes:

"Most of the newspaper reports were identical, obviously emanating from the same source. On reaching Jabalpur....I found that two or three stringers working jointly for several national dailies were responsible for these reports which had a damaging effect on the political life of a nation as a whole. Only one of the three knew enough English to write readable reports. the others copied these with minor changes.

The facts reported were collected from the local police who were not free from communal bias. No reporter bothered to verify the `facts' doled out to him....Some gave me the background material to the riots which evidently commenced after Usha Bhargava committed suicide. There was an alleged attempt at raping her by the two Muslim boys, according to a story originally put out by the local Hindi daily *The Yugadharma*, a Jansangh-RSS paper, and picked up by other newspapers in Madhya Pradesh and outside, while there were other rumours with their own versions.

According to the police the girl was friendly with one of the Muslim boys arrested in the case. She had been seen with the boy at cinema houses. She may have had certain personal problems and in that case any marriage was ruled out in the orthodox atmosphere of Jabalpur. that might have been the reason for suicide.....One of the boys involved was the son of an established bidi manufacturer, whose factories in Jabalpur and neighbouring towns were burnt down by communal mobs, following the publication of the rape report. The story did not sound very convincing to me." (S.B.Kolpe, "Caste And Communal Violence And the Role of the Press" in Asghar Ali Engineer ed. *Communal Riots in Post-Independence India* (Hyderabad, 1991)

The role of the police in these riots was very partisan, specially the armed constabulary. It was complained by several Muslim women that they barged into their houses and molested them and snatched their valuables, necklaces etc. The SRP, PAC etc. are known for their anti-Muslim behaviour. We will throw more light on this while discussing some other major riots.

(Ahmedabad Riots 1969)

During sixties several riots took place mostly in Eastern part of India like Jamshedpur, Rourkela, Ranchi and several other places. The most shocking riot, however, took place at the end of sixties in Ahmedabad in 1969. The background of this riot was mainly political.

Mrs.Gandhi had split the Congress in 1968 and was looking for popular support among the people. She tried to win popular support by nationalising banks on one hand, and by appealing to minorities and dalits, on the other. This alarmed the rightist forces on one hand and, communal forces, on the other.

These forces combined to either dislodge Mrs. Gandhi or to destabilise her government. The best way to do so was to rock the country with communal violence and weaken the popularity of Mrs.Gandhi's Government. The Ahmedabad riot really shook the country for several months. It created shock waves. Gujrat was chosen for this purpose for several reasons. It had Hitendra Desai Ministry which was anti-Mrs.Gandhi. Also Gujrat was bastion of both Swatantra party - an extreme right party and also of Jan Sangh and RSS, the Hindu communal outfits. All these forces were hostile to Mrs. Gandhi and her political philosophy.

The Jan Sangh was also trying to capture Hindu votes by raising communal issues. Balraj Madhok, an extremist among the Jan Sangh leaders had become the President and he was instrumental in getting the resolution for `Indianising the Muslims' passed. Thus the whole atmosphere in the country was getting communalised. It was in this atmosphere that the riots in Ahmedabad broke out.

This communal catastrophe which claimed more than 1000 lives, began with petty incidents: a cow kicking a Muslim child and as a result some Muslim men chasing the Sadhus and throwing stones at Jagannath temple. A Muslim inspector allegedly kicking Ramayana.

It appeared as of the communal frenzy has been let loose. The police force, barring a few exceptions was communalised. The Gujrati media became instrumental in spreading rumours. A police constable who killed some Muslims was publicly honoured by some communal hot-heads. Many newspapers wrote editorials questioning the loyalty of Muslims. All this provoked Hindus and some triggering events built up mass frenzy among them. Throwing light on the death and destruction Ghanshyam Shah, a social scientist, says:"By the nature of the destruction in Ahmedabad, one is led to believe that there was some sort of planned organisatiom of the riots. Soon after the Jagannath temple clash,rumours appear to have been systematically spread. By the noon of the 19 September hundreds of printed and cyclostyled handbills stating that a cow had been killed and the Mahant seriously injured, that the Muslims had entered the temple and that the idol of god had been damaged were distributed. There was no truth in any of this. In Baroda too rumours were spread about the burning of the Swaminarayan temple). During the riots, handbills giving false, exaggerated and provocative news were published. They instigated Hindus to take action against Muslims. One of the handbills appealed to Hindus, "Hindus get organised, be bold. Take weapons in your hands and attack the Muslims who are out to destroy Hindu religion and Hindu temples. So every Hindu to save his religion, caste, sisters and daughters must awaken and learn how to attack and learn the policy of defence not cowardice."

And throwing light on the role of the media, Ghanshyam Shah says, "An objective analysis would clearly indicate that the reporters, being Hindu, were partial in reproducing the news. Whenever a temple was attacked, the news item read was, `a temple was attacked' , whereas when a mosque was attacked it read as ` a religious place was attacked'. The whole policy of spacing and display was biased. Newspapers gave headlines to rumoured reports of attacks on Hindu temples. For instance, a newspaper told its readers in the headlines that the Gita Mandir temple had been attacked on the 20th. The report was entirely false. In fact, by the 20th (September) the Hindus were in complete control of

this area. Similarly, reports on the Jagannath temple were confusing to readers, and provocative." (Ghanshyam Shah "The 1969 Communal Riots in Ahmedabad. A Case Study" in Asghar Ali Engineer ed. op.cit)

Bhiwandi, Jalgaon Riots

The Ahmedabad riot was followed by another major riot in Bhivandi-Jalgaon in 1970. Its cause was also mainly political. The main instigator of Bhivandi-Jalgaon riots was the then newly formed Shiv-Sena. In fact this organisation was formed only in 1968 and some congress leaders were allegedly behind it. Mr. Bal Thackeray was both strongly against South Indians on one hand, and, Muslims, on the other. His and his followers anti-Muslim demagoguery created communal tension. The Bhivandi riots broke out in May, 1970 on the eve of Shiv Jayanti. In this riots too the role of the police was quite partial and came for strong criticism by Justice Madon in his inquiry committee report known as Justice Madon Commission Report. In one incident a police sub-inspector in Jalgaon led a mob which set fire to the house of a Muslim widow Hajrabi in which her children were burnt alive. Also, in Jalgaon a marriage party comprising 40 persons - all belonging to minority community - were burnt alive. About 250 people died in these riots in Bhivandi-Jalgaon. The role of Marathi press was quite partial. It mainly blamed Muslims for starting the riot. The Police also framed some Muslim leaders for planning the riots. The police also came for severe criticism for killing many innocent people. In this riot large number of isolated Muslim families in villages were killed and their bodies thrown into wells or nearby *nullahs*. The role of the police came in for severe criticism in the Madon Commission Report which was appointed to inquire into the Bhivandi-Jalgaon riots of 1970 specially for involving innocent Muslims in the conspiracy to plan communal riots and leaving out the real culprits.

1970s : All Quiet on the Communal Front

There were no communal riots on large scale between 1971 and 1977 as the political situation did not warrant. The Bangla Desh liberation struggle started in late 1970 and continued until it was liberated in 1971 and the whole country was preoccupied with it. After liberation Jay Prakash Narayan started a movement against corruption. It was mainly directed against Mrs. Gandhi. It culminated in declaration of emergency in 1975 when Mrs. Gandhi was unseated in an election petition by the Allahabad High Court. And in emergency most of the opposition leaders and party workers including those of Jan Sangh, RSS and Jamat-e-Islami were arrested and put behind bars. Thus while the country was pre-occupied with the anti-corruption movement led by Jay Prakash Narayan from 1972-1975, there was total vacuum from 1975 to 1977 (when emergency was lifted) as all important leaders of communal organisations were in jail. Thus there were no riots during 1971-77.

Elections took place in 1977 when the Congress led by Mrs. Gandhi faced crushing defeat and the Janata Party was elected with overwhelming majority. Janata Party was amalgam of ex-Congressmen, Socialists and Jan Sangh. It was precisely for this reason that the J.P. Government did not last long and fell through in 1979 due to sharp internal contradictions. The Socialists demanded that the Jan Sangh leaders resign from the RSS as duel membership could not be entertained. The RSS was not prepared to allow the Jan Sangh members to be unleashed from its ideological bond.

When the controversy was going on and the Janta party Government was still in power some major riots took place in Jamshedpur, Aligarh and Benaras. There is clear evidence that the RSS had hand in Aligarh and Jamshedpur riots. Its local leaders Shri Nauman (in Aligarh) and Shri Pande (in Jamshedpur) were behind these riots. While the Aligarh Riot took place on the question of ownership of a piece of land, the Jamshedpur riot took place on the question of route of a Hindu religious procession: All these riots were well planned in advance and the role of police in these riots,

specially the PAC (Provincial Armed Constabulary) of U.P. and BMP (Bihar Military Police) of Bihar was far from desirable. There were open accusations of their involvement with communal elements of the majority community, specially the RSS and the Jan Sangh. In these riots hundreds of people were killed. In Jamshedpur a van which was carrying women and children belonging to the minority community was set ablaze and more than 14 persons perished.

1980s : Alienated Minority, Politics of BJP and the decade of Violence

Mrs. Gandhi came back to power in 1980 general elections because of dismal failure of the Janata Party. However, she was elected with much reduced majority. In 1977 she faced crushing defeat as both Hnidus and Muslims were alienated from her, specially in the North, due to the emergency excesses. Muslims were all the more angry as number of them were killed near Turkman Gate when Muslim kutcha houses were bulldozed to `beautify' the area. many children were crushed to powder under bulldozers. This news spread like wildfire throughout the country and Muslims voted against her massively.

But she succeeded in partially wooing back a section of Muslims after the Janta Party Government fell through. However, she could not win back massive Muslim support. This made her politically insecure and she began wooing middle caste Hindus for her survival in power. At one time she used to strongly condemn RSS and other Hindu communal outfits in order to win minority support. However, after her re-election in 1980 elections with reduced majority, her electoral strategy changed and she became quite soft towards Hindu communalism as she needed mainly the support of the majority community for her political survival.

(Moradabad Riots 1980)

When a major riot broke out in Moradabad in August 1980, she quietly encouraged a propaganda that the Moradabad riot was financed by `petro-dollars' from the Middle-East. Shri Giri Lal Jain, the then Chief Editor of *The Times of India* wrote several signed articles in his paper to say that Arab money was flowing into India to finance riots. Mrs. Gandhi's Government did not contradict this, though there was no proof for this allegation. In fact until today no one was able to substantiate this charge. However, due to such propaganda it was widely believed that the Arab money was financing the riots.

In fact there is evidence to show that to begin with it was a clash between the police and the Muslims in Moradabad on the question of straying of a pig into the Idgah Maidan where Id prayer was going on. However, it was soon converted into Hindu-Muslim riots by those Hindu business elements (mainly Punjabis) who were resenting rise of some Muslim artisan families as successful businessmen exporting their brasswares to Middle Eastern countries. These Muslim artisans turned entrepreneurs became business rivals and had to be eliminated at any cost. The main attack during the riots in Moradabad was on such Muslim entrepreneurs. They suffered considerably. Thus the Moradabad riot had close resemblance to the Jabalpur riot of 1961. But Mrs.Gandhi subtly used the Moradabad riot for her political purposes.

(Biharsharif Riots 1981)

It was in 1981 that another major riot took place in Biharsharif in the Nalanda district of Bihar. The riot broke out on the question of a cemetery land which had fallen into disuse. In fact in Biharsharif town the land prices were skyrocketing on account of rapid urbanisation and rich yield of potato crop. The

Yadavas, a Hindu middle caste, were mainly in the business of growing potatoes. A Yadava cultivator was tryirg to usurp a cemetry land and the dispute broke out between some Muslims and Yadavas. The RSS became active and spread rumours in the neighbouring villages that Muslims were massacring Hindus and that they have mixed poison in the main water tank. This created scare and resulted in much greater massacre. So many people were killed that truckloads of bodies had to be carried away to morgues. Even Mrs. Gandhi broke down and wept. The role of BMP and the local police was openly partisan. The administration was totally paralysed and could not even effectively counter rumours. The Biharsharif riot was, in terms of its impact on the country, quite comparable to the Jabalpur and Ahmedabad riots of 1961 and 1969.

(Meenakshipuram Riots, 1981)

In fact the decade of eighties was most dangerous decade from communal perspective. Several major communal riots took place during this decade. And besides that number of communal controversies preoccupied entire country. It was in the beginning of this decade that the great c controversy about the Meenakshipuram conversion took place. In 1981, some dalit families converted to Islam (in all about 500 persons) to avenge an insult by the Upper caste Thevars. A dalit boy refused to take off his shirt and chappal while passing from Thevar locality ass per old custom. the Thevars beat up the boy and got him arrested on the false charge of theft. This incensed the dalits who converted to Islam to avenge the incident. It had nothing to do with `petro-dollars' but again a powerful campaign was launched by the VHP (Vishwa Hindu Parishad) against conversion as an `Arab conspiracy' to make India Islamic. It created strong prejudices against Islam and Muslims in India. There is some evidence to show that Mrs.Gandhi exploited this controversy to increase her appeal amongst the Hindus. It is also alleged that she subtly backed up the VHP campaign against conversion. The VHP was set up in the mid-sixties by the RSS for preaching of Hinduism. It had no political role until 1980. But after the Meenakshipuram incident it assumed political overtones and played significant role in communalising the politics. It began to play role in the riots also. The VHP had role in the Meerut riots of 1982. It played role in several riots subsequently and became a premier organisation for spreading communalism and communal violence during the eighties.

In 1982 two major riots took place one in Meerut and other in Baroda. The Meerut riot was again caused by a dispute over a piece of Land in Shahnathan locality. But it was the apparent cause. The real cause was political. The BJP (The Jan Sangh was renamed as the Bhartiya Janata Party after it separated from the Janata party in 1980) was trying to capture power in the Meerut Municipal Corporation elections which were due. The BJP, in collaboration with some disgruntled Congress elements, used this controversy involving a local saint's mausoleum at Shahnathan to incite Hindu communal passions. In this riot too the police played highly partisan role, killing several innocent poor Muslims. Even Justice Krishna Iyer, the retired Supreme Court Judge, wrote a letter to Mrs. Gandhi highlighting the atrocities of the police on innocent people and how many were brutally killed. The letter was also published by *The Mainstream* a weekly from Delhi.

(Baroda Riots,)

The Baroda riot was sparked by the bootlegging mafias of Baroda. it was a result of rivalry between two mafia gangs one led by one Shiva Kahar and another by a Muslim. They used religious symbols like Shivaji's Bhavani Talwar (sword) and Tazias to capture monopoly of illicit liquor business. Thus two criminal mafia gangs could incite communal violence on a large scale. this was particularly possible because of criminalisation of politics. Both the criminals had links with powerful political bosses as well as with the police. Shiva Kahar, who headed the `Hindu' gang had connection with the president of Baroda Congress Committee president Bhogilal Patel. A police inspector had direct links

with Shiva Kahar. Baroda witnessed several riots because of criminalisation of politics. The BJP also had developed close relationship with some of these mafia leaders. Baroda had become communally most sensitive until these criminals were eliminated in the so called `police encounters'.

(Assam Riots, 1983)

The year 1983 witnessed horror of Neili riots. Neili is in Assam and in this area many Bengali Muslims live. According to them they have been living there since nineteen forties. However, they were branded as recent migrants from Bangla Desh and became targets of the fury of the AASU movement. In fact AASU by itself was not a communal organisation but over a period of time it was infiltrated by the RSS. It is interesting to note that in Assam trade is mainly in the hands of Marwaris of Rajasthan. These traders are generally supporters of RSS and BJP and particularly in Assam as they are seen as outsiders there. They also financed AASU in a big way and hence influenced its policies. More than 3000 persons, mainly the Bengali speaking Muslims, were killed in these riots. In Neili too a powerful machinery spread rumours that the Bangla Deshi Muslims raped Hindu women and cut their breasts and hung them over swords. This rumour spread like wildfire and did all the damage. Thus a regional movement was turned into a communal movement. It spread terror both among Bengali as well as Assamese Muslims. In fact on the question of Assamese identity, the Assamese Muslims were supporters of the AASU movement. But their enthusiasm cooled after the Neili incident.

(Delhi Riots, 1984)

Delhi witnessed anti-Sikh riots in 1984. Mrs. Gandhi was assassinated on 1st November, 1984 by her Sikh body guards. The Congress leaders organised hordes from various slums (Jhonpdi Jhuggis) on the fringes of Delhi to massacre Sikhs. The field investigations indicated role of some of the top Congress leaders from Delhi in organising the massacre of the Delhi Sikhs. It is estimated that about 4000 Sikhs were killed in Delhi and many more in other towns of U P. Some were killed even as far away as Tamil Nadu. The anti-Sikh riots were mainly organised to avenge Mrs. Gandhi's assassination. However, unlike the Hindu-Muslim riots the RSS and BJP had no role in these riots. it was mainly the Congress which was involved. The RSS and BJP treat the Sikh minority on a different footing. Despite the Khalistani movement's anti-Hindu propaganda, the Saffron Brigade tried to maintain cordial relations with the Sikhs - treating them as allies rather than as enemies. According to Golwalkar only the Christians and Muslims are foreigners and their sympathies lie with other countries. The Sikhs and Buddhists are Indians and offshoots of Hinduism and hence they need friendly treatment.

Bombay, Bhiwandi Riots, 1984

Bombay-Bhivandi were rocked by communal violence in May 1984. The Shiv Sena had lost much of its regional chauvinistic appeal and was sulking and was in search of some issue to revive the morale of its cadre. In early eighties, as pointed out before, Hidutva forces led by the Sangh Parivar, were getting more and more aggressive. The Sena leader Bal Thackeray jumped on the band wagon and organised a Virat Hindu Sammelan on the sands of Chowpati, Bombay in Bombay in the third week of May, 1984. he poured out venom against Muslims and spoke derogatively of the Prophet. It provoked Muslims and some garlanded the portrait of Bal Thackeray with garland of shoes. The violence started from Bhivandi and engulfed entire region from Bhivandi to Thane to Bombay. The Shiv Sainiks were on rampage throughout the region. Forty persons were burnt alive at Ansari Baugh, near Bhivandi. Mr.Vasant Dada Patil was he chief minister. In order to fight against the faction in the Congress against him, he made a deal with the Sena Chief and allowed him a long rope. Thus even under the leadership of an upright police officer like Rebeiro, communal violence could not be easily controlled. However, when the riots were to break out again in the second phase, Rebeiro sent out a circular to all police

stations in Bombay that if violence broke out in their area the police officers at the police station will be held responsible and suspended. The police arrested all goondas and many Sena Pramukhs and nothing happened. It shows if the police follows the proper strategy, riots can be prevented with minimum damage to life and property. More than four hundred persons were killed in the Bhivandi-Bombay riots.

Riots in Gujarat, 1985

The locale of the riot shifted again to Gujrat in 1985. Madhav Singh Solanki contested and won the Gujrat Assembly elections with big majority by announcing reservations for the backward classes recommended by the Bakhshi Commission appointed by the Gujrat Government. Solanki used what was called the KHAM formula (i.e. Kashtriya, Harijans, Adivasis and Muslims). He sought support of these sections of society by offering them reservations in government jobs.

The Patels, the most influential people from Gujrat were unhappy as they were left out in this bargain. They launched a movement against reservation to weaken the Solanki Government. When the movement got momentum and threatened stability, Solanki shrewdly, having won the elections anyway, suspended reservations. However, the opposition, determined to overthrow Solanki, gave communal turn to the movement by starting communal violence which broke out at 7 pm on 18th February, 1985.

The communal violence continued in Ahmedabad until the Solanki Government was removed by Rajiv Gandhi in October, 1986. Thus the communal violence continued in Ahmedabad for 20 months. The main objective was to remove Solanki and violence continued to be engineered until the political objective was achieved. The builder's lobby also played a great part by engineering communal violence to terrify people into selling their properties cheap and running away to safe havens. To cheque communal violence engineered by such interests the Gujrat Government had to issue an ordinance called prevention of distress sale of properties ordinance not registering sale of such properties. that finally brought communal violence under cheque. Thus in Ahmedabad riots of 1985-86 both economic and political factors together played important role.

From 1985 onwards certain developments further brought about deterioration in the communal situation. The Muslims were feeling terribly insecure because of repeated communal violence and reacted aggressively against the Supreme court judgement in case of a Muslim divorcee - Shah Bano - succeeded in getting maintenance under section 125 of Cr.P.C. They considered it as an interference in the `divine law' i.e. the Shari`ah which permitted maintenance only for a period of *iddah* (three months after divorce). Lakhs of Muslims poured out on the streets to protest against the judgement and finally forced the Rajiv Gandhi Government to overturn the Judgement by passing the Muslim Women's Act in early 1986. This was bowing down before the Muslim fundamentalists and weakening the secular forces. This Act was a tremendous blow to secularism. It also strengthened Hindu communalism and made it more aggressive. The Rajiv Gandhi Government also traded off with the Hindu fundamentalists by agreeing to open the lock of the Babri Masjid.

Thus the Rajiv Gandhi Government surrendered both b before the Muslim as well as the Hindu fundamentalists and delivered a body blow to secular forces. Despite trying to please fundamentalists of both the communities, he lost elections in 1989 and was assassinated by LTTE terrorists while campaigning in the second phase of 1989 Lok Sabha elections. V.P.Singh and communists too, in their anti-Congressism, made seat adjustments with the BJP thus enabling it to win 89 seats in the Lok Sabha as against two it had won in 1984. The Ramjanambhoomi-Babri masjid controversy begun by unlocking of the mosque also greatly helped the BJP. The Ramjananmbhoomi

movement greatly boosted the Hindu fundamentalist forces and the communal situation worsened beyond description.

Ayodhya Chapter

The BJP was now determined to draw as much political mileage as possible by stirring the Hindu religious sentiments. The entire Sangh Parivar which included, besides BJP, the VHP, the RSS and the Bajrang Dal threw itself into the Ramjanambhoomi movement with all their energies. The Bajrang Dal mostly consisted of lumpen elements and drew upon the unemployed youth. The BJP thought it was a golden opportunity for it to capture power at the Centre which otherwise it couid never dream of. It was as a result of this aggressive Ramjanambhoomi movement that the Meerut riots of 1987 and the Bhagalpur riots of 1989 took place.

Meerut

Both these riots shook the entire country. Though initially the Muslims in Meerut showed aggression and started riots but soon they became its main victims and paid dearly with their lives and properties. The Meerut riot was another dark chapter in th history of communal violence in post-independence India. More than 400 persons lost their lives and 24 young boys from Hashimpura were pulled out by the PAC jawans, shot dead and their dead bodies thrown into nearby canal. Fortunately two boys survived miraculously to tell the story. Similarly, about 67 persons were shot dead in Malyana near Meerut when police fired on the unarmed mob after the Friday prayer. All bodies were buried in a mass grave. The police in Meerut behaved openly as a Hindu police. Yet no action was taken against it by the authorities. The PAC killed 24 young men pulling them out of their houses and even FIR against the commandant and other PAC men guilty of killing was filed only in 1995, some eight years after the incident. And no one knows what happened after filing FIR.

Bhagalpur

The Bhagalpur riots of 1989 were even worse. About 1000 people were killed. In many cases the police led the mobs and killed innocent people. In one village near Bhagalpur several people were killed in presence of a sub-inspector and their bodies thrown into a well. When they began to stink, the police officer buried them in a field and grew vegetables over it. It was a villager whose conscience could not bear it and he reported the case to the authorities and the bodies were dug out. In case of Bhagalpur several villages on the periphery were affected. Much killings took place in these villages. In Bhagalpur riot too the rumour was spread that several Hindu students were killed by the Muslims and their bodies thrown into nearby wells. It was completely a baseless rumour. Many innocent people were killed because of this rumour.

1990s : Establishing Communalism, BJP on the Wings of Ram

On 8th August 1990, the V.P.Singh Government, announced implementation of the Mandal Commission Report. The BJP feared that it would split the Hindu votes which it was trying to consolidate. To avert this possibility the BJP President Shri L.K.Advani announced Rath Yatra on 23rd August. His Yatra started from Somnath in Gujrat and was to reach Ayodhya via a complex rout. Number of bloody riots broke out when the Yatra was on. It was rightly described by *the Times of India* editorially as "blood yatra".The communal atmosphere was surcharged in the country at the end of eighties because of the BJP campaign for Ramjanambhoomi. Riots could break out anywhere on any excuse. Never after the partition the political atmosphere was so highly communalised in India. In late forties it was Muslim communalism which was at its aggressive best and towards the end of eighties it

was Hindu communalism which had reached its nadir and the country was on the brink. This hate campaign ultimately resulted in the demolition of Babri Masjid on 6th December 1992. And the next day in Bombay, Surat, Kanpur and Delhi communal violence burst out on a large scale. What happened in these places was the worst example of human savagery. In Bombay alone more than 800 people were killed during December, 1992 and January, 1993 riots. In Surat several women were mass raped in search light and paraded naked. The death toll in Surat was more than 300. In Bombay police role was openly partisan. Many policemen sided with Shiv Sena mobs and abused Muslims. One police officer in Govandi area went berserk and killed several Muslims. He had to be transferred by senior police officer.

DISASTER MANAGEMENT AND COMMUNAL VIOLENCE

From Description of several riots above it is clear that:

1) Major communal riots cannot take place without creating highly communalised atmosphere;
2) No major communal riot can take place without planning by an interested political party;
3) Communally surcharged atmosphere is often the result of political competition between secular and communal parties for votes of majority and minority communities. In other words the politics of vote-banks play an important role in engineering communal violence;
4) the riots get aggravated by the partisan role of police and complete breakdown of law and order machinery;
5) rumours play very important role in spreading violence
6) any expression of minority communalism results in aggravation of majority communalism;
7) The Ramjanambhoomi movement could succeed largely because of distorted understanding of history;
8) the district administration is often confused and has no clear direction after outbreak of communal violence;
9) and secular forces take backseat, even get paralysed when large scale communal violence breaks out and political atmosphere is surcharged with communalism as is clearly shown by several riots specially the Bombay riots of December-January 1992-93.

The real question is what is to be done to check communalism and communal violence. There are measures which can be taken. Some of these measures are short term and some long term. We will throw light on both. Among the short term measures following things could be done:a) The police should be fully held responsible for control of communal violence. If it fails to check violence within 24 hours of its outbreak, the concerned officer should be transferred or suspended depending on the gravity of the situation.
b) The police should be properly trained in riot control measures and should not be encouraged to fire at slightest provocation which it often does resulting in loss of lives. In some of the recent riots specially the Bombay riots of December, 1992, more people were killed in police firing than in stabbing. In December 1992 about 200 persons were killed in police firing alone. The authorities should make water hoses and rubber bullets available to the police for controlling riots without loss of life. The police authorities complain that despite several requests government has failed to make water hoses and rubber-bullets available. It is serious complain and the authorities should loose no time in doing so. Also, such policemen are sent to control riots who have had no gun firing and target practice for several years. When they fire they often miss their target and innocent persons get killed. Such persons should not be entrusted with riot control job. But the police force is often inadequate and untrained cops are rushed to control the situation.

* Will Sri Krishna report be in place? text or appendix.
more on "prevention" would be useful.

There are no proper guide lines to the administration and when communal violence breaks out the administration gets confused. Proper guide-lines should be issued and riot-control measures should be enlisted. The West Bengal Government has done it and as a result for a long time no major communal violence has broken out there except after demolition of Babri Masjid. But these riots were also speedily controlled. If chief ministers take personal charge and direct operations with the help of trusted officers even the grave situation can be brought under speedy control as is shown by Laloo Prasad Yadav's assuming personal charge in Sitamarhi after district administration failed to control violence. He not only motivated the officers concerned, he also handled the situation politically with the help of local leaders. Jyoti Basu's assuming personal charge after outbreak of major violence in Calcutta after demolition of Babri Masjid. The Riots in Bombay could not be controlled in December-January 1992-93 precisely because the Chief Minister Sudhakar Rao Naik had no political will to do so and partly he was paralysed by faction fight within the then ruling party. He remained totally inactive. Even Prime Minister Narsimha Rao showed no willingness to control riots and visited Bombay only after all the damage had been done and riots had stopped.

c) The notorious goondas should be speedily arrested and those who provoke riots should be put behind bars and violence will be prevented as is shown by the second phase of communal violence in May, 1985 in Bombay. The Police Commissioner Rebeiro sent out circular to this effect to all the police station and the job was done.d) Effective measures should be taken to check spread of rumours. Much greater damage is done by baseless rumours. For example, in Meerut 1987 riots the rumour was systematically spread in both the communities that four Hindu/Muslim girls were raped and their breasts cut off and their dead bodies thrown into the street. Most of the people took this rumour very seriously and administration took hardly any measure to check it. My experience of investigating various major riots show that riots can be easily controlled if these rumours are effectively checked. In Bhivandi which was highly sensitive communally no violence occurred because the local police had evolved proper machinery to check rumours.d) Intelligence machinery should be spruced up and competent officers should be appointed to gather intelligence. Generally incompetent and unwanted officers are sent to intelligence department and often their failure to gather sensitive information in time results in disastrous situation. In Bhivandi riots in 1970 all concerned agreed that it was complete failure of intelligence machinery. Same thing was true of Biharsharif riot of 1981. It is also important that secular officers be appointed to gather intelligence. Officers with communal outlook gather information with bias as is clearly shown by Bhivandi riots of 1970. The Madon Commission has also criticised the role of intelligence officers on this ground. It often happens that the intelligence officers with communal bias ignore what is going on by way of communal conspiracy in a particular community and supply information about another community even if defensive measures are being planned by a section of that community. This has naturally very serious consequences for prevention of communal violence.

Among the long term measures following steps are necessary:

a) Giving training to policemen at different levels from top to bottom. Our Centre for Study of Society and Secularism has conducted more than fifty workshops for the Bombay police and for the police officials in Thane, Nashik, Aurangabad, Bangalore, Mysore etc. The subjects covered in these workshops are:

1)Medieval history and communalism;
2) British rule and communalism;
3) Freedom Struggle, communal division and causes of partition;
4) Post-independence period and re-emergence of communalism
and 5) analysis of major communal riots after independence.

It has been observed that such workshops have very good impact on understanding of the police and their outlook greatly changes. They respond very positively during discussions. They

a better organization of 'Prevention' and 'Control' of communal violence

invariably express the feeling that they were mis-informed about these issues and they express their interest in knowing more. The communal propaganda infects their minds and supply of correct information in workshops and training courses help change their attitude. It shows there is great deal of need for proper secular orientation of police force. Such workshops are all the more necessary for the constabulary and lower-level officials. The case for such re-orientation cannot be stressed more. Unfortunately such re-orientation courses are generally not held.

The Bombay police which was highly infected by communal virus due to aggressive communal propaganda greatly benefited by such workshops.b) The police force should be fairly representative of minority communities and dalits. Generally it is observed that minority communities do not find adequate representation in the state police and it is much more true of para-military forces like PAC, SRP, BMP etc. which are called upon to handle riot situations. There must be strict screening of the recruits for their secular outlook. It is highly necessary for effective riot-prevention measures. The Central Government has set up **Rapid Action Force** (**RAF**) which has 25% representation of minority communities and of SCs and STs. RAF has proved quite effective in controlling riots in several places. CRPF (Central Reserve Police Force) also has proved its effectiveness as a neutral force in many riots. It will be much better if RAF replaces PAC, BMP and SRP at least in the Hindu-Muslim riots since these forces have been greatly infected by communal virus. Or else, these forces should be subject to more rigorous re-orientation courses.

c) In all communally sensitive areas **Mohallah Committees** should be set up on the pattern of Bhivandi Mohallah Committees. These committees can prove quite effective in preventing outbreak of communal violence by constant vigilance and preventing rumours. Ordinary citizens from the locality should be inducted in these committees to be presided over by the officer of the police station of the area. As pointed out before, the Mohalla Committees and dedicated police officers saved Bhivandi from erupting after demolition of Babri Masjid. This pattern should be followed by all communally sensitive areas.

d) It is highly necessary to have a rational transfer policy for the top police officials. Many secular police officials also become non-effective because of such transfer policy. As per the recommendation of the National Police Commission top police officials should be transferred only by a committee comprising chief minister, speaker of the assembly and opposition leader. This will remove fear from the minds of honest an secular police officers. However, though this recommendation was made several years ago, it has still not been implemented. It is high time it is done.

e) It has also been observed that history text books in schools has played important role in injecting communal poison in the minds of young students which subsequently determines the mind-set of people when they grow into full-fledged citizens. The Ramjanambhoomi movement would not have been so disastrously effective had such history text books not been taught in schools. It is taken for granted in these text books that the Muslim rulers systematically demolished Hindu temples and oppressed and humiliated them and converted them forcibly to Islam. The NCERT survey of the text books on history has established this beyond any ken of doubt. It is high time such text books are replaced without any delay. It is highly regrettable that such distorted history is being taught even 50 years after independence. Conducting workshops on medieval history by the Centre for Study of Society and Secularism and Khoj, both Bombay based organisations has clearly shown that one of the most effective ways of fighting communalism is to teach history objectively and scientifically. It has great impact on the minds of people. It is also necessary that school and college history teachers be trained properly.

Similar training is also necessary for the media people. As pointed out earlier the vernacular press plays very damaging role in promoting communal tensions and even provoking violence as Bombay

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riots of 192-1993 clearly show. During *kar Seva* in October 1990 also, some Hindi Papers from U.P. played very provocative role. the Press Council in its report strongly condemned these papers for their damaging role. It is much more probable when the papers is individually owned. The case of *Gujrat Samachar* from Ahmedabad is illustrative of this fact. It played quite negative role during the communal riots in Ahmedabad during 1985-86 as its owner was hostile to the chief minister Solanki. He was interested in overthrowing his Government. These vernacular papers often publish rumours as news on their front pages doing great damage to the situation. Some papers in Ahmedabad riots of 1969 and Meerut riots of 1987 precisely did this and inflamed the situation. The police often does not take any action against such papers. If effective legal action is taken these papers will be discouraged from playing such a disastrous role.

f) It is also necessary to stress that communal propaganda during election campaign does great damage to communal situation. At times communal violence is planned mainly to win elections by communal parties. If the Election Commission monitors election propaganda as Mr.Seshan, as Chief Election Commissioner did, it will be of great help to check communal violence. if Election Commission had applied Peoples's Representation Act strictly right from beginning, many communal riots could have been avoided.

g) Most of the culprits taking part in communal violence often go unpunished, thanks to the lax attitude of police and administration. The Government should see to it that the police prepares water tight cases against those who participated in the riots. Unfortunately when the Shiv Sena-BJP Government came to power it withdrew hundreds of cases against the accused in the Bombay riots of 1992-93. As pointed out above the PAC officials responsible for killing 24 youths from Hashimpura in Meerut have still not been punished. In case of anti-Sikh riots of 1984 some of the accused are being put on trial now in 1996-97. Unless the culprits are brought to book further riots cannot be prevented. Also, those killed their nearest relatives like wife, mother etc. should be adequately compensated. The compensation should be at least Rs.3 lakhs at the current prices. The compensation amount should be revised as per price index. [margin: of those killed]

The measures suggested above can greatly help in checking communal violence.

Perhaps some box items on this in this chapter would be helpful

Comment: This is a very good analysis of the socio-political factors that produce communal riots and the 'law and order' approach to disaster management and prevention. However is the human health aspect / social health mental aspects, experiences, responses, consequences being missed. There is work in India at all sorts of levels that are attempts to record this 'aspect' and respond at management/prevention at this level. NGO working with victims of communal violence - helping people recount their experiences (catharsis), coming to terms with the realities, coping as individuals/families, grouping together to support each other counselling and healing - so that violent experiences do not lead to a cycle of violence and retribution. Starting with women's group helping hindu + muslim women affected by the Partition riots to recount their experiences - all the ways to women group in slums (Hindu/Muslim) - going to share/support/express solidarity with each other - other coping centres - there has been a lot of work ... enough perhaps - but enough to be included as ways forward

The difference in approach here would be that whatever the politics the victims of both sides experience horror atrocities pain and tackling this will lead to a human ... to experience ... work.

Pages 17 – 31 Annex I :

Chronological Tabulation of Instances of Communal Violence in Independent India

Year	Place	Event
1950, 24th Jan	West Bengal, Assam	Rumours of alleged ill treatment of Hindus in East Bengal. Communal disorders breakout in a number of districts of WB. Barpeta and Goalpara districts of Assam affected. **40 killed. Over 250 injured. 1500 arrested.**
1961, 4th feb	Jabalpur, MP	Rumour of Hindu girl assaulted, slain by Muslim youth. Riots breakout in Jabalpur. **35 killed, 158 injured, 1003 arrested.**
1962, 22nd March	Malda, WB	Santhals armed with bows attack Muslim village in Malda. **14 Muslims killed, Burnt and Shot. 64 injured.**
1964, 3rd Jan	Calcutta, WB, South Bihar, West Orissa, East MP	Theft of relic from Hazratbal shrine in Srinagar. 20,000 demonstrators riot in East Pakistan districts of Khulna and Jessore. Hindu refugees flee into WB. Riots break out in Calcutta and Suburbs. **208 killed in mob violence, 56 in Police Action.** Trainload of refugees pass thru, and riots breakout in Southern Bihar, Western Orissa and Eastern MP. **346 killed, 458 injured, 4 lakh worth property destroyed.**
1965, 19th July	Rajasthan	Minor Scuffle between Hindu and Muslim neighbours. Riots break out in Udaipur. **2 killed in police firing. 12 injured. 65 shops looted, property worth Rs.12 lakhs destroyed.**
1966, 13th Nov	Rajasthan	Dispute between two people. Communal riots in Udaipur. **1 killed in police firing. 86 Bohra Muslim shops looted.**
1967	Calcutta, WB	Conflict between Hindu and Sikhs over temple entry thru shrine. **11 killed. 100 injured.**
1967, 24-28th August	Srinagar	Brahman girl's conversion to islam and marriage to a muslim.

			Conflict between Pandits and Muslims. **3 killed. 162 injured.**
1967, August	24-27th	Ranchi, Bihar	Urdu declared second official language of Bihar. Violent riots in Ranchi. **150 killed. over 100 injured. 1000 arrested.**
1967, 25th Sep		Maharash tra	**4 killed in riots in Malegaon.**
1968, 28th Jan		UP	Hindus attack Muslim political meeting in Meerut. **17 killed.**
1968, 2nd Mar		Assam	Communal riots in Karimganj. **7 killed, 43 injured, 233 arrested.**
1968, 4th Mar		WB	Dispute between two people. Communal riots in Calcutta. **3 killed, 9 injured, 900 arrested.**
1968, 15th Mar		UP	Riots following Holi celebrations in Allahabad. Muslim shops and houses looted, **set on fire. 3 killed.**
1968, 30th Mar		Assam	Rumour of cow slaughter. Riots in Tinsukhia. **40 injured, 3 houses burnt down.**
1968, 8th June		Maharash tra	Rumour of cow slaughter by Muslim baker. **3 killed, bakery looted in Aurangabad.**
1968, June	10-14th	Maharash tra	Arguement between barber and customer. Riots in Nagpur . **29 killed. 3 killed in police firing. Cinema hall and 150 houses burnt .**
1969, 18th Sep		Gujarat	Dispute between Sadhus and Muslim youth in Jamalpur. Major riots breakout in Ahmedabad. **Over 1000 killed,** several hundred muslims fled to villages, **15000 muslim seek shelter in relief camps. 3969 houses and shops burnt and 2317 destroyed. 6000 families destitute.** crores worth property destroyed. real income loss upto **33.7 crores.**
1970, 7th May		Maharash tra	Riots in Bhiwandi following procession on the birth of Shivaji. **82 killed. 1000 houses destroyed.** Riot spreads to Jalgaon. **48 killed. 19 Muslims burnt alive.** riots breakout in Thana and Kalyan. Police fire on

		mob. **14 killed. Majority dead were muslims.**
1971	UP	Demand for AMU to be declared a muslim university. Riots breakout in Aligarh
1972, 16th June	UP	Demonstration against the Aligarh Muslim University Act. Armed clashes between hindus and Muslims in benaras and Ferozabad. Arson and Looting . **23 killed.**
1973, 10th Dec	UP	An arguement between Shopkeeper and customer. communal riots break out in Meerut. **9 killed, 40 injured, 600 arrested.**
1974, 5th May	Delhi	Dispute between a Hindu and Muslim. Armed mobs fought for 8 hours. Communal riot in Delhi. **10 killed, 300 injured, over 100 shops and houses damaged by fire.**
1975, 17th April	Andhra Pradesh	Dispute over right to passage in front of a temple. Riots in Muppala village, Guntur district. **10 killed in police firing. 8 injured.**
1977, 23rd Oct	UP	Clashes following immersion of Goddess Durga. Riots in Benaras. **8 killed. 65 injured.**
1978, 29th March	UP	Riots following procession in Moradabad. **15 killed, over 100 shops looted, 5 burnt alive by mob.**
1978, 29th July	J&K	Hoisting of Wakf flag in the compound adjoining the Sun Temple in Anant nag. Removal of flag by authorities. Protest demonstration . Crowd turn violent, stone police. **4 killed. 30 policemen injured. 50 arrested.**
1978, 28th August	AP	Communal riots in Hyderabad. Army called out.**1 killed. 85 injured. 150 arrested, over 20 houses, shops and hotels set on fire.**
1978, 3rd Sep	MP	Disturbances at religious festival in Chindwara. Police firing. **1 killed.**
1978, 5th	UP	Alleged murder of a Hindu in

October		Aligarh. Hindu mobs **killed 11 muslims,** plundered and set fire to muslim shops and houses.
1978, 12th oct	AP	Hindu religious procession stoned while passing through a mosque. **2 killed.**
1978, 9th Nov	UP	Rumours of Hindu killed by a Muslim. Riots in Aligarh. **16 killed.**
1978, 14th Oct	MP	Stampede and riots following a procession in Indore. **22 reported killed.**
1979, 11th April	Bihar	Hindu religious procession halted near a mosque in Jamshedpur. **117 killed. 333 injured, 1215 were arrested, 772 houses and shops burnt down.**
1979, 17-20 June	UP	Riots in Aligarh. **7 killed. 48 injured.**
1979, 4th July	Bihar	Riots in 12 villages of Purnea. **30 killed. 100 injured.**
1979, 28-29 August	Bihar	Communal riots in Jamshedpur. **10 killed. 50 injured.**
1979, 21 June	WB	Communal riots in Nadia district. **28 killed. 400 houses in 12 vilages burnt down.**
1979, 23rd Nov	AP	Communal violence in Hyderabad. **Over 100 injured, 1425 arrested. Damage to property worth 5 million.**
1980, Feb	Bihar	Violent clashes between two communities, **2 injured, 6 shops burnt.**
1980, 13th July	Maharash tra	Riots in Jalgaon. **4 killed in police firing, 58 injured. 2 houses burnt.**
1980, 13th August	Delhi	**12 injured in communal clash in Delhi.**
1980, 13th august	UP	Pig strayed into Idgah in Moradabad during Id prayer. Altercation between congregation and armed **PAC.** Communal clash. **119 killed , 200 injured**
1980, August	UP	Protest demonstration attacked police, civilians with knives in Meerut. **3 injured.**
1980, August	UP	Constable stabbed to death in Rampur. **4 arrested**

1980, 16th Aug	UP	Communal violence in Aligarh. **2 killed in police firing, 5 injured.**
1980, August	UP	**I killed and 50 arrested in Bareilly. 134 firearms seized.**
1980, 29th august	UP	Riots in Allahabad, **I injured, 679 arrested, foreign ammunitions** recovered.
1980, 15th August	UP	communal violence in Moradabad. Indefinite curfew in Sambahal town.
1980, 15th August	MP	Communal Violence in Mau following a procession. **3 killed, 34 injured.**
1980, August	J&K	Riots, arson and killing in Srinagar following the Moradabad incident. **2000 arrested in Kashmir valley.**
1980, 18th Sep	Karnataka	Communal riots in Devangere. **I killed, 3 injured.**
1980, 20th Oct	Tamil nadu	Riots following a religious procession. **14 injured in police firing.**
1980, 26th Oct	UP	Renewed violence in Moradabad. **16 killed, 150 arrested**
1980	UP	Riots in Saharanpur on the eve of Dusshera. **2 killed, several injured.**
1980, 29th Oct	Gujarat	Dispute between two cartpullers. Communal riots broke out in Godhra. **6 killed, 30 injured, 60 cabins and shops set on fire. schools and mosque damaged.**
1980, 10th Nov	Orissa	Riots in Cuttack following immersion procession, 6 shops damaged by mobs.
1981, 29th Mar	Gujarat	Clashes between Ghanchi muslims and Sindhis in Godhara. Riots in March, June and August. **2 killed, 23 arrested.**
1981, 30th April	Bihar	Dispute over Cemetery land between Yadavas and Muslims in Biharsharief . Riots breakout. **Over 150 killed, 60 injured, 12 houses burnt by mob, 500 arrested.**
1981, 11th May	UP	Dispute between two people. Riots in luckhnow. Rioters stoned and looted shops. **34 injured, 25 arrested.**

1981, 13th June	Gujarat	Mob violence over alleged removal of religious material from place of worship in Dhoraji town. **1 killed, 8 injured.**
1981, 22nd june	Gujarat	Mob violence and clash in Vejalpur town. Shops looted and set on fire. **100 arrested.**
1981, 12th July	AP	Following rumours of alleged mass conversion of Harijans to Islam, Hindu religious procession played music outside mosque. Riots in Hyderabad. **22 killed. 250 injured in stabbing, 1300 arrested.**
1981, 1st August	Gujarat	Communal riots in Godhra. **3 killed, 11 injured, 18 arrested.**
1981, 24th August	Gujarat	Communal clash following Janmashtami celebrations in Ahmedabad. 110 arrested. **10 shops burnt.**
1981, 25th August	UP	Explosive thrown at religious congregation in Moradabad.
1981, 13th Sep	Gujarat	Dirty water poured on Ganesh immersion procession in Baroda. Riots break out. **5 killed, 30 injured.**
1981, 3rd Oct	Rajasthan	Dispute over cemetery land in Chomu town. **3 injured by gunfire, 28 arrested.**
1982, 10th Jan	Gujarat	Disputes between two groups on kite flying issue in Ahmedabad. VHP propaganda about Harijans being converted to Islam. **1 killed, 7 injured.**
1982,30th sep	UP	Temple-Mazar controversy in Meerut. RSS chief visits town. Attempt to woo Harijan votes by BJP. Riot break out. **100 killed, 90 muslims and 10 Hindus, 42 killed by PAC bullets. Weapons, Ammunition and explosives recovered.**
1982, 15th Feb	Maharash tra	VHP procession create disturbances near Punjab Talim Mosque in Solapur. **4 injured in police firing, Shops burnt.**
1982, Feb	Maharash tra	VHP procession create disturbance in muslim locality , damage property in Pune. Muslim shops stoned, burnt

		and damaged. loss of property **worth 4 lakhs.**
1982,, 22nd Oct	Gujarat	Police attack Tazia procession following stabbing incident in Baroda. **7 killed in police firing, 55 injured, 622 arrested, 31 properties set on fire.**
1982, 1st May	Punjab	Packets of bidi and cigarettes found in Kesargarh Sahib Gurdwara. Brickbats thrown at procession taken out in protest. **32 injured in police firing.**
1982,	Tamil Nadu	Mosque built by converted dalits gutted after ommunal vilence in Meenakshipuram. **1026 killed (876 muslims), 2000 arrested, 3932 houses burnt, 891 shops looted, 3000 looms burnt, 37 mosques, 7 madrasas, 8 tombs and 5 Shia imam baras destroyed.**
1982, 6th Nov	Bihar	Riots in Sasaram following Ram Shila Puja Procession. **2 killed, 5 injured.**
1982, 21st Oct	Karnataka	People stoned at place of worship in Bellur. **50 arrested. shops loted and set on fire, 3 houses ransacked.**
1982, 22nd Aug	Gujarat	Quarrel over gambling in church compound in Ahmedabad. Pitched battle between two communities.
1982, 12th june	Tamil Nadu	Riots in Sankarankoil taluk , following the Meenakshipuram conversion of dalits to Islam. **9 killed, 30 dalit huts set on fire.**
1982, 6th Sept	UP	Dispute over temple and Mazar in two adjoining buildings in Meerut. Crackers fired leading to riots. **11 killed, 24 injured.**
1982, 10th sept	Karnataka	Demolition of Muslim place of worship by Bangalore develcpment authority. Riots breakout in Bangalore. **1 killed in police firing.**
1983, 9th Mar	J&K	Spiritual leader Baba Ram Dass fatally stabbed in Rajouri. Riots break out. **14 injured. Shops looted.**

1983, 13th May	Karnataka	Alleged misbehaviour towards girl by a boy of another community. riots break out in Malur town. **5 killed in police firing. 50 injured in riots, 15 arrested.**
1983, 26th June	Maharash tra	Communal Clash in Malegaon following bursting of crackers near place of worship after India's victory in world Cup cricket. **3 killed, 3 injured in police firing, 500 arrested.**
1983, 7th Sept	AP	Communal clash in Hyderabad following stone throwing at a temple, followed by desecration of a mosque. **over 70 killed, 150 injured**
1983, 9th Sept	AP	Communal riots Hyderabad following a bandh called in protest of the alleged desecration of a mosque. **45 killed, over 150 injured. 300 arrested. shops set on fire , property worth 2 lakhs destroyed.**
1983, 21st sept	AP	Police firing on a riting mob that stoned Ganesh procession in Anantapur. **2 killed, 14 injured, property worth 2 lakh destroyed. shops set on fire.**
1983, 25th sept	AP	Communal riots in old city Hyderabad. **45 arrested.**
1983, 16th Oct	Maharash tra	Mob stone Dushera procession in Solapur. Police fire to disperse mob. **7 killed, shops and houses destroyed.**
1983, 17th Oct	Bihar	Mobs attack Durga puja procession in Hazaribagh. **2 killed in stone throwing, 100 arrested.**
1984, 8-14th March	Punjab	Violent clashes between hindus and Sikh in Amritsar. Sikh militants open fire from Golden temple. **4 policemen and 1 child killed.**
1984, 19th Feb	Haryana	Group of hindus attack an burn Sikh shops and houses. **9 Sikhs beaten to death.**
1984, 21st Feb	Punjab	Sikhs on motorcycles, armed with submachine guns raid nearby villages in gurdaspur district. **9**

		killed, many injured.
1984, April	Punjab	Demonstration in protest of the murder of President of BJP, Amritsar branch and the Congress (I) member of rajya sabha. **10 demonstrators and 2 policemen killed.**
1984,12thMay	Punjab	Communal riots in Jullunder following the murder of newspaper editor. Disturbances break out in Jullunder and spread to Haryana and northern India. **8killed in violent incidents. Some Sikh libraries, shops and buses burnt.**
1984, May	17-18th Maharashtra	Following alleged derogatory remarks by the Shiv Sena Leader about Prophet Mohammad, communal violence broke out in Bhiwandi. Disturbance spread to Bombay, Thane, Kalyan. **230 killed. 11 injured in bomb explosions in Bombay. Over 150 injured in Bhiwandi. 500 huts set on fire in Bhiwandi.Loss to private and public property close to 2000 million in Thane and Bhiwandi district.**
1984, june	Maharashtra	Communal Violence in Kherwadi following the arrest of Bal Thackeray of Shiv Sena.
1984, 6th July	Delhi	Communal violence in Sadar Bazar after cyclist stabbing incident. **1 injured in stabbing, 8 arrested.**
1984, 9th Sept	AP	Communal violence following a hindu religious procession in Hyderabad. **19 killed.**
1984,10th Sept	MP	Riots following a ganapati immersion procession in Sendhwa town. **4 killed in mob violence and police firing.**
1984, 5th Oct	MP	Riots in Nagda town following the stoning of the Durga immersion procession. **3 killed.**
1984, 5thOct	Karnataka	Widespread violence and arson in Belgaum following the desecration of a place of worship.
1984, Oct-Nov	Delhi	Riots in seven northern states,

		Delhi and WB following the assassination of Indira Gandhi. **1277 killed, property loss worth 200 million.**
1985, Apr-Jul	Gujarat	Inter caste and inter communal violence in Ahmedabad following an agitation against Gujarat State Government's Education and Employment Policies. **48 killed.**
1985,20thJune	Gujarat	Communal violence following the celebration of Rath-Yatra and Id in Ahmedabad. **8 killed, 12 injured.**
1986, 28th March	Punjab	Sikh militants disguised as police officers fire in park crowd in Ludhiana. **13 killed.**
1986, 1st Feb	J&K	District Court order permits Hindus to worship at Muslim shrine in Ayodhya. State Govmt falls in J&K. **200 injured.**
1986, 14th Feb	Delhi	Riots following Faizabad court oder for reopening Ram Janmabhumi Temple. **1 killed in police firing, 26 injured, 60 arrested. 30 vehicles burnt.**
1986, 17th Feb	MP	Violence in Sehore following the Faizabad Court order. **6 killed, over 100 arrested. 3 houses burnt.**
1986, 19th Feb	Punjab	Violence in Batala. Members of Shiv Sena clashed with members of AISSF. **6 killed.**
1986, 23rd March	WB	Two groups clashed in Calcutta. **8 injured, 20 arrested.**
1986, 10th May	Maharash tra	Riots in Nasik, Nanded, Panvel during Shivaji Jayanti Celebrations. **11 killed, 80 injured, over 100 arrested.**
1986, 20th May	Maharash tra	Riots break out in Aurangabad following the hoisting of green flag on a tree of a temple. **21 injured, 45 arrested, mob set vehicles afire.**
1986, 15th June	UP	Following negotiation over setting up of shops near shrine, 300 strong mob surrounded police post and pelted stones and bottles in Allahabad. **6 killed, 27 injured, 88 arrested. explosives,**

		ammunitions and weapons recovered.
1986, 9th July	Gujarat	Communal violence in Ahmedabad following stone pelting of rath yatra. **11 killed.**
1986, 12th July	Gujarat	Communal violence spread to Baroda and Bharuch following "Gujarat bandh" called by the VHP following the stone pelting incident in Ahmedabad. **40 killed, 5 burnt alive, over 250 injured, 6 arrested.**
1986, July-Aug	Gujarat	Riots in Nadiad, Wadiu town, Baroda, Ahmedabad. **18 killed, 14 injured in stoning incident.**
1986, 24th July	Karnataka	Communal Violence in Ramnagaram following the stoning of temple procession while passing through mosque. **4 killed, 15 injured, 8 shops set on fire.**
1986, 26th July	Delhi	Riots in delhi following the gunning down of passengers ina bus in Punjab. **5 killed, 50 injured, 84 arrested.**
1986, 19th August	MP	Curfew imposed in Singoli village of Mandsaur district after communal clash. **1 killed in police firing.**
1986, Aug-sept	Gujarat	Communal violence in Baroda. **9 killed.**
1986, 25thOct	Punjab	Sikhs attack village in North Amritsar. **8 killed.**
1986, 2nd Nov	J&K	clash between two communities in a local cinema hall in Kishtwar. mob tried to et the police sation on fire.
1986, 22nd Nov	Maharash tra	Riots in Mazalgaon, beed district following religious procession. **1 killed, 4 injured.**
1986, 30th Nov	Punjab	Hindu bus passengers killed near Tanda in Hoshiarpur by Sikh militar ts. **24 killed.**
1986,	Karnataka	Communal riots in Bangalore and Mysore following an article published in Deccan Herald. **17 killed, 100 injured.**
1986,	Bihar	Communal violence in Sukurhutoo village, Ranchi. **3**

		killed.
1987, 4th Jan	Gujarat	Riots in Ahmedabad over kite flying incident. **18 injured.**
1987, 1st Feb	MP	**Riots in Ujjain over religious procession. 130 arrested.**
1987, 14th Feb	Gujarat	Riots in Ahmedabad following the arrest of Abdul Latif. **9 killed, 50 injured, shops, vehicles burnt and looted.**
1987, 9th April	Gujarat	Riots following attack on religious procession in the villages of Virpur, Nurpur and Patiya. **6 killed, 50 injured.**
1987, 13th April	Gujarat	Riots in 5 villages of Panchmahal district. **1 injured in police firing.**
1987, 20th April	Gujarat	Curfew imposed in Nadiad and Cambay town following incidents of arson and communal violence. **50 arrested.**
1987, 26th April	Gujarat	Riots in Shahpur following dispute between 2 individuals. **5 killed, 10 injured, 6 shops burnt.**
1987, April	UP	Communal Clashes in Meerut and Delhi following the Faizabad Court order permitting Hindus to worship in Muslim shrine in Ayodhya. over 300 killed. Mainly Hindu PAC blamed for Muslim deaths in Meerut. **PAC arrested 200 Muslims in Hashimpura, majority were killed, their bodies thrown in a canal. PAC killed 110 Muslims in Malyana village.**
1987, 18th May	UP	Riots following a bomb blast in Meerut. **105 killed, 131 injured, 2530 arrested. 33 people burnt alive. 300 muslims, youth and middle aged men, were arresed by the PAC, lined up near Ganga canal and shot.**
1987, 27th May	Old Delhi	Following riots in Meerut Communal tension built up in Delhi. Hotels , shops burnt in Churiwalan. Police arrested 250 muslims from Chandni Mahal who reportedly had nothing to do with rioting. **15 killed, 12 in police firing.**

1987, 7th July	Delhi	Communal tension in Delhi following the return of the shashi Imarn who had not been allowed entry into Meerut. **2 killed.**
1987, 6th Sept	Gujarat	Riots in South Gujarat during Ganesh immersion procession.
1987, 8th Sept	Maharash tra	Riots in Ahmednagar following stone throwing at Ganesh immersion procession. **2 killed in police firing. 60 injured.**
1988, 23rd July	J&K	Riots in Suratkot and Mendhar. Mobs loot shop belonging to two communities.
1988, 14th September	Karnataka	Armed Sikh students attack Ganesh Pandal in Bidar. **6 killed, 60 injured, 126 arrested, loss of property worth 5.2 million.**
1988, 8th Oct	UP	Riots in Aligarh following the attempt by Hindus to display a banner renaming Aligarh to "Harigarh" and the subsequent rejoinder also in the form of a banner by the muslims. **5 killed, 28 injured, 6 shops burnt.**
1988, 8-11th OCT	UP	Bandh calld by Shiv Sena in Mujaffarpur. Muslims forced to close down their shops. During Curfew hours the Peace Committee takes out a procession. Only Muslim Processionists beaten up by Hindu mob. Riots break out. **87 killed. 1 injured, 2 arrested, 45 Muslim shops burnt.**
1988, Oct	UP	Emerging out of the Ram Janmabhumi- Babri Masjid controversy, Hindus call for bandh in Khatauli and force muslims to close down their shops. Muslims retaliate. Riots break out. **2 killed, 10 injured, 7 arrested.**
1988, 14-22 Oct	UP	Communal Riots in Mujaffarnagar, **22 killed.**
1988, 21st Oct	UP	Communal riots following a procession through Wazirganj area in Faizabad. **1 killed, 12 injured.**
1988, 9th Dec	J&K	Priest of a temple in Srinagar beaten to death by a police man in Srinagar.

1988, 17th May	Maharash tra	Shiv Sena mob goes berserk, riots in Aurangabad, following the adjournment of a court hearing of a petition challenging the election of the mayor. **11 killed, 136 injured, 11 cases major arson**, over 600 arrested.
1988, 19th May	Maharash tra	Communal violence in two villages of Marathwada district following the incidents in Aurangabad, **8 killed, 11 injured, 6 houses and 13 muslim shops burnt.**
1988, 20th May	Maharash tra	Riots in Jalna in Marathwada district after Shiv Sena try to hoist it's flag near the Jama Masjid. **2 killed, 45 injured**.
1989, 13th Jan	J&K	Riots in Jammu city following certain slogans raised by the processionists on Guru Gobind Singh's birthday. **6 killed, over 100 injured.**
1989, 22nd March	Maharash tra	Miscreants throw colour on the mosque. Riots in Dhule district. **1 killed, 4 injured in police firing.**
1989, 14th April	UP	Riots between two communities in Kalpi during a religious procession. **1 killed in stabbing, 4 injured in bomb explosion, 25 arrested.**
1989, 16th April	UP	Bajrang dal activists try to instal idol of Hanuman in Jama masjid in Mathura. Altercation with Muslims assembled for evening namaz. Arson and rioting in Mathura. **6 injured. 34 shps, 11 houses looted and burnt. 4 mosques raided, copies of koran burnt.**
1989, 10th May	Rajasthan	Riots in Tonk following the murder of a person by members of another community. **24 injured in police firing, 58 arrested, 7 shops damaged, 3 hutments set on fire, 175 weapons recovered.**
1989, May	Karnataka	**3 killed** in Kollagal following Communal riots. **8 injured, 70 arrested.**

1989, May	Bihar	Communal riots in Hazaribagh during Ram Navami festival. **Over 40 killed, 31 muslim shops gutted.**
1989, 3rd July	Maharash tra	Following a bandh called by the Shiv Sena, BJP, RSS, 5000 strong procession in support of the bandh was stoned while passing through place of religious worship. **4 killed in police firing.**
1989, 7th July	Ladakh	Riots in Leh following a dispute between the members of two communities. **over 20 injured.**
1989, 14th July	Tamil Nadu	Riots in Aruppukottai over fixing of flag posts near Shiva temple by a certain community. **11 injured in police firing, 3 killed.**
1989, August	UP	Riots in Meerut. **1 killed in stabbing, 3 injured.**
1989, 12th August	Bihar	Communal Riots in Bhagalpur. 6 government vehicles burnt, number of people injured.
1989, 21st Sept	Bihar	Riots in Sasaram town . **5 killed, 16 injured.**
1989, 21st Sept	Bihar	Communal Violence in Palamau district when group from one community damaged burial ground in village. **5 killed, 4 injured, 47 arrested.**
1989, 14th sept	Rajasthan	Riots in Kota following religious process on. **16 killed.**
1989, 28th Sept	UP	Communal riots in Badaun following disturbances in a procession in support of official upgradation of Urdu language. Violent mob attack passenger train. **23 killed, over 200 injured.**
1989, 10th Oct	Gujarat	Riots in Vijaypur town following disturbances in Religious process on. **1 killed, 2 injured.**
1989, 9th OCT	Karnataka	Riots in Hospet after mobs belonging to two communities clashed following Dusshera celebrations. **2 killed, 4 injured.**
1989, 17th Oct	North-Central India	The Ayodhya dispute was the cause of widespread Communal violence over north and central Indian states following the announcement of the dates of Lok Sabha elections. **Over 100 killed**

		in the riots.
1989, October	Maharash tra	Communal Violence in old Nagpur over the issue of loudspeaker near place of worship. **vehicles set on fire.**
1989, 10th Oct	Rajasthan	Riots in Jhalawar and Bhilwara district following unauthorised re igious procession. **1 killed and 4 injured in police firing.**
1989, 13th Oct	MP	Bomb thrown at Id procession near Dhar in Indore. 65 injured
1989, 15th Oct	Gujarat	Riots in Sidhpur town following a religious procession. **1 killed, 4 injured.**
1989, 17th Oct	Gujarat	Riots in Patan town, Mehsana district after public meeting held by BJP. **1 injured. 1 Dargah and 20 muslim shops set on fire.**
1989, 17th Oct	Bihar	Curfew imposed inJharia town after Ram Shila procession Was disturbed. **1 killed in police firing, 20 injured, about 100 arrested.**
1989, 24th Oct	Bihar	The Ram Shila Puja procession was given permission to pass thru Muslim locality by the collector despite the protests of the residents. Provocative slogan eering during the procession. Two bombs were thrown. Mob went berserk and killing, looting and arson took place. Rumours of Hindu massacre spread in nearby villages and engulfed them in communal frenzy. **1026 killed (676 muslims), 2000 arrested, 3932 shops burnt , 891 shops looted and fired, 3000 powerlooms looted and burnt, 37 mosques; 7 madrasas, 8 tombs and 5 shia imam baras were destroyed.**
1989, 6ih Nov	Bihar	Riots inSasaram district over Ram shila Puja Procession. **10 killed, 51 injured, 102 people arrested, 2 shops set afire, Bombs and explosives** recovered.
1989, Nov --	UP	The murder of Hindu Jagaran Manch activist in Fatehpur town

		led to riots. **1 killed, vehicle destroyed.**
1990, 3rd Oct	Rajasthan	Riots in Udaipur over disturbances in the Ram Jyoti Pocession. **1 killed, 13 injured, shops ransacked and burnt.**
1990, 3rd oct	Karnataka	Riots in Chennapatna over incident of eve teasing. **2 killed in police firing, 30 injured, property set ablaze.**
1990, 3rd Oct	Karnataka	Riots in Kolar during Id after 1 student was stabbed to death. **16 killed, 15 injured. Shops set afire.**
1990,	Maharash tra	Riots in Bombay after miscreants pelted stones at the truckloads people returning from Id - a- Milad procession. **1 killed, 24 injured, stone pelting at Bandra mosque.**
1990,	Maharash tra	riots in Morba village of Raigarh district after a group of people pelted stones at the Ram yatra procession. **1 killed, 13 injured.**
1990, 6th Oct	Karnataka	Riots in Devangere when Ram jyoti processionists went berserk. 18 killed.
1990, 30th Oct	Gujarat	"Rasta roko" agitation by VHP and BJP to mark kar seva for the construction of Ram temple in Ayodhya. **12 killed, 7 injured.**
1990, 30thOct	UP	"Kar Sevaks" put their flag on the Babri Masjid and demolish it. A victory march in Bijnore by several hundred people. Stones were pelted on the processionists. Riot breaks out in Bijnore. **Over 200 killed. Over 400 injured.**
1990, 29thOct	Rajasthan	Army was called in all the major towns following the demolition in Ayodhya. By Nov2nd violence toll in the state had risen to 52.
1990, 2nd April	Gujarat	Riots in Ahmedabad, Baroda and Palanpur. **53 killed.**
1990, 3rd April	Punjab	Bomb exploded in Hindu religious procession in Batala. **35 killed.**
1990, 4th April	Gujarat	Communal Violence in Ahmedabad after a stabbing incident. **60 killed and extensive damage to property.**

1990, 18th April	UP	Communal Riots in Kanpur. **220 arrested.**
1990,21st April	UP	Hindu Sammelan organised by the VHP.stones thrown at a religious procession.Riots in Mathura. Shops burnt.
1990	Maharash tra	Riots in Manori village over clash between two groups. **60 killed.**
1990,2nd May	Gujarat	Communal riots in Baroda. **3 killed in police firing.1injured** in stabbing. Buses set on fire.
1990,30th May	Maharash tra	Communal riots in Amravati district.**1 killed.26 injured. Mob set 10 huts on fire.**
1990,21st July	Bihar	Alleged rape and murder of a girl. Spraying of blood on schoolgirls. Riots in Lohardagga. **45 arrested.6 shops set on fire.**
1990	Rajasthan	Police open fire on religious procession in Banswara district. **1 killed. Many injured.**
1990, 2nd September	TamilNad u	Beating of drums and provocative sloganeering by Vinayak processionst near a mosque during noon prayer times. Communal riots in Madras. **3 killed in the riots. 12 injured.** Property worth lakhs destroyed.
1990, 2nd September	Karnataka	Riots in Ramnagaram. **7killed. Petrol pumps,industrial sheds, huts set on fire by miscreants.**
1990, 4th September	Gujarat	An aftermath of the Ram Janma Bhumi, Babri Masjid issue, riots in 5 Gujarat towns, during Ganesh festival. **16killed, 24 injured.**
1990, September	Gujarat	Huge Ganesh procession led by the BJP Health Minister of Gujarat, shouted anti-muslim slogans and threw stones in Muslim localities. Looting and burning of every muslim shop in the route of the procession. Riots in Baroda. **8 killed. 24 injured.** The Jama Masjid was partially damaged.
1990, 4th September	Gujarat	Riots in Anand following Ganesh festival procession. **3 killed. More than 12 injured.**
1990, 4th September	Gujarat	Riots following Ganapati procession in Surat. **1killed.**

1990,15th September	TamilNadu	Riots in Uthampuram, Madurai district over rights to worship a Peepultree. **6killed.**
1990,30th September	UP	Riots in colonelganj in Gonda district following Durga immersion procession.
1990. October	Karnataka	Riots in different parts of Karnataka following rumours of bombing of the BabriMasjid in Ayodhya. **1 killed. 30 injured. 27 arrested.**
1990,	Delhi	Communal Riots in Old Delhi near Idgah. **5 killed. 25 injured. 237 arrested.**
1990,	AP	Communal riots in Old city of Hyderabad and the adjoining Ranga Reddy district. **107 killed. 300 injured. 418 arrested.** Weaponsand explosives seized.
1990, Dec7	AP	CommunalRiots **claimed 155 lives** in Hyderabad. 58 mosques demolished, **200 religious sites destroyed.** Properties worth 30 lakhs destroyed.
1990, Dec	UP	Riots in Agra and Aligarh following the Ayodhya incident. **Over100killed.**
1990,	Gujarat	Riots in Sabarkantha district. **1killed. 34 killed in Ahmedabad.**
1990, 8th Dec	UP	**4 Passengers from Delhi bound Gomti express,killed in riot torn Aligarh town. 16 killed in the riots.** Violence spread to Meerut and Varanasi. 6 districts in UP affectetd. **125 killed.**
1990,December	UP	Riots in Agra incited by prerecorded provocative audio messages boomed by car stereos in the night. **22 killed.**
1990, 9th December	Gujarat	Cricket ball hit state reserve police men. One of the boys injured in the police firing. Muslims called for bandh.Tension resulted in riots in Ahmedabad. **39killed.**
1991,8th April	UP	Buffalo entered cane field. Riots in Mustafabad village,Varanasi. **3 killed,1 injured.**
1991,11th March	WB	Communal clash in Nadia district.

		7 killed, 13 injured.
1991,24th march	Orissa	Riots in Bhadrak following Ram Navami procession. **11killed.** During the BJPsponsored bandh on 28th March, **vehicles and houses set on fire by the mob. 16 killed, 2injured.**
1991, 27th March	UP	Riots in Saharanpur following RamNavami procession. **10 killed, 284 arrested.**
1991, 19th May	UP	Election procession conducted by BJPstorm troopers through muslim locality leasd to riots in Kanpur. **9 killed.**
1991, 20th May	UP	Communalriots in Sikandrabad, Bulandshahar district following poll clash between twoopposing parties. **12 killed, 49 shops burnt.**
1991, 23rd April	Gujarat	Communal riots in Baroda following aggressive electioneering by BJP. **9 killed.** Many injured.
1991, 21st April	Gujarat	CommunalViolence in Surat. **2 killed.**
1991,16 h May	MP	Communal Riots in Gogaon, MP. **5 burnt alive. 20 injured. 115 shops,kiosks and houses destroyed.**
1991, 24th July	Gujarat	Large scale communalViolence following Moharram procession in Broach, Jambusar and Baroda. **17 killed**
1991, 17th April	WB	Communal Riots following a bomb explosion in a prayer meeting in Calcutta. **25 injured.**
1991, 20th May	UP	Communal riots in Meerut following elections. Muslimsand scheduled castes vote for Janata dal and Hindus vote for BJP. **3 killed.**
1991, 3rd July	Delhi	Riots in Delhi following an altercation between an autorickshaw driver and a pushcart driver. **2 injured in stabbing**. Policevehicle attacked by ricters.
1991, 20th July	Karnataka	Communal riots following an incident opf eve teasing and group clashes in Basava Kalyan.

			3 killed and 10 injured in policefiring. 3 huts set on fire.
1991, November	8th	UP	Communal Riots following the Kali immersion procession. **17 killed.**
1991, January	26th	UP	CommunalViolence in Ghaziabad. **10 killed. 254 arrested.**
1991,2nd February		Karnataka	CommunalViolence in Sullia. 5injured. Large number of shops and houses gutted.
1992, february	12th	UP	Riots in Hapur town following a dispute over temple. **9 killed.Over 20 injured.**
1992, 24th June		UP	**2 killed in Communal riots in Bilaspur. 24 arrested. 1 injured.**
1992, 1st July		WB	**1killed**. CommunalRiots in Hoogly district.
1992, 2nd July		Gujarat	Riots breakout on the eve of Rath Yatra in Ahmedabad. **Over 27 killed. Several hundred injured.** Crores worth property damaged.
1992, 19th July		Kerala	**6 killed** in CommunalRiots in Thiruvananthapuram.
1992, 19th July		Maharash tra	Riots in Malegaon following the Ayodhya controversy. **3 killed,116 injured. 101 arrested.**
1992, September		Gujarat	Communal riots in Gujarat following the Ganesh immersion procession. **3 killed, 24 injured.**
1992		Guijarat	Riots in Anand over issue of diversion of immersion route by the police. **1killed.16 injured.**
1992, 6th October		Bihar	**48 killed in communal riots in Sitamarhi. Over 100 injured.**
1992, October	26th	Rajasthan	**32 arrested in Communal riots in Ajmer.** Shops and vehicles damaged by rioters.
1992, December		Maharash tra	Follcwing the demolition of BabriMasjid in ayodhya,widespread communalriots in Bombay. **Over 400 killed (137 in police firing)**
1992,December		Gujarat	Week long Communal Riots in Surat after the Ayodhya demolition. **300 killed. 30 women raped. 20 industries looted,burnt, 1000 houses and shops burnt. 15 mosques and two temples damaged.**

1992, 5th January		Maharash tra	Communal Riots in Bombay and Ahmedabad. **215 killed in Bombay. 1700 arrested, 2000 placed under preventive detention.**
1993, 6th January		Maharash tra	Second Phase of Communal Riots, triggered by 113 "Maha Artis" attended by hundreds of BJP and Shiv Sena men accompanied by anti9-muslim slogans, in Bombay following the Ayodhya incident. **Over 557 killed. (133 in police firing, 259 in mob violence, 66 in arson). Majority Muslims. Loss of property worth Rs.4000 crores.**
1993, January	27th	Delhi	Riots in Delhi following rumours of desecration of religious place. **2 killed,6 injured,vehicles and shops burnt.**
1993, September	27th	MP	Riots following Ganesh procession in Mandsaur. **58 arrested.**
1993, September	29th	Gujarat	Riots in Surat during Ganesh immersion procession. **4 killed,1injured.**
1993, 3rd May		Manipur	**98killed in Communal violence in Manipur. 93 of them Muslims.**
1994,		Goa	Riots in Mapusa after Police prevented illegal Ganesh temple construction. **22 arrested. All BJP, Shiv sena workers.**
1994, February	10th	UP	Hindu mobs attack muslim residents in Kanpur in retakliation of a Bomb explosion that killed local BJP politician.
1994, July		Gujarat	Communal violence in 4 villages of Nadiad taluka on Muharram day. **1killed in policefiring.**
1994,15th August		Karnataka	Police lathicharge BJP supporters wanting to hoist national flag in Idgah maidan. **6 killed in police firing. 34 injured. Over 300 arrested.**
1994, 21st August		Karnataka	Communal violence following disturbances in a Id procession. Anumber of weapons recovered by the police. **2 killed. Over 200**

			vehicles burnt. Over 50 shops and hotels razed. 250 bicycles burnt.
1994, 7th October		Karnataka	Communal Riots following an anti-urdu telecast protest March in Bangalore. **25 killed, 343 injured.**
1994, December	7th	Gujarat	Riots in Ahmedabad, provoked by a groupwanting toperform Maha – Arti on the second anniversary of the demoloition of Babri Masjid in Ayodhya.
1994, October	14th	Karnataka	Riots in Devangere during Dusshera procession. **4killed,53 injured.**
1995, February	10th	UP	Communal riots in Moradabad. **4 killed.**
1995, 10th March		UP	CommunalRiots in Aligarh. **8killed, 19 injured, 308 arrrested.**

Communal Violence : Asghar Ali Engineer

Well-written
Journalistic style ; eminently readable
Is it a little too one-sided? Reports from diverse agencies (Government, police, judicial, non-governmental) could have been quoted.
Social, economic factors that led to causating violence/riots?
Social, economic and health effects? Management of persons who were affected by the violence? Physical and psychological effects?
Will Sri Krishna report be in place, in the text or as an appendix?
More on "prevention" would be useful. Better organization of "Prevention" and "control" communal violence.

Drought

Very exhaustive information about the area and the people of Western Orissa. Can it be condensed with greater relevance to "drought"?
Needs considerable editing ; many "mistakes" are probably due to "transcribing to the computer".
Will somebody else be writing on drought in other areas?

"Everybody loves a good drought" — Very well written.

Ravi Francis
21/8/98.

DROUGHT IS, beyond question, among the more serious problems this country faces. Drought relief, almost equally beyond question, is rural India's biggest growth industry. Often, there is little relation between the two. Relief can go to regions that get lots of rainfall. Even where it goes to scarcity areas, those most in need seldom benefit from it. The poor in such regions understand this. That's why some of them call drought relief *teesra fasl* (the third crop). Only, they are not the ones who harvest it.

A great deal of drought 'relief' goes into contracts handed over to private parties. These are to lay roads, dig wells, send out water tankers, build bridges, repair tanks—the works. Think that can't total up to much? Think again. The money that goes into this industry in a single year can make the withdrawals from Bihar's animal husbandry department look like so many minor fiddles. And the Bihar scam lasted a decade and a half. The charm of *this* scam is that it is largely 'legal'. And it has soul. It's all in a good cause. The tragedy, of course, is that it rarely addresses the real problems of drought and water scarcity.

In 1994-95 alone, the rich state of Maharashtra spent over Rs.1,170 crores on emergency measures in combating drought and on other water-related problems. This was more than the combined profits the previous year of leading companies all across the country in the organised sector of the tea and coffee, cement and automobile industries. Their profits after tax came to Rs.1,149 crores, according to a report of the Centre for Monitoring the Indian Economy. ('Corporate Finances: Industry Aggregates', CMIE, November 1994, Bombay.)

In August 1995, Prime Minister Narasimha Rao inaugurated an anti-drought project in Orissa. This one will involve spending Rs.4,557 crores in six years (over Rs.750 crores a year) on just a few districts including Kalahandi, Bolangir and Koraput. Every paisa of that huge sum would be worth spending if it actually fought scarcity and built better infrastructure. That, however, is most unlikely. In part because the main causes of the problems

these areas face do not even begin to get addressed.

In theory, drought-prone blocks come under a central scheme known as the Drought-Prone Areas Programme (DPAP). But bringing blocks into the DPAP is now a purely political decision. The central allocation for DPAP may be nominal. But once a block is under DPAP, a phalanx of other schemes follows bringing in huge sums of money. The same blocks then get money coming in under the employment assurance scheme (EAS), anti-desertification projects, drinking water missions and a host of other schemes. Well, *some* people do benefit.

In several states, official data on DPAP show us many interesting things. In Maharashtra, the number of DPAP blocks was around ninety six years ago. In 1996, 147 blocks are under the DPAP. In Madhya Pradesh in the same period, the number of DPAP blocks more than doubled from roughly sixty to around 135. In Bihar, there were fifty-four DPAP blocks right through the '80s. This became fifty-five when Rameshwar Thakur became a union minister in the early '90s. His home block in Bihar came under the scheme. Today, there are 122 DPAP blocks in that state.

All this has happened during a period where there have been several successive good monsoons. There has been scarcity too for some people. But that's a different story.

Kalahandi's major problem, as the reports in this section, show, does not arise from poor rainfall. Water resources experts and administrators would largely agree that, barring problems of erratic timing and spread, most Indian districts could get by on around 800 mm of rainfall annually. The lowest rainfall Kalahandi has had in the past twenty years was 978 mm. That is way above what some districts get in 'normal' years. Otherwise, Kalahandi's annual rainfall has been, on an average, 1,250 mm. That is pretty decent. In 1990-91, the district had 2,247 mm of rainfall. Besides, Kalahandi produces more food per person than both Orissa and India as a whole do. Nuapada, the worst part of old Kalahandi,

and now a separate district, got 2,366 mm of rainfall in 1994.

In Palamau, too, average rainfall is not bad. The district gets 1,200-1,230 mm of rain in a normal year. In its worst year in recent history, it received 630 mm. Some districts in India get less without experiencing the same damage.

Surguja's rainfall seldom falls below 1,200 mm. In some years it gets 1,500-1,600 mm. That's roughly four times what California gets. And California grows grapes.

Yet, all these districts have problems relating to water that are quite deadly. Very different ones from those the funds address. Simply put, we have several districts in India that have an abundance of rainfall—but where one section, the poor, can suffer acute drought. That happens when available water resources are colonised by the powerful. Further, the poor are never consulted or asked to participate in designing the 'programmes' the anti-drought funds bring.

Once it was clear that drought and DPAP were linked to fund flows in a big way, it followed that everyone wanted their block under the scheme. In many cases, the powerful are not only able to bring their blocks under it, but appropriate any 'benefits' that follow.

Take Maharashtra. Around 73 per cent of sugar cane produced in the state is grown in DPAP blocks! And sugar cane is about the most water-intensive crop you can get. Secondly, the area under irrigation in Maharashtra is pathetic. Just inching towards 15 per cent of crop land. But in the DPAP blocks, in one estimate, it is 22 per cent—nearly 50 per cent higher than the state average. Annual rainfall in Lonavla near Pune seldom falls below 1,650 mm and can touch 2,000 mm. Lonavla is a DPAP block.

The many hundreds of crores spent in Maharashtra on relief and on irrigation over the years have not led to any appreciable rise in land under irrigation. In the DPAP blocks are small farmers who really feel the pressure. The water is cornered by the rich and the strong. Governments kid themselves that by throwing

money at such regions, the small fish, who have big votes, can be pacified. In reality, the lion's share of funds going there is again appropriated by the powerful. And irrigation water? About two per cent of farmers in the state use around 70 per cent of it.

Drought is a complex phenomenon. You can have an agricultural drought, for instance, even when there is no meteorological drought. That is, you can have adequate rainfall and still have crop failure. Or you can have hydrological drought, with marked depletion of rivers, streams, springs and fall in groundwater levels. The reasons for these are well known but seldom addressed. It is so much nicer to just put the whole thing down to nature's vagaries. It also works this way because so many forces, at different levels, are either integrated, or get co-opted, into the drought industry. The spiral from the drought scam touches the global stage before returning.

Here's how: Take any one district. Say Surguja (it could be any other). The peasants face many water-related problems. Block-level forces—contractors and politicians—take up 'the cause'. The complaint, typically, is: Our block got far less funds than the others. The collector is ignoring us. That's why its happening.

Well, two things are happening, really. One, the peasants of Surguja face serious problems that are intensifying. Two, specific forces are making a pitch at the district headquarters for bringing more funds to the block.

The local stringer of a newspaper (based in, say, Bilaspur), takes up the theme: the collector is neglecting 'our block'. Most newspapers pay their stringers a pittance. Some stringers get as little as Rs.50 a month. So only those with other sources of funds can work in this capacity. In many parts of these districts, you will find that the stringer is often a small shopkeeper, a petty businessman.

If contracts for various 'public works' come to the block or district, the stringer might be among the beneficiaries. This is not true of all, but does apply to quite a few stringers. I met many

intelligent, resourceful people among them. They are bright, have an ear to the ground, react quickly to situations. Quite a few of them are also small contractors. So are many block-level politicians. (So are many national politicians and newspaper owners, but that's another story.)

Reports of raging drought put pressure on a district administration strapped for resources. (Some of the stories have strong elements of truth, though death counts are often exaggerated.) The collector calls his friends: the district level correspondents. He explains that his district gets far less from the state capital than other, neighbouring ones. This could well be true. The collector is also pitching at the state capital for a better share of the resource cake. Reports of 'stepmotherly treatment' of Surguja, or whichever district it is, start appearing in newspapers in the state capital.

That embarrasses the state government. How does it respond? While doing what it can locally, it also pitches at the Centre for more funds to deal with the drought. State governments often bring down correspondents from mainline journals to the state capital. These reporters then set off on a guided tour of the 'affected areas'. Governments often have vehicles reserved for the purpose of press tours. And often, a senior official goes with the journalists to the trouble spots.

The sophisticated writers of the urban press are superior to the local press when it comes to the heart-rending stuff. The drought becomes a national issue. Copy full of phrases like 'endless stretches of parched land', accompanied by photographs, reaches urban audiences. (Now parched land is not necessarily a symbol of drought. You can have it in very wet places if you drain a pond. And you can have an acute water shortage in seemingly green areas. But parched land makes better copy and pictures.) This is more true of the English press. The language press has serious problems, but is closer to the ground.

If it is, say, mid-May when reporters reach the affected

region, the searing heat will impress some. With your skin and hair on fire, it is easy to believe there has been drought in the area since the dawn of time. There could be flooding here two months hence, but that doesn't matter now. Unlike the quick-on-the-uptake local stringers, the national press is seldom clued in on ground reality. There are, of course, many reporters who could handle the real stories of the place. They don't often get sent on such trips. Those are not the kind of stories their publications are looking for. Every editor knows that drought means parched land and, hopefully, pictures of emaciated people. That's what 'human interest' is about, isn't it?

The state has made its pitch at the Centre. The Centre is unfazed. It uses what it considers examples of responsible reporting (that is, reports that do not vilify the Centre) to advantage. It makes its own pitch for resources. International funding agencies, foreign donors, get into the act. UNDP, UNICEF, anyone who can throw a little money about. The global aid community is mobilised into fighting drought in a district that gets 1,500 mm of rainfall annually.

The reverse spiral begins.

Donor governments love emergency relief. It forms a negligible part of their spending, but makes for great advertising. (Emergencies of many sorts do this, not just drought. You can run television footage of the Marines kissing babies in Somalia.) There are more serious issues between rich and poor nations—like unequal trade. Settling those would be of greater help to the latter. But for that, the 'donors' would have to part with something for real. No. They prefer emergency relief.

So money comes into Delhi from several sources. The next step in the downward spiral is for central departments to fight over it. Nothing awakens the conscience like a lot of money. One department or ministry remembers it has a mission to save the forests of the suffering district. Another recalls a commitment to manage its water resources.

Then there are all the hungry, Rs.30,000-a-month

consultants to be clothed and fed. Projects are drawn up with their assistance for fighting drought in the district. Or for water resource management. Or for anything at all. Studies of water problems are vital. But some of these are thought up simply because there are funds now. (The collector and a lot of peasants in the district could probably tell you a great deal about the real water problems. But they're not 'experts'.)

The money goes to the state capital where the struggle over sharing it continues. At the district level, the blocks pitch for their share. Contracts go out for various emergency works. A little money might even get spent on those affected by the water shortage. But it cannot solve their problems.

The next year the same problems will crop up all over again because the real issues were never touched.

At the end of it, many forces including well-meaning sections of the press have been co-opted into presenting a picture of natural calamity. Too often, into dramatising an event without looking at the processes behind it. The spiral works in different ways in different states. But it works.

And yet, so many people do suffer from water-related problems. Several of India's more troublesome conflicts are linked to water. It may have taken a back seat, but the sharing of river waters was a major part of the Punjab problem. The ongoing quarrel between Tamil Nadu and Karnataka is over Cauvery waters. (Some of India's tensions with Bangladesh have their basis in water sharing disputes.) The struggle over water resources operates at the micro, village level, too, in many ways. Between villages, between hamlets within a village, between castes and classes. (For more on drought-related issues, also see the sections on displacement, survival, usury and fightback.)

Conflicts arising from man-made drought are on the rise. Deforestation does enormous damage. Villagers are increasingly losing control over common water resources. The destruction of traditional irrigation systems is gaining speed. A process of privatisation of water resources is apparent in most

of the real drought areas (take the water lords of Ramnad, for instance). There are now two kinds of drought: the real and the rigged. Both can be underway at the same time, in the same place. As the reports that follow seek to show, they often are.

DM-2

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Essay

Should Health Professionals Allow Reporters Inside Hospitals and Clinics at Times of Natural Disasters?

Health professionals must protect their patients' dignity and privacy

Anant Bhan

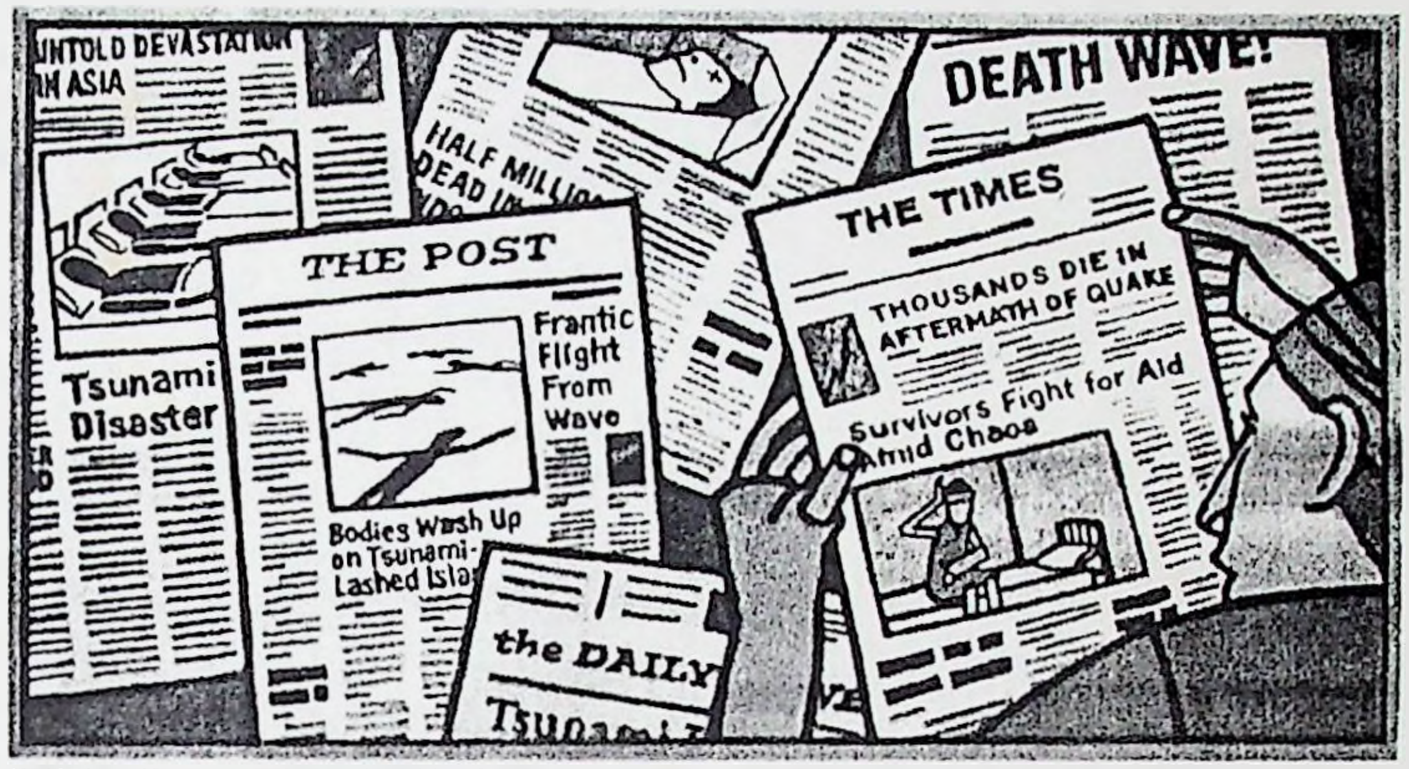
This is one of seven articles in the June 2005 issue that revisit the tsunami six months on.

The tsunami that marked a solemn end to 2004 left behind unprecedented devastation. The world was shocked at the increasing casualty figures and the real-time images of the disaster brought by the news media. These included clips and photographs of dead bodies, grieving relatives, and suffering patients admitted to makeshift emergency wards.

The photographs did help in organizing a quick response from the rest of the world, as societal pressure led governments and relief agencies to respond with comprehensive relief measures. Graphic footage and newspaper headlines continue to dwell on this human tragedy. However, both health-care workers and journalists need to carefully consider whether it is ethical to show images of patients in obvious distress and undergoing medical attention in emergency camps, or of dead bodies in hospital morgues.

Ethical Guidelines

There are many published guidelines that journalists can turn to for guidance on the ethics of reporting. For example, the UNESCO International Principles of Professional Ethics in Journalism details the principle of respect for privacy and human dignity as an integral part of the professional standards of a journalist [1]. The Australian Journalists Code of Ethics calls upon journalists to respect private grief and personal privacy, and reinforces the right of journalists to resist their compulsion to intrude [2]. The Code of Ethics and Professional Conduct of the Radio-Television News Directors Association, the world's largest professional organization devoted exclusively to electronic journalism, expects professional electronic journalists to treat all subjects of news coverage with respect and dignity, showing particular compassion to victims of crime and tragedy [3].



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During disasters, journalists and health professionals must respect patients' privacy (Illustration: Giovanni Maki)

However, there has been little consideration to date of the ethics of health-care staff allowing access to media inside medical institutions at times of natural disasters. In a 2003 editorial in the BMJ, which discussed "man-made" disasters such as war, Singh and DePellegrin questioned the use of footage of casualties from the Iraq war without the patients' consent [4]. An extensive debate followed publication of the commentary (see http://bmj.bmjjournals.com/cgi/eletters/326/7393/774); one of the views expressed was the need to show the world the extent of killing and maiming in the war (http://bmj.bmjjournals.com/cgi/eletters/326/7393/774#31147).

The Essay section contains opinion pieces on topics of broad interest to a general medical audience.

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Competing Interests: AB is a bioethics fellow studying in Canada and a public health physician from India, one of the countries most heavily affected by the tsunami. He is presently the recipient of a Fogarty International Fellowship.

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Media Coverage of the Tsunami: Benefits and Harms

In the post-tsunami scenario, the usefulness of the Internet and media was apparent. For example, a young Swedish child separated from his family was identified by his uncle on a hospital Web site and later reunited in an emotional moment with his father, who had been admitted to another hospital. The publication on government and hospital Web sites of the names of those admitted to hospitals, together with news releases, helped many identify their friends and relatives.

Furthermore, the aid response has been the largest of any disaster in history, which may have been due to the unprecedented media coverage. There has also been the advent of "disaster tourism"—the massive inflow of well-meaning, but often ill-organized, charitable organizations and aid volunteers to the tsunami-hit areas [5].

At the same time, the media coverage of wailing relatives and dead bodies lying in hospital morgues is deeply disturbing. The death of a loved one is a time for privacy and respect for the dead. As a South Asian, I am aware that in many communities the dead body is covered with a shroud that denotes purity. It is rare to photograph or film funerals. To infringe on the privacy of families when they are emotionally shattered is disrespectful to the living. Photographing and filming the deceased in various stages of undress and decomposition violates the dead and their dignitary rights, according to most cultures. In addition, the hordes of news media that descend on a hospital can hamper the efficiency of the medical staff providing emergency care, where even seconds are crucial.

The Role of Health Professionals In Protecting Privacy

Health professionals and administrators can and should control media access to hospitals and clinics. The public's right to information should not outweigh the right of victims of natural disasters to privacy, confidentiality, and dignity. Health professionals should be aware that the filming of patients under their care may be used not only for highlighting the extent of a disaster's human toll, but also for commercial purposes, such as selling programs and newspapers, and for raising funds. For these reasons, extreme caution should be used in giving permission to use images from inside hospitals in disaster-affected areas. Ideally, the consent of the patients or surrogate decision makers should be sought fi

It is now the ethical norm to seek consent of patients when photographs of them (or even of their body parts) are used in medical conferences or publications (see the guidelines on consent from the International Committee of Medical Journal Editors, at http://www.icmje.org/#privacy). A similar approach should be taken in the event of natural or man-made disasters. If photographs of the dead or those admitted to hospitals have to be publicized for identification purposes, this should be done keeping local sensibilities in mind.

It is difficult for health-care professionals to shoulder this social responsibility during a crisis when lifesaving measures come first.

To infringe on the privacy of families when they are emotionally shattered is disrespectful to the living.

Community consent and monitoring through community leaders, tribal elders, or local authorities might be an option. Such community involvement would result in media coverage that would be socially and culturally acceptable. While the usefulness of documenting and transmitting such geographically and experientially diverse experiences around the world is undeniable, the terms of access for media have to be negotiated keeping the notion of consent central.

With the increasing focus in medicine and bioethics on individual rights, the right to privacy is pivotal. Doctors and other health professionals have a duty of care to their patients, which includes protecting their dignity and privacy. Ethical obligations of health professionals to monitor recording of images in health institutions need to be higher than those of society in other venues, such as the street or the beach.

It may be valuable for medical professionals to have a specific code, perhaps written by disaster-relief organizations (such as the Red Cross) together with the World Medical Association, that outlines how to deal with the media in disaster settings. Arguably, the universal obligation of health-care professionals and administrators to respect the privacy and confidentiality of their patients should suffice, but given the nature of realities on the ground in disasters and emergencies, a specific code would be useful.

Responsible Journalism

Responsible journalism in health-care settings at times of disaster, facilitated by guidelines that specifically address the ethical reporting of disasters and that are applicable universally across the world, will also help prevent exploitation of victims of a calamity. Such guidelines could be developed by a joint body comprised of international medical humanitarian agencies such as the Red Cross and Médecins sans Frontières (MSF), multinational agencies such as the United Nations, media representatives, and media watchdogs.

The guidelines need to be acceptable to the global media community and also need to be made binding. For example, sanctions could be imposed upon journalists (or their parent organizations) who ignore them, or perhaps only those journalists who have been accredited in "ethical reporting of disasters" should be given access to disaster sites.

The guidelines could also usefully be published together with a code for health professionals. An example of joint guidelines on ethical reporting on health issues for the media and health-care professionals are those adopted in Washington State (http://www.wsma.org/news/guide.html). These guidelines were jointly approved and prepared by media, publishers, broadcasters, and hospital and medical associations, and they could serve as a template for international guidelines on disaster reporting.

Conclusion

In disasters, the affected are often left with almost nothing and with negligible negotiating power. They might be left with only their pride and dignity,

and they must not be robbed of that. Patients or affected families might not be in a condition to respond to encroachment on their rights. While health professionals want to facilitate recognition of their unidentified patients and also facilitate more aid to affected areas, they also have an enhanced responsibility to protect their patients' dignity and rights. We should not need to be voyeurs into the grief of vulnerable victims to launch an effective and humane response to any disaster. ■

Acknowledgments

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DM-2.

DISASTER

Death under snow

Avalanches kill several hundred people and cause heavy loss of property as Kashmir experiences its worst snowfall in recent years.

SHUJAAT BUKHARI
in Waltengu Naar

FOR many years, summer was harsh in Kashmir with long dry spells that affected agriculture. The reason for this was the poor snowfall in winter. Even Chila-e-Kilan, the harshest period of Kashmir's winter, which runs from mid-December to end January, did not see much snow. The story was the same this season too.

However, the second part of winter beginning February, known as Chila-e-Khored, turned out to be devastating. The unprecedented snowfall, which lashed the whole of Kashmir Valley and parts of Jammu, took a heavy toll of life and property. As many as 300 people were killed and many are still reported missing. Thousands of houses were destroyed. The damage to agriculture, particularly horticulture, has been enormous.

The impact of the snowfall was first felt on February 7, when the 300-kilometre-long Srinagar-Jammu national highway got blocked and 17 soldiers of the Indo-Tibetan Border Police (ITBP) were swept away in the avalanches. Srinagar was buried under heavy snow, which threw life out of gear. There was no water or power supply. With the shops remaining closed for three days, the demand for essential commodities went up.

The State government, which was caught unawares, is facing severe criticism for its inability to manage the crisis caused by what is christened "snow-tsunami" by the regional press. "We were not prepared for this havoc," admitted Taj Mohiuddin, Minister for Consumer Affairs and Public Distribution.

While the plight of those living in urban Kashmir got good media coverage, south Kashmir had no such privilege though a whole area was flattened by avalanches. In Waltengu Naar, a cluster of tiny hamlets in the Himalayan ranges in south Kashmir, nearly 200 people were buried alive in their hutments.

According to villagers here, mostly

(Top) Residents of Waltengu Naar in South Kashmir carrying a body recovered from the snow.

NISSAR AHMAD

DANISH ISMAIL/REUTERS

NISSAR AHMAD

A damaged house at Waltengu Naar. (Right) Survivors at the relief camp in Yar Khushipora.

Bodies of those killed by avalanches at Waltengu.

herdsmen, the heavy snowfall started on February 16. By the night of February 19, it had assumed dangerous proportions. As the avalanches started hitting the mud hutments, some 100 residents managed to get out of the snow that was 10 to 16 feet high, the highest recorded in recent years. They started trekking the snowy slopes down towards Qazigund. At the same time, a group of villagers from the low-lying areas decided to walk up to the inaccessible hamlets. The two groups met halfway, and that was how the news spread. According to Army sources, a villager walked for 20 hours to inform the nearest post of 49 Rashtriya Rifles; the police acknowledged that they were informed about the marooned village by the Army. "But the police were the first to reach there," said Nazir Ahmad, an Assistant Sub-Inspector posted at Qazigund.

However, on February 23, when *Frontline* visited the village, residents were waging a battle against the snow with the help of spades and shovels, with the 50-odd police and Army personnel present rendering not much help. Now the area is thronged by many government agencies and non-governmental organisations (NGOs) seeking to provide relief and rehabilitation.

EXCEPT graves, nothing is visible now in Waltengu. "I lost ten of my family members as a giant wall of snow slammed into our village," says Abdul Gani, a labourer. The dead include his two sons, six-year-old Altaf and 18-month-old Aslam.

Master Bashir Ahmad, another resident, lost 22 of his relatives to the avalanche. His two sons were rescued but only to die in hospital for want of medicines. His wife Hajra was rescued alive from under the snow after three days by the villagers.

There is hardly a resident in Waltengu who has not lost a relative. "The avalanches crushed everything. It killed people and animals, and destroyed trees," said Muhammad Shafi, who was attending to one of his injured relatives at the Qazigund hospital. He lost five relatives including his two-year-old son, but was caring for four others who survived.

Many children who have lost their parents refuse to go back to their villages. Many of them have nobody to look after them. At a make-shift camp in Yar Khu-

NISSAR AHMAD

Vehicles stranded on the Srinagar-Jammu National Highway on February 22.

shipora, 6 km away from Waltengu, Additional Director-General of Police (Armed) Kuldhip Khuda picked up three such children for adoption. Many NGOs are coming forward to help the destitute children. The dozens of children at the camp still play in the snow, but at night many of them wake up seeing nightmares.

After the initial rescue operation, the State may face another challenge – from epidemics. Dr. Muzaffar Ahmed, Director, State Health Services, said that the authorities were equipped to meet any such eventuality.

Even as snow swept the whole valley, the Army faced no losses. But all the other forces – the police, the Border Security Force (BSF), the Central Reserve Police Force (CRPF) and the ITBP – had to pay a price. If the ITBP lost 17 men on Jawahar Tunnel, the BSF lost nearly a dozen men in the border district of Kupwara.

The Army encountered unprecedented weather conditions along the 750-km-long Line of Control (LoC). Chief of Staff of the Srinagar-based 15 Corps, Major-General Raj Mehta, said that such a situation had come about after 43 years. "There are places in the [western] Uri sector where the accumulated snowfall level is touching 70 feet. In Gulmarg sub-sector where our troops are operating, the snowfall level is 66 feet," Gen. Mehta said.

FOR once, Kashmir became the destination of top dignitaries for reasons other than militancy. From Prime Minister Manmohan Singh to Congress president Sonia Gandhi, almost all those who matter in New Delhi had made it to Waltengu and other places to visit the suffering. But leaders of the main Opposition at the Centre, the Bharatiya Janata Party, were missing.

The first to reach Srinagar was Sonia Gandhi, along with Defence Minister Pranab Mukherjee. She asked the governments in New Delhi and Srinagar to speed up the relief work. The Prime Minister, who too made an aerial survey of the affected areas, announced that Rs.1 lakh each would be paid from the National Relief Fund to the kin of the deceased.

Union Home Secretary Dhirendra Singh announced that a National Disaster Response Force will soon come up to fight such tragedies. He said that eight battalions from the BSF, the CRPF and the ITBP would be specially trained for the purpose. "One such battalion will be shortly moved to Jammu and Kashmir to be part of the ongoing rescue operations," he said.

Chief Minister Mufti Mohammed Sayeed said the survivors in avalanche-prone regions would be moved to safer areas. "I assure them that the government will spare no effort to provide relief to them and ensure adequate rehabilitation of the survivors – psychologically, financially and logistically", he told *Frontline*. The State government has announced Rs.1 lakh each as *ex gratia* payment for the kin of the deceased.

The government sought Rs.1,500 crores for relief and rehabilitation – Rs.500 crores for immediate relief and the remaining for long-term rehabilitation work – from the Centre.

The separatists too chipped in to help the victims. Jammu and Kashmir Liberation Front chairman Yasin Malik was in the forefront of those walking the long distance to the affected areas to provide the survivors clothes, food, medicine and boots. ■

DM- 2.

DISASTERS

PREPAREDNESS AND MITIGATION IN THE AMERICAS

Issue No. 80 News and Information for the International Disaster Community April 2000

INSIDE

Identifying Cadavers Following Disasters: *Why?*

One of the most common myths associated with natural disasters is the myth that cadavers are responsible for epidemics. In many cases, the management of cadavers is governed by the false belief that bodies represent a serious threat of epidemics if they are not immediately buried or burned. This threat is used as a justification for widespread public health malpractice that gives top priority to mass burial or cremation of victims. More than simply being scientifically unfounded, this practice leads to serious breaches in the principle of human dignity by depriving victims of an appropriate identification and disposal of their body.

The debate about the issue of mass disposal of bodies of victims who have died from trauma due to a disaster cannot be solely confined to the public health arena. In fact, in this case, public health is a non-argument. This remains a problem despite the fact that in most countries, domestic laws provide a series of requirements for the proper disposal of bodies.

The real challenging argument for the appropriate management of dead bodies is the recognition that identification and proper disposal of a dead body—if not clearly and unambiguously in legal terms a basic human right—is at least a basic human need.

When someone dies, there is not only a legal, societal need to identify the person, but also the human need for the moral comfort of his/her relatives. Following the July 1995 massacre in Srebrenica, Bosnia, for more than a year the women of Srebrenica demonstrated in the streets of Tuzla, demanding to know from humanitarian agencies, the United Nations and the Red Cross, if their husbands were still alive and being kept prisoner or had been massacred. The mental anguish of survivors is no less following natural disasters and yet in many instances we have witnessed unnecessary precipitous mass burials. Contrast that to the seemingly endless efforts by the U.S. Government, even 25 years after the end of the Vietnam War, to obtain some means of identification of still unaccounted for MIA/POWs. Are the needs of the relatives of hurricane or earthquake victims less important?

(cont. on page 7)

LIDERES A Course For Managers in Health, Disasters and Development

No longer is it enough to have an excellent technical grasp of the epidemiological consequences of disasters or the structural vulnerability of hospitals. Today, the decentralization and reform processes that are underway in the countries of the Region have significantly changed the tasks of the national disaster program coordinators. At the same time, the globalization of humanitarian assistance has stimulated the interest of a greater number of new actors with whom the national authorities must interact. Among them are financial organizations, NGOs and foreign militaries.

(cont. on page 2)

ISSN 1564-0701

News from PAHO/WHO

A Snapshot of Donations to Venezuela

SUMA, the Humanitarian Supply Management System, was in place in Venezuela immediately following the December 1999 floods. The system captured very detailed information on incoming humanitarian relief that poured into the country, making it possible to confirm several longstanding observations:

- Local communities are the first to help. The initial response was from the country itself. SUMA began registering incoming donations from other parts of Venezuela on December 17, the day after the rains ceased. Nine days later, SUMA began registering the first foreign aid donations.
- International assistance arrives later, but in abundance. Foreign donations registered by SUMA outnumbered local ones. Two-thirds of all in-kind donations came from the international community.
- The system can become clogged with non-priority items. More than half of medicines received were not urgently needed.

Snapshots such as these confirm the need for a global education campaign on in-kind donations, a step called for in the last issue of this newsletter.

For more information on the flow of donations to Venezuela, compiled by SUMA, please visit www.disaster.info.desastres.net/SUMA/. ❑

WHO Guidelines for Vegetation Fire Events Available Online

The WHO-UNEP-WMO Guidelines for Vegetation Fire Events (see issue 77 of this newsletter) is available online at www.who.int/peh/ (click on "Air" and then on "Vegetation Fires"). Background papers and the teacher's guide are also available at the same address. ❑

Radiation: Before, During and After Radiological Emergencies

PAHO has just translated this technical reference document and adapted it for Latin America and the Caribbean. This Spanish-language adaptation (it was originally published by WHO in English) is designed to improve the response to this type of accident in the Americas and is especially directed to local authorities. It is a useful reference volume for developing educational plans, preparedness measures, response plans, and mitigation programs for nuclear or radiological accidents. A limited number of copies is available in Spanish from the CRID (see page 8). ❑

LIDERES

(from pg. 1)

In order to tackle this increasingly complex situation, PAHO/WHO is organizing **LIDERES**, a course to respond to the demands of institutions that can no longer rely solely on professionals knowledgeable about disasters, but rather, urgently require managers.

This international course will focus on the managerial aspects of disaster reduction programs, from prevention to response to risk management, covering topics such as the globalization of relief, decentralization, information management for decision-making, project preparation, negotiation, mobilization of funds, the organization of work in unsafe areas, and transparency in relief management.

This first course will be conducted in Spanish and held in Quito, Ecuador from 28 August to 15 September and will be limited to 24 participants.

Following the model of other international courses, a registration fee of US$1,500 will ensure sustainability of this event. An additional US$1,300 will be charged for lodging, food and local transportation. The deadline to register is **15 July**. For more information contact: curso-lideres@paho.org. ❑

Other Organizations

HELP 2000: Health Emergencies in Large Populations

This three-week course is designed to develop or improve the skills of persons and organizations providing emergency health services in humanitarian emergencies. In 2000 it will be held from July 10-28 at the Johns Hopkins School of Public Health, Baltimore and from 17 July-4 August in Honolulu at the University of Hawaii.

Topics covered in the course include planning, food and nutrition, environmental health, communicable diseases, health services, epidemiology, humanitarian ethics and international humanitarian law. The courses are co-sponsored by the International Committee of the Red Cross (Geneva), the American Red Cross and PAHO. Contact Dr. Gilbert Burnham, fax: (410) 614-1419; e-mail: helpcour@jhsph.edu. ❑

Disaster Management Certificate Offered

The Center of Excellence in Disaster Management and Humanitarian Assistance (CEDMHA) and the University of Hawaii-Manoa introduced a new multidisciplinary training and research program leading to a Certificate in Disaster Management and Humanitarian Assistance. The new program will draw on the Asia-Pacific expertise of the university faculty and the extensive field experience of CEDMHA staff. Participants will include both civilian and military students.

For additional information contact CEDMHA fax: (808) 433-1757; http://coe.tamc.amedd.army.mil or e-mail: jwhite@hawaii.edu.

Saving Older People's Lives in Emergencies

Older people, especially older women, are a significantly vulnerable group in disaster situations. HelpAge International's new guidelines for best practices in humanitarian crises and disasters, *Older People in Disasters and Humanitarian Crises*, show how aid agencies can meet older people's needs and recognize their potential in emergencies. Simple changes in practices and attitudes can often make the difference between death and survival.

These guidelines are available in English, French, Portuguese and Spanish. The full document is posted in English at www.helpage.org.

For further information contact HelpAge International, fax: (44-020) 7404-7203; e-mail: press@helpage.org. ❑

World Disasters Report 2000

The International Federation of Red Cross and Red Crescent Societies (IFRC) will publish the World Disasters Report 2000 on 29 June 2000. The focus this year is on public health in disasters, and covers assessing and targeting public health priorities, AIDS in Africa, the Kosovo crisis, the need for legislation in disaster response, the quantity of aid, plus a "disasters" database with statistics on disasters and epidemics (supplied by the Center for Research on the Epidemiology of Disasters in Belgium) and refugees (from the U.S. Committee for Refugees). The publication will be available online at www.ifrc.org/pubs/wdr/. For more information please contact: Isabelle Grondahl, e-mail: tempcom2@ifrc.org. ❑

Volcanologists Chat Online

A new tool for direct online discussion has been introduced by the University of Rome's Physics Department. This tool may be accessed free of charge at: http://vulcan.fis.uniroma3.it/message/v-board/start.html. ❑

ADPC Course Focuses on Community-Based Management

The Asian Disaster Preparedness Center will host the Fourth International Course on Community-Based Approaches to Disaster Management from 3-14 July 2000 in Bangkok, Thailand.

The course will provide enhanced understanding of community-based approaches to disaster risk management through strengthening of local capacities. It will highlight the importance of collaborative working and development of strategies for local level partnerships between government, local officials and communities to achieve more advanced preparedness.

Nominations are invited. To obtain applications and more information, please contact ADPC at e-mail: tedadpc@ait.ac.th; fax: (662) 524-5360, or visit their website at: www.adpc.ait.ac.th. ❑

Member Countries

Seminar on Environmental and Technological Emergencies

OCHA and the Federal University of Parana, Brazil are organizing a seminar on 5-9 June, 2000 for disaster professionals to strengthen regional capacity in responding to disasters and to promote the response system used by the UN as well as several tools used in evaluation and coordination, including the response to environmental emergencies. More information may be found at: www.geologia.ufpr.br/ochaundac or by email: monteiro_pereira@un.org. ❑

Follow Up on Volcanic Emergency in Ecuador

Following is an update on health sector response to the continued volcanic activity in Ecuador.

Epidemiological surveillance

The Ministry of Public Health is publishing the newsletter ***Volcanes***, to provide information on the effects of volcanic eruptions on the health of Andean populations; specifically, the correlation between volcanic ash fall and respiratory problems, conjunctivitis, tuberculosis and asthma. The Newsletter is available at www.disaster.info.desastres.net/PED-Ecuador/desastre/boletin_volcanes.htm.

Safe drinking water is always one of the most critical needs.
Photo: PAHO/WHO

Mental health

Monitoring of the health situation has detected some cases of post-traumatic stress disorder in the affected population. Psychologists from the Ecuadorian Red Cross are working with volunteers to counsel those forced to migrate out of rural areas affected by ash fall and who have so far received very little humanitarian aid.

SUMA

Due to governmental reorganization, SUMA equipment is being transferred from the Housing Department to the Civil Defense, where the emergency situation is now being managed. A new coordinator is being trained in the role and operations of SUMA.

Water and sanitation

Nearly 80% of the drinking water systems located in the ash fall risk zone of both volcanoes have been covered with protective plastic. In some rural water systems alternative methods have been implemented using natural materials to cover water sources and systems. The same affected communities have received training and materials for disinfection of water supplies.

Caribbean Discusses Environmental Management

On April 6-7, PAHO's Office in Barbados held a seminar on post-disaster environmental management to define the roles of each country's environmental sanitation program in disaster situations, in terms of vector control and water and food sanitation. Participants also looked at PAHO's role in assisting in the transparent management of international donations and aid.

Representatives attended the seminar from Anguilla, Antigua and Barbuda, Barbados, BVI, Dominica, Grenada, Guyana, Puerto Rico, St. Christopher and Nevis, St. Lucia, St. Vincent and the Grenadines and the U.S. Virgin Islands. Support for the meeting was also provided by the Centers for Disease Control (CDC), which in the past few years has been involved in post-hurricane environmental evaluations in the United States. Contact: vanalphd@paho.cpc.org. ❑

FAHUM Civilian-Military Meeting

From 14-26 February 2000 a civilan-military meeting funded by the US Southern Command was organized in Santo Domingo, Dominican Republic. Over 500 persons from Latin America and the Caribbean participated, as well as US military. The objectives were to enhance coordination of international, governmental and non-governmental agency relief operations during disasters and to promote civilian-military cooperation.

During the first week the Office of U.S. Foreign Disaster Assistance (OFDA) conducted a workshop on damage assessment, needs analysis and emergency operation center management. A desktop simulation exercise tested the different countries' EOC disaster plans. Disease surveillance, water and sanitation vector control and mass casualty management were included in the response scenario.

(cont. on page 5)

Safer Hospitals

No. 1 A Supplement to Disasters: Preparedness and Mitigation in the Americas April 2000
the quarterly newsletter of PAHO/WHO

Disaster Mitigation Goals in the Americas: More Important than Ever

PAHO/WHO

Much has been written about the importance of incorporating disaster mitigation measures into the design, construction and maintenance of our most critical facilities, such as hospitals. Nonetheless, despite the reminder left by extremely severe disasters in recent years, much remains to be accomplished if these facilities are to be fully operational in the aftermath of emergencies.

With just one year left before the deadline set at the International Conference on Mitigation of Natural Disasters in Health Care Facilities, held in Mexico in 1996, meeting national goals is more important than ever.

The disasters throughout the Hemisphere in recent years—among them hurricanes Georges and Mitch and the floods in Venezuela, emphasized the vulnerability of health facilities and how necessary mitigation measures are to keep them operating when disaster strikes.

Specifically, at the International Conference in Mexico, 500 experts outlined a series of recommendations for the period 1996-2001 to improve or initiate efforts to promote disaster mitigation in health facilities in countries at risk of hurricanes and earthquakes. Today, it would be necessary to add floods and landslides to the list of hazards.

One of the key recommendations was that each country identify its highest priority health facilities to conduct vulnerability studies and adopt the necessary mitigation measures. Another important recommendation, in fact, was to conduct structural vulnerability studies and draw up plans to reinforce priority facilities, employing suitable procedures consistent with current technical know-how.

Another key recommendation was to consider geological and meteorological threats, such as floods and landslides, when planning health services and to include mitigation measures in the design and construction of new health facilities or the remodeling and expansion of existing ones.

Some countries have made progress toward meeting these and other goals, as seen in the examples that are included in this special supplement on the work under way in Colombia, Argentina, Chile, and the Caribbean. However, many tasks are still pending, and the work on disaster mitigation in Latin American health facilities is just beginning, although some concrete results are already visible.

Colombia Readies Hospitals Against Seismic Risk

Santafe de Bogota has Invested in Vulnerability Studies and Reinforcement of Public Hospitals

The Secretariat of Health of Bogotá has invested almost US$500,000 over the past three years in a vulnerability assessment of 16 public hospitals in the Colombian capital. The funds for this operation have been drawn from city resources, given the importance of guaranteeing that health facilities continue to provide services when disasters strike.

With the vulnerability study almost complete, retrofitting has begun on the Kennedy Hospital, one of the larger, more complex facilities. Work on four more facilities of lower complexity will follow. Approximately US$ 4.5 million has been invested in the Kennedy Hospital, and close to US$ 200,000 earmarked for the four remaining hospitals. The studies and retrofitting activities, constitute an investment of more than US$ 5 million.

To date, Bogota's public hospital system has nearly 1,900 beds, 58% of them in third-level (high-complexity) facilities, 27% in second-level (intermediate-complexity) facilities, and the remaining 15% in first-level (low-complexity) facilities.

Public Hospitals Assessed in Bogotá

Level of Complexity	Hospital	Date of the Assessment
III	Kennedy	1996
	Simón Bolivar	Dec. 97
	Tunal	Dec. 97
	La Victoria	Dec. 97
	Santa Clara	Dec. 98
II	St. Blas	Dec. 97
	Meissen	Dec. 98
	Carmen	Dec. 98
	Fontibón	Dec. 98
	Guavío	Dec. 98
	Granja	Dec. 98
	Bosa	Dec. 98
I	Olaya	Feb. 99
	Tunjuelito	Feb. 99
	Usme	Feb. 99
	Chapinero	Feb. 99

The vulnerability studies and retrofitting designs for second- and third-level hospitals have already been completed, covering almost 83% of hospital beds.

In addition, assessments of the nonstructural and functional vulnerability of third-level hospitals have already begun. This will help to further mitigate the risk faced by Colombian health facilities in natural disasters.

Bogotá faces an intermediate seismic risk and, in 1997 new legislation was passed that increased the mitigation requirements for facilities that, like hospitals, must remain open when a disaster strikes.

For more information contact Dr. Carlos Roberto Garzón Becerra, Fax: (57-1) 348-0097; e-mail: aemurdes@colomsat.net.co.

Caribbean Hospital Doubly Affected by Hurricanes Rebuilt

90% of St. Kitts Hospital Damaged by Hurricane Georges

In the past decade, two major hurricanes have caused severe damage to the Joseph N. France General Hospital: Luis in 1995 and Georges in 1998. Georges, a category III storm, struck Saint Kitts and Nevis with winds of more than 115 km/hr.

In the aftermath, 90% of the J.N. France Hospital suffered major damage and was out of commission. The majority of the structure had no roof, and even though all the windows had been boarded up as protection against the winds, the impact was critical. Even the roofing installed after Hurricane Luis was lost.

In a few hours Georges had virtually destroyed the only referral hospital on the island of St. Kitts, which served a population of 33,000. Given the urgent need to rehabilitate the hospital, PAHO launched a rehabilitation project, with financial support from the European Community Humanitarian Office (ECHO), the United Kingdom's Department for International Development, and the Government of the Netherlands. The assistance enabled the government to rebuild critically damaged areas and departments. By September 1999 the reconstruction was successfully completed, and what was once a vulnerable hospital, today is a structure with the highest standards of resistance to hurricanes and earthquakes.

Other Caribbean Islands

In addition, under a second ECHO project, vulnerability studies of hospitals are being conducted on other Caribbean islands to reinforce selected buildings. A study of this type is currently underway in Saint Lucia and Grenada and will end in June of this year with two workshops on mitigation to disseminate the guidelines prepared by the ECHO project.

Based on this experience, a technical document, "Mitigation of Natural Disasters in Health Facilities–Guidelines for Vulnerability Analysis," will be prepared by professionals based on the experiences of the Caribbean countries and geared to hospital administrators and other health professionals in the Caribbean. These guidelines will indicate how to conduct preliminary assessments of vulnerability to earthquakes and hurricanes in the respective departments. They will also provide professionals with tools for their negotiations with technical staff and for setting priorities in the rehabilitation of their units.

Contact Dr. David Taylor, fax: (1-246) 436-9779; e-mail: taylorda@cpc.paho.org.

Health Network Collapses in Worst Affected Areas of Venezuela

The worst disaster in Venezuelan history struck last December, sparing very little in its path. The Maternal and Child Hospital of Macuto was partially buried under the rocks and mud swept down by landslides from the Cerro Avila on Venezuela's central coast following torrential rains.

However, this children's hospital was only one of the 43 health facilities that were left out of commission in the State of Vargas, where the most damage occurred, revealing the vulnerability of these facilities to disasters and the importance of preparing in every possible way tolessen this vulnerability.

Some health centers were irreparably damaged, totally buried by the avalanche; others suffered serious damage, and the remainder, a degree of damage that also kept them out of commission for several hours, days, or even weeks. In some health facilities, the infrastructure was not damaged, but they were unable to operate because basic services such as water and electricity were interrupted, or because access to the facility was blocked. This heightened the impact of the disaster, leaving the injured and other survivors without a health center to provide immediate attention.

Six outpatient facilities (out of a total of 36) and the Maternal and Child Hospital were either totally or partially buried by the mud, requiring relocation and reconstruction. Three more hospitals suffered major damage and require very costly repairs, while the 32 remaining facilities also suffered minor damages (see box).

Damaged Health Facilities
Vargas, Venezuela

DESTROYED. MUST BE RELOCATED OR REBUILT
- Six outpatient facilities
- One maternal and child hospital (will become general hospital)
- One psychiatric hospital

SEVERE DAMAGE. REQUIRES MAJOR REPAIRS
- One type 3 hospital*
- Two type 2 hospitalss

REQUIRE MINOR REPAIRS
- 30 type 1 outpatient facilities
- One Childrens and Adolescents Hospital
- One Geriatric facility

* The level of complexity of health facilities in Venezuela is classified from Type 4 (most complex to Type 1 (least complex).

Source: Ministry of Health and Social Development

The magnitude of the damage was such that, according Venezuela's Ministry of Health and Social Development, rehabilitating the entire network of health facilities in the State of Vargas alone will cost nearly US$ 44 million. Of this investment, 64% will go to replacing buildings and the remaining 35% to equipment and the development of a modern transportation and communications network.

Almost half the total investment will be for new infrastructure—for example, the construction of a 120-bed hospital to replace the Maternal and Child Hospital of Macuto, 45 comprehensive care units, which serve as the population's point of entry to the new model of care; six urban outpatient facilities; and a regional psychiatric hospital with 200 beds. This investment represents an opportunity to reduce the vulnerability not only of health facilities but of the entire health services network of the State of Vargas.

For more information, contact Dr. Jorge Prosperi, Tel: (56-2) 2671622 Fax: (56-2) 2616069 E-mail: prosperi@ven.ops-oms.org.

Safe Hospitals throughout Chile

Sustained Effort to Mitigate Hospital Vulnerability to Earthquakes and Fire

From Arica at the northern tip of the country to Puerto Montt in the South, the Chilean Ministry of Health has identified hospital buildings most vulnerable to earthquakes and/or fires.

The assessments, which began seven years ago, determined the vulnerability of 14 hospitals and disaster mitigation measures were defined. The studies revealed that the hospitals' weak points are related to both structural and nonstructural factors. These weak points were uncovered, for example, in the case of the Coquimbo Hospital, when the pillars and beams of its lower floors were damaged in an earthquake in 1997. After the respective vulnerability study, the structure was reinforced by constructing 33 new walls to minimize the impact of an earthquake on the building. An important point is that constructing these walls is part of a series of expansions programmed as part of the normalization of the hospital, demonstrating that not only is it feasible and highly profitable to include mitigation measures when expanding health facilities, it is also a good solution.

Models and Standards, a Good Outcome

Chile's mitigation efforts will continue in 2000 and 2001 with a series of studies to develop an "Analytical Model for the will include a study of structural and nonstructural aspects of hospitals, ranging from the local geology to topography, soil mechanics, and microvibration of the structures.

Plans are also afoot to set standards for the design of new hospitals, permitting them to withstand earthquakes and remain operational. Meanwhile, in the buildings currently planned, a series of new requirements have been introduced to make structures more earthquake-resistant.

Other important actions include the creation of a laboratory to determine the seismic vulnerability of medical equipment, and the recent publication of the "Manual on Fire Prevention in Health Facilities" that will be soon be posted on the Ministry of Health website (www.minsal.cl).

For further information, contact Ing. Agustín Gallardo, e-mail: gallard@pasteur.minsal.cl.

(cont. on page S-4)

Argentina Also Evaluates the Vulnerability of Hospitals in San Juan Province

Public Health Centers Located in High Seismic Risk Areas

Western Argentina is a seismically active region with several provinces: San Juan, Mendoza, Salta, and Jujuy. This area has been hit by destructive earthquakes for the past 300 years, and San Juan and Mendoza were the sites of real regional disasters after the earthquakes of 1944 and 1961, respectively.

Nine of the 13 health centers and public hospitals of San Juan are located in Area 4 (very high seismic risk), and the four remaining centers in Area 3 (high risk). Together, these centers have 1,157 beds serving almost 600,000 inhabitants.

For this reason the National University of San Juan decided to launch a research project known as "Preliminary Assessment and Reduction of Seismic Vulnerability in the Public Hospital Network of San Juan Province," scheduled for 2000 and 2001 and sponsored by the School of Architecture, Urban Planning, and Design.

The project is subsidized by the University, but also has the endorsement and patronage of the Health Program for Disaster Prevention of the Secretariat of State and Public Health of San Juan, as well as technical support from PAHO/WHO.

The study will include a structural, nonstructural, and functional assessment of the health centers that will permit the design of measures to reduce its seismic vulnerability. This will be a very complete study with four interrelated phases.

The first phase involves the collection and systematization of background information on the damage that earthquakes produce in hospitals, an estimate of the seismic risk in San Juan and at the sites where its health centers are located, the damage produced by historical earthquakes in the hospitals of San Juan and neighboring areas, and soil characteristics in the area in which each hospital is located.

The second phase will consist of the compilation and reconstruction of the information needed for the assessment (from technical documentation to photographs), and the third, of a preliminary vulnerability assessment of each hospital, which implies the classification and prioritization of each in terms of the estimated level of risk, the complexity of the hospital, and the population served.

The study will conclude with a fourth assessment phase and a list of the necessary mitigation activities for each hospital to orient actions in the short, medium, and long term.

For further information, contact Virginia Rodríguez, e-mail: deskjet@impsat1.com.ar.

Excellence in Disaster Mitigation

The PAHO/WHO Collaborating Center on Disaster Mitigation in Health Facilities created just two years ago and located in the University of Chile's School of Physical and Mathematical Sciences has already provided important technical assistance in Argentina, Bolivia, Chile, Ecuador, Peru, and even Nepal, in Asia.

The Center has devoted itself to providing assistance in areas such as vulnerability assessment, the design of mitigation strategies, the rehabilitation of hospitals and health systems, training and the development of instructional and technical materials.

This effort brings together and coordinates professionals and technical personnel from other institutions and countries and currently employs the expertise of specialists in the assessment of seismic, hydrologic, and meteorological risk. One of the special features of the Center is precisely that it is an open institution that invites professionals with demonstrable experience to participate.

Experience in the Field

The Collaborating Center on Disaster Mitigation in Health Facilities has provided emergency technical assistance in identifying and quantifying damages and defining strategies for rehabilitation in the hospitals of Bahía Caraquez in Ecuador, Aiquile in Bolivia, and Region Four in Chile. It has also conducted vulnerability studies in Chile in the Coquimbo and Copiapó hospitals.

Reviewing national risk reduction programs in existing structures and designing strategies for new systems has been another aspect of the Center's advisory services. Work in this area has been done in Argentina, Chile, Ecuador, Peru, and Nepal.

How to Assess the Vulnerability of a Hospital

One valuable contribution of the PAHO/WHO Collaborating Center will be a document, "Methodology for Hospital Vulnerability Assessment", detailing the theory behind the methodology and its application.

The document will be accompanied by the specific example of Hospital of Arica, located in northern Chile, a region hit by several earthquakes of a magnitude higher than 7.5 on the Richter scale and two tidal waves in the past century. The hospital that was assessed had been damaged by a 6.7 magnitude earthquake and had already been repaired. The document details the steps of the vulnerability assessment, from the objectives and background to the expected results, the duration of the activities, and the professionals required. The publication will be ready by mid-year.

Contact Rubén Boroschek, Tel: (56-2) 6784372 Fax: (56-2) 689 2833; e-mail: rborosch@cec.uchile.cl.

This exercise increased awareness of available resources in the region and international assistance. The concept of a Humanitarian Coordination Center, staffed by representatives of foreign military and civilian agencies but linked to the National EOC, was discussed exhaustively. Contact: vanalphd@paho.cpc.org. ❑

Andean Region Web Workshop

During the week of 17 April, PAHO held a workshop in Ecuador on the importance of the Internet and in particular, websites, for disaster institutions such as the Red Cross, health departments, Civil Defense and NGOs. The workshop facilitated inter-institutional communication and exchange of information, particularly in identifying institutions with webpages and those that required assistance in their web development. This pilot workshop will be the beginning of a series of workshops involving Andean countries on topics ranging from basic Internet skills training to programming and web development issues. For further information contact sbootsma@ecu.ops-oms.org. ❑

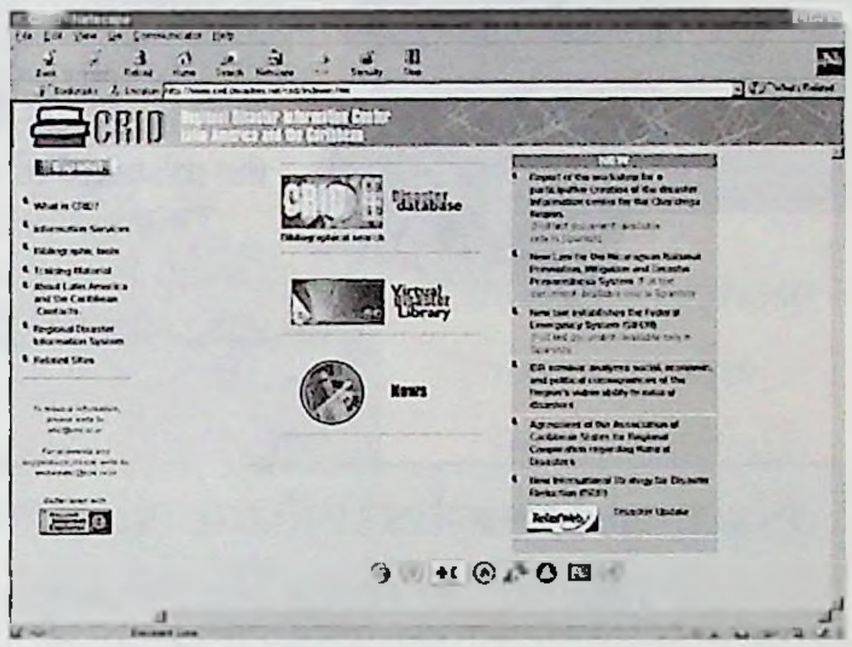
SUMA Integrated into Regional Disaster Mechanisms

The Humanitarian Supply Management System (SUMA), now widely used and accepted in Latin America, is increasingly becoming integrated into the disaster response mechanisms of the countries in the Region. Here, and in other parts of the world, its utility as a supply management tool and as an indicator of transparency and accountability is increasing.

- In Costa Rica, the Water and Sewage Authority (ICAA) is evaluating the potential use of SUMA in warehouses during disasters, as well as for routine operations, due to its quick installation and low training requirements.
- The Red Cross in Costa Rica, in conjunction with FUNDESUMA, is organizing a workshop to evaluate the SUMA Instructor Manuals
- A SUMA Module will be given as part of the Disaster Prevention and Management Course at the Technical University of Pereira, Colombia, and the local Municipality of Pereira will conduct an evaluation of incorporating SUMA into the local emergency response mechanism.
- SUMA will host a seminar on Humanitarian Supply Management at the World Association for Disaster and Emergency Medicine in Mexico at the end of May.

For further information on SUMA, please visit www.disaster.info.desastres.net/SUMA/ or e-mail: funsuma@sol.racsa.co.cr. ❑

The New 'Electronic' CRID



Visit the CRID at www.crid.or.cr, or at its mirror site www.crid.desastres.net.

The Regional Disaster Information Center (CRID) has just undergone a makeover as it continues to grow on the Internet. In response to user requests, CRID's newly designed web site features an easier-to-navigate interface for locating critical disaster information and accessing other services more quickly. The new site, which is compatible with all Internet browsers, features the following sections:

- Home page. Here, CRID will announce news and services and provide the gateway for searching the *Desastres* database and the Virtual Disaster Library (more than 250 full-text documents, as described in the previous issue of this newsletter). The home page also has links to the web sites of CRID's partners.
- A description of CRID, offering a brief history of the Center and its functions, as well as basic information on how to request services.
- Information tools. Describes the databases, information sources and the disaster thesaurus that CRID is using.
- Training material. Offers basic concepts of vulnerability, hazards and risk, guidelines on what to do in different types of disasters and manuals on a variety of topics, including how to establish a disaster information center.
- Latin America and the Caribbean. Basic data on the region and a list of institutions active in disasters in each country.
- Regional Disaster Information System. Updates on the status of the System, agreements that have signed and progress made in a standardized thesaurus, all which is being coordinated by CRID.
- Related sites. Pointers to other sites that deal with disasters. ❑

Review of Publications

New Disaster Chronicle on El Niño

Now that we are between El Niños, this is a good opportunity to collect and learn from the experiences of the last phenomenon in 1997-98. With just that purpose in mind, PAHO/WHO has published a new book in its Disaster Chronicles series that looks back, both technically and institutionally, at the health sector's involvement in this disaster to help avoid repeating the mistakes of the past.

This publication is available in Spanish only. It will soon be on our web site at www.paho.org/english/ped/pedsren.htm.

Natural Disasters: Protecting the Public's Health

Helping to reducing the impact of disasters where it most counts

Natural disasters remain a very real threat to the health and well-being of the population of the Americas. We need only to recall Hurricanes Georges and Mitch, or the December 1999 flooding in Venezuela. This new PAHO publication is intended to help reduce the consequences of disasters on health.

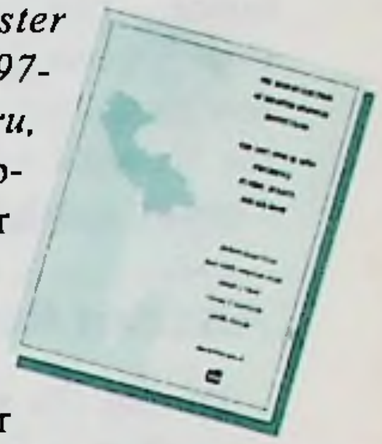
The first edition of this book was published in 1981 for staff in charge of providing health services after natural disasters. Back then, few questioned who was in charge of preparedness and mitigation. Today, things have changed, and fortunately society's interest and participation both precedes and extends beyond the actual disaster response phase. Today there is a much greater recognition of the interdependence between disasters and development: on the one hand that disasters set back development, and on the other hand, that the road to development can increase vulnerability and the destructive consequences of natural phenomena.

This new book reflects this perspective and describes, in general terms, what the health sector can do to reduce the impact of disasters on the health of their population.

For the most part, this publication is directed toward health sector professionals involved in disaster preparedness, response or mitigation. However, with today's intersectoral focus on disaster reduction, it also provides a basic framework for all disaster professionals interested in health issues. Public health professors and students may find the publication useful as a basic manual.

To order a copy, send a fax: (301) 206-9789 or e-mail: paho@pmds.com, or to request more information visit PAHO's Library on the Internet at: http://publications.paho.org.

A Different Approach to El Niño



The Marginalization of Disaster Response Institutions: The 1997-1998 El Niño Experience in Peru, Boliva and Ecuador has been produced by a group of experts, under the coordination of Richard S. Olson, and published by the Natural Hazards Research and Applications Information Center at the University of Colorado, USA.

This publication goes beyond examining the lessons learned from the El Niño to include those not learned. It focuses on the most recent consequences of El Niño (ENSO) and the governmental-institutional response in Peru, Bolivia and Ecuador. It also evaluates institutional preparedness for the next ENSO. One of the study's conclusions is that "official" civil defense organizations in the affected countries were rapidly pushed aside, or marginalized, by new governmental organizations that were temporarily created to manage the response. The study also analyzes how 1997-98 ENSO became an important topic for the media and for each country's policy matters. This document is available in full text on the CRID web site (see page 8). Click on "News." ❑

New Publication on Health and Environment

La Salud y el Ambiente en el Desarrollo Sostenible is an up-to-date assessment of the impact of environmental hazards on health at local, national, and global levels. Health and environment trends are analysed from the 1970s onward and also used as the basis for projections. Additionally, by describing how a sound environment can support or "enable" health, *La Salud y el Ambiente* demonstrates that environmental quality is crucial to human well-being. Finally, the report demonstrates how integrated health and environment policies and actions are making significant contributions to sustainable development efforts.

To order a copy, send a fax: (301) 206-9789 or e-mail: paho@pmds.com, or to request more information visit PAHO's Library on the Internet at: http://publications.paho.org.

Why identify disaster victims?

(from page 1)

The disposal of dead human bodies obeys a variety of sacred religious principles and traditions: immediate burial before sunset for Muslims; burial after one night of mourning in the Jewish religion; and burial after three days for the Catholic and Orthodox faiths. This array of customs—across cultures and religions—confirms that respect for the dead is both universal and indivisible.

In that sense, it is appropriate that the identification and proper disposal of a dead body be linked to international human rights instruments, as human rights are by nature universal and indivisible across cultures, traditions, and customs. Whether there needs to be a legal international instrument that spells out this obligation is certainly an important part of this discussion.

Currently, none of the basic international human rights documents, beginning with the International Bill of Rights has any direct reference to an obligation for appropriate identification and disposal of dead bodies.

It is worth noting, however that, the U.N.'s "Guiding Principles on Internal Displacement" took more care to spell out recommended treatment of the dead. These guidelines, though not legally binding, include reference to, inter-alia: the relatives' right to know the fate of missing; the duty to investigate and to inform next of kin on the progress of the investigation; the need to collect, identify and prevent degradation of corpus to allow for next of kin to respectfully dispose of remains; and to protect grave sites of internally displaced persons.

While the "Guidelines" are encouraging, none of the older international human rights treaties reflect a codification of this more advanced understanding of the importance to family members and the community at large of a dignified and proper disposal of the remains of dead. Steps need to be taken to make sure that jurisprudence, interpretation of treaties and international customary laws properly support decision-makers in humanitarian crises. It is worth noting that further legal analysis of human rights instruments could also help clarify that, so long as there is no real public health concern, the failure of governments to properly account for the dead in disaster situations is inconsistent with many basic obligations under customary and conventional human rights law.

During the days which followed the devastating August 1999 earthquake in Turkey, the press gave rise to speculations by warning "explosive epidemics of dangerous communicable diseases were imminent due to the presence of cadavers in the affected areas." This was enough to trigger a campaign of mass burial, depriving thousands of families of their right to know something about their missing relatives.

Relatives of those missing in the 1985 earthquake in Mexico anxiously wait to hear something about the fate of loved ones. Meanwhile, the city's baseball stadium served as a makeshift morgue. Proper identification of the dead is more than a legal need, it is a human need.

The press, public health professionals and decision-makers in the public sector each bear some responsibility for this unnecessary blow to human dignity and individual and collective human rights.

It is urgent to stop propagating disaster myths and obtain global consensus on the fact that appropriate management of dead bodies following natural disasters is a matter of collective mental well-being, a question of ethics and human dignity, and rarely a means of avoiding diseases.

It is the responsibility of international organizations—health and non-health—to put this issue on their human rights agenda and create the forum for such discussions regionally and globally.

Although the Universal Declaration of Human Rights, the guiding document of human rights principles, is silent on the issue of identification and appropriate disposal of the dead, the same document is entirely framed under the inalienable principle of human dignity and therefore cannot be ignored in making this claim. ❑

PAHO/WHO acknowledges the contribution of Dr. Michel Thieren, WHO/EHA and Mr. Robert Guitteau, Executive Director, Center for Human Rights, American University. This editorial is an abstract of their collaborative effort (full text available on request from the Editor).

Selected Bibliography

The articles listed in this section may be of interest to health professionals and others responsible for disaster preparedness, mitigation and relief. They have been reproduced and recently added to the collection of articles available from the Editor of this Newsletter. *A complete list of reprints is available upon request. Please quote the reference code listed to the left of the publication title when requesting articles.*

A.4 Slowing Umaña, Karin, "Impacto de los desastres naturales en el desarrollo urbano y la salud pública en Centro América y el Caribe, salud y proceso de urbanización en la ciudad de Guatemala," Instituto Centro Americano de la Salud.

A.5 Chaves Quintana, Pablo, "La integración y preparación de la medicina veterinaria para actuar en situaciones de desastres naturales," paper presented at the XVI Pan American Congress of Veterinary Sciences, 9-13 November 1998.

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A.8 Noel, Gloria E., "The role of women in health-related aspects of emergency management: A Caribbean perspective", *The Gendered Terrain of Disaster: Through Women's Eyes*, Westport, Conn., pp. 213-223.

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Disasters: Preparedness and Mitigation in the Americas is the Newsletter of the Emergency Preparedness and Disaster Relief Coordination Program of the Pan American Health Organization, Regional Office for the Americas of the World Health Organization. The reported events, activities and programs do not imply endorsement by PAHO/WHO, nor do the statements made necessarily represent the policy of the Organization. The publication of this *Newsletter* has been made possible through the financial support of the International Humanitarian Assistance Division of the Canadian International Development Agency (IHA/CIDA), the Office of Foreign Disaster Assistance of the U.S. Agency for International Development (OFDA/AID), and the Department for International Development of the U.K.

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FIRST CLASS

April 2000

CONTINGENCY ACTION PLAN

FOR

NATURAL CALAMITIES

MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURE & COOPERATION
(N.D.M DIVISION)

CONTENTS

A N N E X U R E S

* * * * *

THE ROLE OF CENTRAL GOVERNMENT:

3.1 Government's response and efforts set the pace and determine the quality of a society's reaction to a crisis situation resulting from a natural calamity. In the federal set up of India, the responsibility to formulate the Government's response to a natural calamity is essentially that of the concerned State Government. However, the Central Government supplements, to the extent possible, the efforts of the State Government by way of providing financial and material assistance for effective management of the situation, in accordance with the existing scheme of financing the relief expenditure.

DROUGHT:

3.2 Weather forecasting techniques and the gradual setting in of the damage to agriculture during drought afford sufficient response time for meeting the exigencies of a drought situation. The damage due to this calamity can be considerably mitigated with drought proofing and the preparedness to initiate the required measures the first sign of failure of rains.

EARTHQUAKE:

3.3 As of today, there is no warning system or reliable method of prediction for the occurrence of earthquakes with respect to time and space. However, seismologically, earthquake-prone areas could be identified allowing for long-term preparedness like construction of quake resistant structures and shelters as these help in mitigation loss of life and property.

CYCLONES:

3.4 A two stage cyclone warning system is available in the country to trigger advance precautionary measures in the face of cyclone threat. The first stage cyclone alert is issued 36-48 hours before the expected commencement of the adverse weather by the Cyclone Warning Centre (IMD) to the State Chief Secretary and the Collectors of the districts likely to be affected by this calamity. Repeated broadcasts on the radio and T.V. are also made to warn the people of the impending calamity and of the measures required to be taken by them. The second stage numbered cyclone warning bulletin from India Meteorological Department(IMD) commences 24 hours before the expected landfall of the threatened cyclone.

FLOODS:

3.5 The Central Water Commission has also established a warning system with a network of 147 flood forecasting stations on major inter-state rivers of the country. Flood forecasts are issued to various State authorities to enable them to take advance action to save life and property.

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MINOR CALAMITIES:

3.6 Minor calamities like hailstorms, avalanches, landslides and fires also occur without any appreciable degree of forewarning and cause damage to properties and lives. However, areas prone to such disasters also could be identified and certain precautionary measures taken in the context of potential threat requiring general awareness and an ability to relate to a predefined system of appropriate responses on the part of the local administration.

4. IMPACT OF CALAMITIES:

The social, economic and health consequences of different types of disasters are indicated in Annexure-I.

5. NATIONAL POLICY:

5.1 Traditionally, relief in the wake of natural calamities has been treated as the primary responsibility of the States. Successive Finance Commissions have also reiterated this position. Even though the States are primarily responsible for relief activities, the Central Government associates itself with measures aimed at ameliorating the sufferings of the people on account of natural calamities. Towards this end, the Central Government, with its resources, physical and financial does provide the needed help and assistance to buttress relief efforts in the wake of major natural calamities. The dimensions of the response at the level of National Government are determined in accordance with the existing policy of financing the relief expenditure and keeping in view the factors like (i) the gravity of a natural calamity, (ii) the scale of the relief operation necessary, and (iii) the requirements of Central assistance for augmenting the financial resources at the disposal of the State Government.

5.2 Types of Response:

The Central response can be:

(i) Policy response, and

(ii) Administrative response.

5.2.1 Policy response:

The policy response to a natural calamity would be provided by the Prime Minister, Cabinet Committees and the Agriculture Minister. The objectives of policy response would be:

(a) to empathise with the sufferings of the people affected by natural calamity; and

(b) to sub-serve long term and short term policy objectives of the Government.

5.2.2 Administrative response: The response of the Administration to a situation arising out of a natural calamity can be on account of:

(i) a follow-up of a policy objective of the Government;

(ii) the need for an assessment of the situation and for a central response;

(iii) States' requests for Central assistance; and

(iv) the need for information as a governance objective.

5.3.1 Central response: Central Government's response, at the policy level, to a natural calamity would lead to Central initiatives in the form of:-

(i) visits of the calamity affected areas by President, Prime Minister and other dignitaries;

(ii) activating the administrative machinery for assisting in relief measures; and

(iii) setting up a machinery for implementing, reviewing and monitoring of relief measures.

5.3.2 The administrative response at the Central Government level would broadly relate to:-

(i) operational requirements; and

(ii) provision of Central assistance as per existing policy.

The operational aspects of the administrative response could, further, be classified into:-

(i) Primary relief functions, and

(ii) Secondary relief functions.

PRIMARY RELIEF FUNCTIONS:

5.3.2.1 The primary relief functions of the Central Government would relate to:

(i) forecasting and operation of warning systems;

(ii) maintenance of uninterrupted communication;

(iii) wide publicity to warnings of impending calamity, disaster preparedness and relief measures through TV, AIR and Newspapers;

.....5....

(iv) transport with particular reference to evacuation and movement of essential commodities and petroleum products;

(v) ensuring availability of essential commodities at reasonable prices particularly the commodities through the Public Distribution System;

(vi) ensuring availability of medicines, vaccine and drugs;

(vii) preservation and restoration of physical communication links;

(viii) investments in infrastructure; and

(ix) mobilisation of financial resources.

SECONDARY RELIEF FUNCTIONS:

5.3.2.2 The secondary functions of the Central Government which supplement the States' relief efforts, would relate to:

(i) flood/inflow forecasts from the Central Water Commission;

(ii) relief, rehabilitation and restoration through military aid to civil authorities;

(iii) contingency plans for crops, cattle preservation nutrition and health measures;

(iv) technical and technological inputs for provision of drinking water;

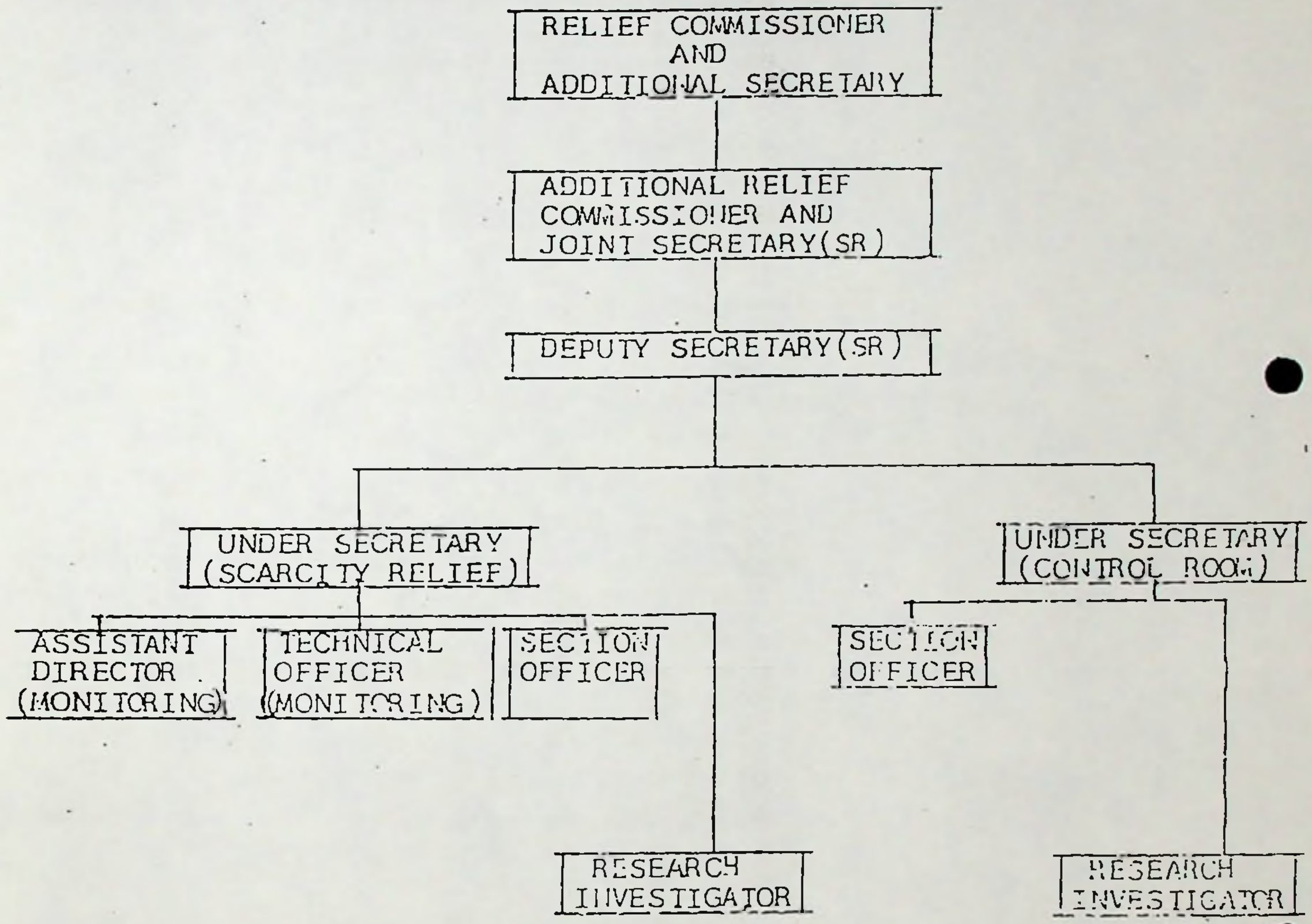
(v) technical assistance in the water budgeting and water management for various uses; and

(vi) coordination of the activities of the State agencies and voluntary agencies.

6. SCARCITY RELIEF DIVISION:

6.1 For ensuring appropriate policy and administrative response to natural calamities, a clear identification of the nodal organisation and the pattern of inter-action between the different Government functionaries would be necessary. The Department of Agriculture and Cooperation(DAC) in the Agriculture Ministry is the nodal Department for all matters concerning natural calamities relief at the Centre. In the DAC, the Relief Commissioner functions at the nodal officer to coordinate relief operations for

all natural calamities. The organisational set up of Scarcity Relief Division of DAC is given below:-

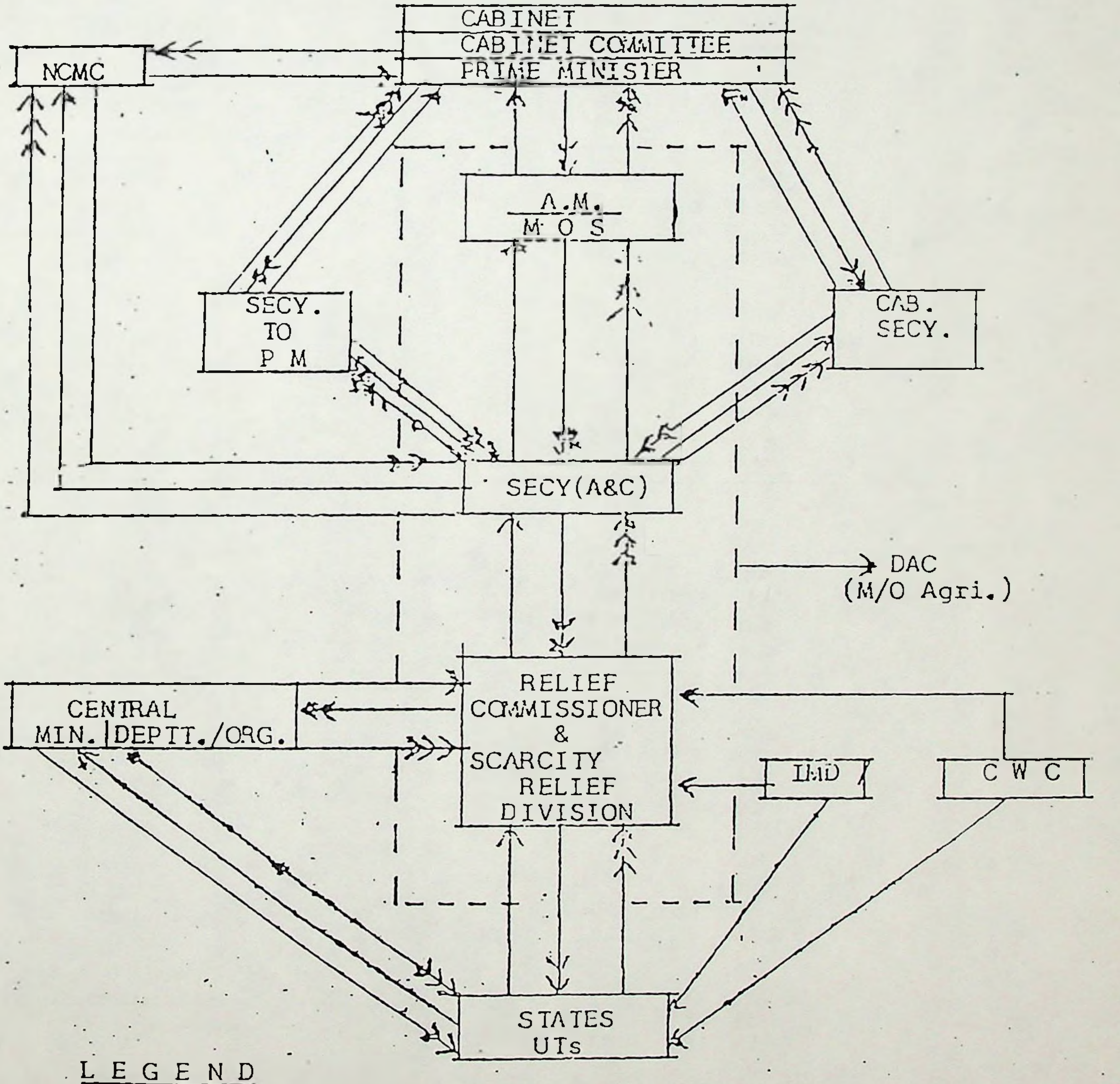


INTER-ACTION PATTERN:

6.2 The Central Relief Commissioner would receive information relating to forecast/warning of the natural calamity from the Director General, India Meteorological Department(IMD) or from the Central Water Commission on a continuing basis and would keep the Secretary(Agriculture & Cooperation) and through him the Agriculture Minister and the Cabinet Secretary and the Secretary to Prime Minister and through them, the Prime Minister, the Cabinet and the "National Crises Management Committee(NCMC)" informed. He would, whenever required, also disseminate the information to different Central Government Ministries/Departments and the State Governments for appropriate follow-up action. He would monitor the developments of the

situation on a continuing basis and would provide the necessary feed-back, through the agriculture Secretary to the Agriculture Minister, Prime Minister and the Cabinet. The pattern of inter-action amongst the different authorities and Governments in the context of occurrence of a natural calamities is depicted in the following diagram:-

NATURAL CALAMITIES - INTER-ACTION PATTERN



L E G E N D

INFORMATION ——→

INSTRUCTION/DIRECTION ——→

FEED BACK ——→

CONTROL ROOM RESPONSIBILITIES:

6.3.5 The Control Room will:

(i) collect and transmit information concerning a natural calamity and relief;

(ii) keep close contact with the Govts. of the States affected by a calamity;

(iii) interact with other Central Ministries/ Deptts. in connection with natural calamities and relief;

(iv) maintain records containing all relevant information relating to action points and contact points in Central Ministries/Deptts./ State Governments; and

(v) perform such other functions and duties as may be entrusted by the Relief Commissioner.

DEALING WITH FIRST INFORMATION:

6.3.6 The Control Room on receipt of the first information with regard to occurrence of any major natural calamity will immediately transmit the information to the following:-

(i) Secretary to the President,
(ii) Secretary to the Prime Minister,
(iii) P.S. to Agriculture Minister,
(iv) P.S. to Minister of State(A&C),
(v) Cabinet Secretary,
(vi) Secretary(A&C),
(vii) Secretary, Rural Development,
(viii) Secretary, Water Resources,
(ix) Secretary, Power,
(x) Secretary, Civil Supplies,
(xi) Secretary, Health,
(xii) Secretary, Communication,
(xiii) Secretary, Surface Transport,
(xiv) Secretary, Science & Technology,
(xv) Home Secretary,
(xvi) Defence Secretary,
(xvii) Secretary, I&B,
(xviii) Secretary(Food),
(xviv) Relief Commissioner,
(xx) Joint Secretary(Scarcity Relief),
(xxi) Joint Secretary(Policy Planning),
(xxii) Agriculture Commissioner, and
(xxiii) Animal Husbandry Commissioner.

The first information report and the subsequent periodical reports generated by the Control Room will also be sent to the Officers indicated by the Relief Commissioner from time to time.

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DESIGNATING NODAL OFFICERS:

6.4 Every Ministry/Department of Central Govt. dealing with the primary or the secondary relief functions referred to in paras 5.3.2.1 and 5.3.2.2 above would designate an officer not below the rank of a Joint Secretary as the nodal Officer with an alternate for dealing with matters concerning natural calamities and relief. These nodal officers shall furnish information to the Relief Commissioner through the Control Room of the DAC on such periodicity as may be determined by Relief Commissioner.

7. CABINET COMMITTEE:

For effective implementation of relief measures in the wake of a natural calamity, the Cabinet may set up a Committee. On the constitution of such a committee of the Cabinet, the Agriculture Secretary shall provide all necessary information to and seek directions if any, of the Cabinet Committee in all matters concerning relief in the wake of natural calamity and take steps for effective implementation of its directions. In the absence of such a Cabinet Committee, all matters relating to relief shall be reported to the Cabinet Secretary.

8. NATIONAL CRISIS MANAGEMENT COMMITTEE (NCMC):

A National Crisis Management Committee(NCMC) has been constituted in the Cabinet Secretariat. The composition of the Committee is as under:-

(1)	Cabinet Secretary	Chairman
(2)	Secretary to Prime Minister	Member
(3)	Secretary(MHA)	Member
(4)	Secretary(MCD)	Member
(5)	Director(IB)	Member
(6)	Secretary(R&AW)	Member
(7)	Secretary(Agri. & Coopn.)	Co-opted Member
(8)	An officer of Cabinet Secretariat.	Convenor

When a situation is to be handled also by the NCMC, it will give such directions to the Crisis Management Group of the Ministry as deemed necessary. The Secretary(A&C) will be responsible for ensuring that all developments are brought to the notice of the NCMC promptly.

9. CRISIS MANAGEMENT GROUP:

9.1 There shall be a Crisis Management Group(CMG) for dealing with matters relating to relief in the wake of major natural calamities, consisting of the following:-

(i)	Relief Commissioner	Chairman
(ii)	OSD, Cabinet Sectt. or a representative of the Cabinet Sectt.	
(iii)	A representative of P.M.O.	

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(iv)to(xiii) Joint Secretaries in the Ministries/Deptts. of Finance, Food, Civil Supplies, Power, Urban Development, Rural Develcpment, Health, Pteroleum, Planning Commission and Deptt. of Women & Child Dev.

(xiv) Director General, India Meteorological Department.

(xv)to(xvi) Senior officers of the Ministry of Railways/ Railway Board and Ministry of Water Resources.

(xvii) A senior officer from the Ministry of Comminications

(xviii) A senior officer from the Ministry of Transport dealing with road communication

(xix) Director General, Civil Defence

(xx) Joint Secretary, Ministry of Defence.

} in the event of a calamity other than drought.

(xxi) Joint Secretary(SR) & Addl. Relief Commissioner - Convener

The Resident Commissioners of the States affected by major natural calamity may be coopted on the CMG during the period of crisis.

9.2 The names, addresses of office and residence telephone Nos. of all the members will be maintained by the Scarcity Relief Division and the Control Room.

CMG - MEETINGS:

9.3 The CMG will meet atleast twice in a year in the months of December/January and May/June and as often as may be required by the Relief Commissioner. The CMG will meet in the chamber of Relief Commissioner in Krishi Bhavan, New Delhi unless otherwise indicated.

CMG - RESPONSI-BILITIES:

9.3.1 The CMG will:-

(i) review every year Contingency Plans formulated by the Central Ministries/Departments;

(ii) Review the measures required for dealing with a natural calamity;

(iii) coordinate the activities of the Central Ministries and the State Governments in relation to disaster preparedness and relief, and

(iv) obtain information from the Nodal Officers on measures relating to the above.

MINISTRIES/ DEPARTMENTS RESPONSIBLE FOR RELIEF FUNCTIONS:

9.4 Details of the Central Ministries/Departments/Organisations which are concerned with the primary and secondary relief functions for different types of natural calamities, are indicated in Annexure-III. The nodal officer of each Ministry/Department would be responsible for the formulation of a Detailed Action Plan(DAP) clearly laying down the channel and manner of interaction, between agencies engaged in these functions, details of the contact points, and the specific measures and time-frames for their implementation. The specific action plan of individual Ministry/Department shall be submitted to the Central Relief Commissioner. The CRC will review these action plans every year and get them updated from time to time.

10. PROCEDURE FOR EXTENDING FINANCIAL ASSISTANCE TO STATES:

10.1 The present scheme of financing the relief expenditure arising out of natural calamities has come into force w.e.f. 1st April, 1990, consequent upon the acceptance of the recommendations of the Ninth Finance Commission. Under this scheme, a Calamity Relief Fund(CRF) is constituted for each State with certain amount allocated to each State. 75% of this amount is to be contributed by the Central Government in four quarterly instalments and the balance 25% is to be provided by the State Governments from its own resources. Following the constitution of the CRF, it is the responsibility of the State Government to meet all expenditure arising out of the natural calamities.

MONITORING THE PROGRESS OF RELIEF MEASURES:

10.2 An Expert Group has been constituted on the recommendations of the Ninth Finance Commission to monitor the relief work done, utilising the CRF. Further, the State Level Committee(s) are to keep the Ministry of Agriculture informed of the amount of damage caused due to drought, floods etc. as well as the broad details of relief measures undertaken by them. The Scarcity Relief Division, in the Department of Agriculture & Cooperation, has requested the State Governments to furnish the progress of relief measures in the prescribed proforma on quarterly basis.

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11. STATE RELIEF ORGANISATION AND RESPONSE:

11.1 Most of the States have Relief Commissioners who are in charge of the relief measures in the wake of natural calamities in their respective States. In the absence of the Relief Commissioner, the Chief Secretary or an Officer nominated by him shall be in overall charge of the relief operations in the concerned State. The effectiveness of communication links with field agencies may be reviewed through periodical excercises.

STATE CRISIS MANAGEMENT GROUP:

11.2 There will be a State Crisis Management Group(SCMG) under the Chairmanship of Chief Secretary/ Relief Commissioner. This Group will comprise of Senior Officers from the Departments of Revenue/ Relief, Home, Civil Supplies, Power, Irrigation, Water Supply, Panchayat (local self Government), Agriculture, Forests, Rural Development, Health, Planning, Public Works and Finance. The Chief Secretary/Relief Commissioner may also coopt on the Group, depending upon the requirements of the situation, one or more of the following persons:

(i) Sub-Area Commander/Station Commander
(ii) Station Commander of Air Force
(iii) Flag Officer Command-in-Chief
(iv) Chairman/Secretary, Indian Red Cross, State Branch
(v) Representative of Meteorological Department Officer-in-charge, Cyclone Warning Centre, CWC and Flood Forecasting Organisations.
(vi) General Manager, Railways of the zone concerned
(vii) General Manager, Telephones
(viii) Chief General Manager, Telecommunications
(ix) D.G. of State Police
(x) Chief Engineer, Roads & Buildings
(xi) Chief Engineer, Major Irrigation
(xii) Chief Engineer, Panchayati Raj
(xiii) Chief Engineer, Urban Water Supply
(xiv) Chief Engineer, Rural Water Supply
(xv) Director of Agriculture
(xvi) Director of Horticulture
(xvii) Director of Medical Health Services
(xviii) Director of Animal Husbandry
(xix) Secretary of the State Electricity Board

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(xx) Secretary, Deptt. of Women & Child Development.

(xxi) P.H.E., Deptt./Water Supply and Sewerage Board

(xxii) Station Director AIR/DDK

(xxiii) Chief Engineer, Border Road Organisation

(xxiv) Director, Civil Supplies

(xxv) Regional Manager, Indian Oil Corporation

(xxvi) Director, Local Bodies.

SCMG-RESPONSIBILITIES:

11.3.1 The SCMG will take into consideration the instructions and guidance received, from time to time, from the Government of India and formulate action plans for dealing with different natural calamities. The SCMG will also have the district level plans for relief formulated by Collectors/ Deputy Commissioners.

STATE LEVEL CONTROL ROOM:

11.4.1 The Relief Commissioner of the State shall establish a Emergency Operation Centre(Control Room) as soon as a disaster situation develops. The Control Room shall have all information relating to the forecasting and warning of disaster, action plans for implementation and details of contact points and various concerned agencies. It shall have up-dated information about the Air Force, the Navy and the Army for quick interaction in times of emergencies.

STATE LEVEL CONTROL ROOM RESPONSIBILITIES:

11.4.2 The Control Room will be responsible for:-

(i) transmitting to the Central Relief Commissioner information as to the development of a crisis situation as a result of natural disaster on continue basis till the situation improves;

(ii) receiving instructions and communicating to the appropriate agencies, for immediate action;

(iii) collection and submission of information relating to implementation of relief measures to the Central Relief Commissioner; and

(iv) keeping the State level authorities apprised of the developments on a continuing basis.

12. DISTRICT LEVEL RESPONSE:

FOCAL POINT:

12.1 The collector or Deputy Commissioner will be the focal point at the district level for preparation of the district level plans and for directing, supervising and monitoring relief measures for natural calamities.

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CONTINGENCY PLANS:

12.2 At the district level, the disaster relief plans shall provide for specific tasks and agencies for their implementation in respect of the areas given in Annexure 4A to 4D, in relation to different types of calamities.

12.3 A contingency plan for the district for different disasters shall be drawn up by the Collector/Deputy Commissioner and got approved by the State Government. The Collector/Deputy Commissioner should also coordinate and secure the input from the local defence forces unit in preparation of the contingency plans. These contingency plans must lay down specific action points, key personnel and contact points in relation to all aspects including, in particular, the areas detailed in Annexure 4A to 4D.

DISTRICT RELIEF COMMITTEE:

12.4 The relief measures shall be reviewed by the district level relief committee consisting of official and non-official members including the local legislators and the members of Parliament.

DISTRICT CONTROL ROOM:

12.5 In the wake of natural calamities, a Control Room shall be set up in the district for day to day monitoring of the rescue and relief operations on a continuing basis.

COORDINATION:

12.6 The Collector shall maintain close liaison with the Central Government authorities in the districts, namely, Army, Air Force and Navy, Ministry of Water Resources etc., who could supplement the effort of the district administration in the rescue and relief operations.

12.6.1 The Collector/Deputy Commissioner shall take all steps for enlistment of voluntary efforts and channelising the non-Government organisations response to natural calamities.

12.6.2 The Collector shall closely interact with different implementation agencies and furnish information on a daily basis to the State Relief Commissioner on the implementation of rescue and relief measures.

13. REVIEW OF CONTINGENCY PLANS:

13.1 The district level contingency plans and the State Action Plans should be reviewed annually and updated in the light of lessons learnt in dealing with natural calamities from time to time. Copies of the revised/updated contingency plans at State and district level should also available in the Ministry of Agriculture(Control Room).

ANNEXURE-I

SOCIAL, ECONOMIC & HEALTH CONSEQUENCES OF NATURAL CALAMITIES

S.NO.	CONSEQUENCES	NATURAL CALAMITIES				
		EARTH-QUAKE	CYCLONE	FLOOD	FIRE	DROUGHT/ FAMINE
1	2	3	4	5	6	7
1.	Loss of life	X	X	X	X	
2.	Injury	X	X	X	X	
3.	Epidemiological threat		X	X		X
4.	Loss of crops		X	X		X
5.	Loss of housing	X	X	X	X	
6.	Damage to infrastructure	X	X	X	X	
7.	Disruption of communications	X	X	X	X	
8.	Disruption of transport	X	X	X	X	
9.	Panic	X	X	X	X	
10.	Looting	X	X	X	X	
11.	Breakdown of social order	X	X	X		
12.	Short-term migrations			X		X
13.	Permanent migration					.
14.	Loss of Industrial production	X	X	X	X	.
15.	Loss of Business	X	X	X	X	.
16.	Disruption of marketing systems	X	X	X	X	.

LEGEND:

X — DIRECT CONSEQUENCE

^ — SECONDARY CONSEQUENCE

ANNEXURE-II

STATEMENT SHOWING THE RESPONSE REQUIRED IN RELATION TO NATURAL CALAMITIES

S. NO.	TYPE OF RESPONSE	EARTH-QUAKES	CYCLONE & FLOOD	FLASH FLOODS	DROUGHT	LOCALISED CALAMITIES LIKE FIRE, LANDSLIDES, AVALANCHES, ETC.
1	2	3	4	5	6	7
1.	Weather Forecasting/ prediction		X		X	
2.	Receipt of warning		X			
3.	Warning Dissemination		X			
4.	Alternate Communication	X	X	X		X
5.	Evacuation	X	X	X		
6.	Search & Rescue	X	X	X		X
7.	Temporary sheltering	X	X	X		X
8.	Disposal of corpses	X	X	X		X
9.	Emergency Health care	X	X	X	X	X
10.	Prevention of Epidemics		X	X	X	X
11.	Establishment of Relief Camps(Food, shelter, Drinking Water)	X	X	X		X
12.	Security	X	X	X		X
13.	Family reunification	X	X	X		X
14.	Post-Disaster Salvage Security	X	X	X		X
15.	Fire-fighting	X				X
16.	Rehabilitation (Crops, Cattle, Alternate houses)	X	X	X	X	X
17.	Contingency Plans:-					
	i. Crops(Seeds, Fertilisers, Pesticides Petroleum products, Power)	X	X	X	X	
	ii. Drinking water	X	X	X	X	X
	iii. Employment Generation				X	
	iv. Public Distribution System	X	X	X	X	

X = Response required.

ANNEXURE-III

MINISTRIES/DEPARTMENTS RESPONSIBLE FOR RELIEF FUNCTIONS

S.NO.	RELIEF FUNCTIONS (PRIMARY ANL SECONDARY)	DISASTERS					MINISTRIES/ DEPARTMENT RESPONSIBLE FOR THE RELIEF FUNCTIONS
		EARTH-QUAKE	CYC-LONE	FLOOD	FIRE/ AVALAN-CHES/ LANDS-LIDES	DROUGHT/ FAMINE	
1	2	3	4	5	6	7	8
	PRIMARY						
1.	Forecasting and operation of warning systems		X	X		X	IMD/CWC
2.	Provision of communication	X	X	X	X	X	DOT
3.	Wide publicity to disaster prepared-ness through AIR, TV	X	X	X	X	X	MIB
4.	Transport with particular reference to movement of essential commodities and petroleum products	X	X	X	X	X	DOS/MOR/MOP
5.	Ensuring availability of essential commodities for price control(inclu-ding inputs)	X	X	X	X	X	DAC/DCS/DOE/ MOP/MOC
6.	Ensuring availability of medicines, drugs and vaccine (including first aid)	X	X	X	X	X	MHFW
7.	Preservation and restoration of physical communication links	X	X	X	X		MOR/DOT/DOST/ MUD
8.	Investment of infrastructure	X	X	X	X		DAC/MWR/DOP/ MOR/MOP/PC/MEF
9.	Mobilisation of recources	X	X	X		X	MOF
10.	Flow of credit	X	X	X	X	X	MOF/DAC

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ANNEXURE-III (contd.)

1	2	3	4	5	6	7	8
	SECONDARY						
1.	Flood/inflow forecasts			X		X	CWC/MWR
2.	Rescue/evacuation operations	X	X	X	X		MOD/MHA/MHFW
3.	Relief/rehabilitation/restoration	X	X	X	X	X	DOW/DAC/DID/ MOT/MEF
4.	Contingency plans for crops/cattle		X	X		X	DAC/DOE/DCP/ MEF
5.	Contingency plans for health measures and nutrition	X	X	X	X	X	MHF/DWOD
6.	Technical & Technological inputs for provision of drinking water	X	X	X		X	DRD/MUD
7.	Technical assistance in the water budgeting and water management for various uses			X		X	MWR, MUD/ DRD
8.	Coordination of the activities of the State and voluntary agencies	X	X	X	X	X	DRD/DAC
9.	Disaster preparedness of areas	X	X	X	X	X	All from 1 to 29

KEY TO ANNEXURE-III

MINISTRIES/DEPARTMENTS - THEIR CODE NUMBERS WITH ABBREVIATIONS

CODE NO.	NAME OF THE MINISTRY/DEPARTMENT
01.DAC	Department of Agriculture and Cooperation.
02.DOF	Department of Fertilisers.
03.MEF	Ministry of Environment and Forests.
04.DCP	Department of Chemicals and Petrochemicals.
05.MWR	Ministry of Water Resources.
06.DOP	Department of Power.
07.DCS	Department of Civil Supplies.
08.MCC	Ministry of Commerce.
09.MOR	Ministry of Railways.
10.DWCD	Department of Women and Child Development.
11.MHFW	Ministry of Health and Family Welfare.
12.DOF	Department of Food.
13.DRD	Department of Rural Development.
14.MUD	Ministry of Urban Development.
15.MOP	Ministry of Petroleum and Natural Gas.
16.DPT	Department of Personnel and Training.
17.MIB	Ministry of Information and Broadcasting.
18.CS	Cabinet Secretariat.
19.MOF	Ministry of Finance.
20.PC	Planning Commission.
21.DOT	Department of Telecommunication.
22.MOD	Ministry of Defence.
23.MHA	Ministry of Home Affairs.
24.DOST	Department of Surface Transport.
25.DOC	Department of Coal.
26.CWC	Central Water Commission.
27.DID	Department of Industrial Development.
28.MOT	Ministry of Textiles.
29.DOW	Department of Welfare.

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ANNEXURE - 4A

DISTRICT CONTINGENCY PLAN

EARTH QUAKE

ACTION POINTS

I. Planning and Preparation:

1. Identification of earthquake prone areas:

2. Identifieation of problems:

a) Loss of human life.
b) Casualties buried under fallen debris.
c) Destruction and Damage to Buildings.
d) Disruption of communication by land, sea and air.
e) Disruption of civic amenities e.g. electricity, water, transport, medical, telephones, civil supplies etc.
f) Large scale fires.
g) Floods in certain areas.
h) Landslide in hilly areas.
i) Disposal of human bodies and animals.
j) Exposure to disease and danger of epidemics.
k) Breakdown of law and order.
l) Breakdown of normal Government machinery in affected areas due to Government servants themselves being affected by earthquake.
m) Loss of morale.
n) Movement of population.

. Identification and Mobilisation of Resources:

. Command and Control:

. Advance Preparatory Action:

a) Preparation of Plan and skeleton organisation in advance.
b) Training of Personnel.
c) Establishment of alternative means of mobile communications.
d) Mobilisation of Fire Services including auxiliary firemen.
e) Plans of rescue of casualties trapped under debris.
f) Provision of hospital, medical and nursing staff.
g) Medical plans for improvised first aid posts and emergency hospitals.
h) Removal of Debris.
i) Emergency sanitation, alternative supplies of water, salvage and custody of valuables, procurement, distribution, accounting of gift stores, care of animals etc.
j) Provision of welfare facilities e.g. care of homeless, establishment of Camps, information and guidance on essential matters, evacuation/people, alternative / of supply storage distribution of essential commodities including food, clothing and shelter.

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k) Disposal of the dead and their identifications
l) Mobilisation of transport.
m) Requisitioning of vehicles and issue of petrol, oil, lubricant, spare parts and repair facilities.
n) Protection of properties including objects of art and things of cultural importance.
o) Special measure for the protection/repair/restoration of essential service communications, industrial and vital plants.
p) Publicity.
q) Prevention of panic and upkeep of morale.
r) Restoration of communications.
s) Liasion, particularly with the Armed Forces.
t) Rehearsal without causing alarm or despondency.

II. AFTER AN EARTHQUAKE

a) Instant reaction

b) Establishment of Control

c) Military Assistance

d) Corpse Disposal

e) Medical

f) Epidemics

g) Salvage

h) Deployment of Resources

i) Outside Relief

j) Camp-work and Employment

k) Fire Fighting

l) Information

ANNEXURE 4B

DISTRICT CONTINGENCY PLAN

CYCLONE

ACTION POINTS

1. Action after the first warning

The Collector should ensure -

i) That sufficient stock of foodgrains, kerosene and other dry food commodities are available for distribution to the victims.

ii) That Medical and Veterinary Departments are fully equipped with required Drugs and Vaccines for taking preventive steps after cyclone and to arrest the spread of epidemics.

iii) That all the Government vehicles are kept in road-worthy condition for putting them to use in the emergency.

iv) That a list of generators available with the Cinema Theatres and other undertakings is maintained by the Officials of State Electricity Board and advance action taken immediately to procure them when necessity arises.

v) That action is taken for opening of cyclone stores for providing the following material.

(1) Hooks of the type available with the Fire Service Department for cleaning debris

(2) Rubber tyres and tubes for using as floats in water.

(3) Tents.

(4) Kerosene lanterns.

(5) Large cooking vessels for use in relief camps.

(6) Identity slips to be issued to be victims in relief camps.

(7) Copies of maps, etc.

(8) Ropes, wires, chains, lights with wire fittings, lead wires, torches, etc.

(9) Spare Road Market Stores, Steel poles, Bamboos, G.C. Sheets and Slotted Stripes of metal (to be laid on churned up road surface for better transportation).

(10) Double handle shows (for cutting fallen trees), Shovels, Candles, Land Hailers, Hose pipes, first aid kits, cyclone duty sign Boards, Ropes, Asbestos, sheets Torch lights, Jetty, cans, empty oil drums, gunny bags and sand bags, polythene bags (for dropping supplies), buckets, V.H.E. sets with batteries for use

(11) Fodders, pumps for bailing out water alongwith hose spades, crow bars, hand gloves, Eucalyptus oil, napathalene balls, bamboo mats, phenyle slate line, etc., useful for burying dead bodies.

2. ACTION AFTER RECEIPT OF THE SECOND WARNING (ACTUAL THREAT)

(i) Evacuation
(ii) Relief to Stranded persons.
(iii) Stoppage of traffic on National Highways
(iv) Stock of foodgrains
(v) Declaration of local holiday to the Educational institutions

3. POST-CYCLONE MEASURES

(i) Convening of the meetings of the Committees
(ii) Rescue Operations.
(iii) Removal of dead bodies and carcases.
(iv) Health Measures.
(v) Restoration of traffic

(vi) Adequate number of mobile squads shall also be made available by the Police Department for helping clearing the fallen trees, etc.

(vii) Electricity Board should clear the roads of fallen electric poles and restore power supply as quickly as possible.

(viii) The Public Relations Department must ensure to build up photographic record of the damage simultaneously, using services of the local Officers or by employing local men.

(ix) Immediately after the cyclone, the Divisional Revenue officers should form required number of teams to assess damage to the houses, crops, loss of human lives, livestock etc.

Annexure-4C

DISTRICT CONTINGENCY PLAN

ACTION POINTS: FLOOD

1. Pre-flood arrangements:

(i) Convening a Meeting of the District Level Committee on Natural Calamities;

(ii) Functioning of the Control Rooms;

(iii) Closure of past breaches in river and canal embankments and guarding of weak points;

(iv) Rain-recording and submission of rainfall reports;

(v) Communication of gauge-readings and preperation of maps and charts;

(vi) Assigning charge of Flood Circles;

(vii) Dissemination of weather reports and flood bulletins issued by the meteorological Centres, Central Water Commission, Flood Forecasting Organisation;

(viii) Deployment of boats at strategic points;

(ix) Use of power boats;

(x) Installation of temporary Police Wireless Stations and temporary telephones in flood-prone areas;

(xi) Arrangement for keeping telephone and telegraph lines in order;

(xii) Storage of food in interior, vulnerable strategic and key areas;

(xiii) Arrangements of dry food stuff and other necessities of life;

(xiv) Arrangements for keeping the drainage system desilted and properly maintained;

(xv) Agricultural measures;

(xvi) Health measures;

(xvii) Veterinary measures;

(xviii) Selection of flood shelters;

(xix) Advance arrangements for army assistance;

(xx) Training in flood relief work;

(xxi) Organisation of relief parties;

(xxii) Other precautionary measures; and

(xxiii) Alternative drinking water supply arrangements.

ARRANGEMENTS DURING AND AFTER FLOODS:

- Organising rescue operations.
- Organising shelter for the people in distress. in case the efforts of the Civil authorities are considered inadequate, Army assistance should be requisitioned.
- Relief measures by non-official and voluntary organisations may be enlisted as far as possible.
- Organise relief camps.
- Provision of basic amenities like drinking water, sanitation and public health care and arrangements of cooked food in the relief camps.
- Making necessary arrangements for air dropping of food packets in the marooned villages through helicopters.
- Organising enough relief parties to the rescue of the marooned people within a reasonable time limit.
- Establish alternate communication links to have effective communication with marooned areas.
- Organising controlled kitchens to supply foods initially atleast for 3 days.
- Organising cattle camps, if necessary, and provide veterinary care, fodder and cattle feed to the affected animals.
- Grant of emergency relief to all the affected people.
- Submission of daily reports and disseminate correct information through mass media to avoid rumors.
- Rehabilitation of homeless.
- Commencement of agricultural activities-desiltation, resowing.
- Repairs and reconstructions of infrastructural facilities such as roads, embankments, Resettlement of flood prone areas.
- Health measures.
- Relief for economic reconstruction.

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ANNEXURE-4D

DISTRICT CONTINGENCY PLAN

DROUGHT

ACTION POINTS:

I. EARLY WARNING SYSTEM.

II. CONTINGENCY PLANNING FOR AGRICULTURE.

i) Crop life saving measures.

ii) The alternative cropping strategy.

iii) Compensatory Cropping Programme.

iv) Supply of Inputs.

v) Provision for irrigation.

vi) Supply of Power..

III. DRINKING WATER:

i) A detailed contingency plan for supply of drinking water in rural areas to be formulated with technical help from the Central Ground Water Board(CGWB) and utilising if need be, the rigs and other capital equipment from the CGWB.

ii) Made adequate plans to supply drinking water in urban areas through bores, tanker special trains and other suitable measures.

iii) Monitor continuously rural and urban drinking water availability in drought affected areas.

WATER RESOURCES:

i) Prepare a water budget for each irrigation reservoir covering drinking water, kharif and rabi requirements and evaporation losses, after working out a trade-off between kharif and rabi benefits from the available water.

ii) Undertake repairs of tubewells to make all tubewells operational and install additional tubewells taking care at the same time to prevent over-exploitation of and damage to ground water regime.

iii) Regulate supply to water-intensive industries, if necessary.

iv) Minimise evaporation losses in tanks and small reservoirs by using chemical restoratants subject to Health clearance.

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EMPLOYMENT GENERATION:

(i) Adequate scarcity relief works to be taken up to generate the required employment.

(ii) The funds available under employment generation scheme like J.R.Y., and scarcity relief etc. should be devetailed and integrated.

(iii) Shelf of projects should be kept ready to be taken up for employment generation during drought.

(iv) Drought proofing schemes to be identified and to be given higher priority.

PUBLIC HEALTH:

(i) Disinfect drinking water sources to prevent the spread of water-borne diseases.

(ii) draw up plans to cope with likely epidemics.

(iii) constant surveillance of public health measures including immunisation to be undertaken.

WOMEN AND CHILDREN:

(i) The nutritional requirements of all the children, expectant mothers and nursing mothers should be taken care of.

IV. <u>FODDER:</u>

(i) Assess fodder requirement in drought affected districts and locate areas where shortages are likely to occur and arrange for supplies from outside.

(ii) Monitoring the prices of fodder in selected places/markets.

(iii) Arrange to procure fodder from surplu States.

(iv) State Forest Departments to arrange for the cutting and bailing of grasses in the forests, wherever possible to meet the demand from fodder deficit districts.

(v) Fodder cultivation to be encouraged wherever feasible.

(vi) Ensure supply of molasses to cattle feed plants.

(vii) Obtain from NDDB and other sources premired feed and urea-molasses-bricks to the extent necessary.