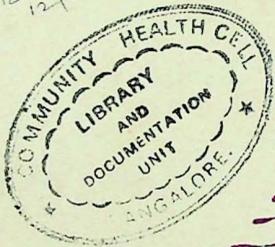


SWASTH HIND

APRIL - MAY 1996

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**SPORT AND THE ARTS WITHOUT TOBACCO:
PLAY IT TOBACCO FREE!**

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OBJECTIVES

Swasth Hind (Healthy India) is a monthly journal published by the Central Health Education Bureau, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, New Delhi. Some of its important objectives and aims are to:

REPORT and interpret the policies, plans, programmes and achievements of the Union Ministry of Health and Family Welfare.

ACT as a medium of exchange of information on health activities of the Central and State Health Organisations.

FOCUS attention on the major public health problems in India and to report on the latest trends in public health.

KEEP in touch with health and welfare workers and agencies in India and abroad.

REPORT on important seminars, conferences, discussions, etc. on health topics.

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WORLDWIDE TRENDS IN TOBACCO CONSUMPTION AND MORTALITY

TOBACCO : THE TWENTIETH-CENTURY EPIDEMIC

Every ten seconds, somewhere in the world, tobacco kills another victim. If current smoking trends continue, this toll will increase up to one tobacco- caused death every three seconds over the next thirty or forty years

Recent data have confirmed that the risks of smoking are substantially higher than previously thought. With prolonged smoking, smokers have a death rate about three times higher than nonsmokers at all ages from young adulthood. Tobacco products are known or probable causes of over two dozen diseases or group of diseases. If, as is likely, much of the excess mortality from these diseases is directly attributable to tobacco use, then this implies that the lifetime risk of a smoker being killed by the use of tobacco products is at least 50%. Therefore, a lifelong smoker is as likely to die as a direct result of tobacco use as from all other potential causes of death combined!

Other problems ensue because the negative health consequences of tobacco are not as immediate as with other hazardous substances. The health risks of tobacco are vastly underestimated by the public, and even by many of those who are responsible for protecting and promoting public health. Yet the risks of smoking are very high when compared to other risks faced in everyday life(see table 1). Widespread underestimation of risks associated with tobacco use, is a major reason why tobacco products are still widely available, and why lenient tobacco policies have been allowed to occur. But nothing can alter the fact that

tobacco use is one of the major public health challenges facing the world as it enters the twenty-first century.

Tobacco products have no safe level of consumption, and are the only legal consumer products that kill when used exactly as the manufacturer intends. Researches have rated nicotine as even more addictive than heroin, cocaine, marijuana or alcohol. The Tenth Revision of the International Classification of diseases reserves classification for " tobacco dependence syndrome ". Yet tobacco products continue to be aggressively marketed by tobacco companies. The result of global tobacco consumption has doubled

since medical science conclusively proved, 30 years ago, that these products are unrivalled killers. And consumption is still increasing in many areas of the world.

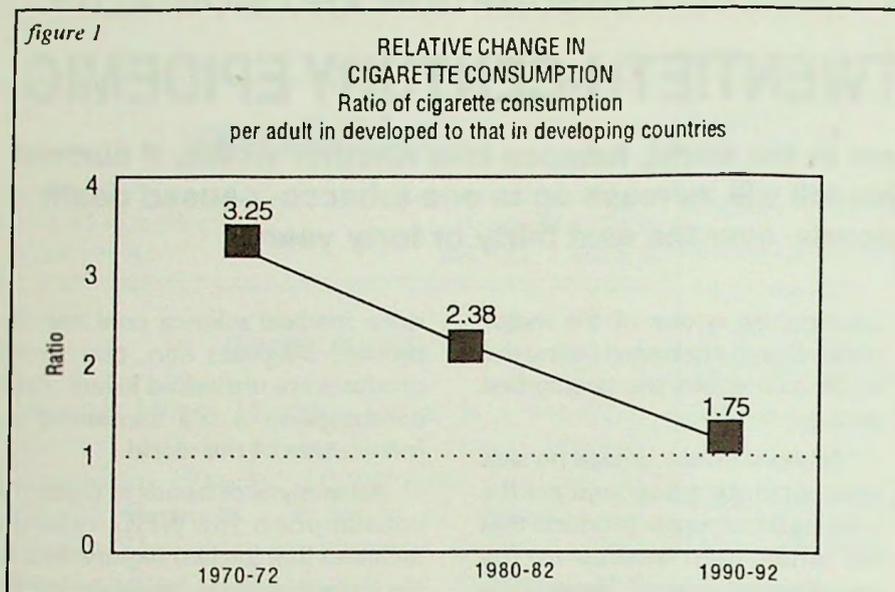
An analysis of trends in cigarette consumption for WHO regions indicates that the two regions which the highest average per capita (adult) consumption in 1990-1992 were Europe (2290 cigarettes per adult per year) and the Westren Pacific (2000). The lowest consumption was observed in African region (540). For the developed countries as a whole, per captia adult consumption is currently about 2400 cigarretes, which is still significantly greater than the average consumption in the developing

**TABLE 1. ESTIMATED ANNUAL RISK OF DEATH
SELECTED CAUSES, USA, 1989**

Selected cause	Annual deaths per million exposed persons
Smoking	7000
Alcohol	541
Traffic accidents	187
Drowning	22
Passive smoking	19
All other air pollutants	6
Lightning	0.5

Source : United States Surgeon-General, 1980

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world (1370 cigarettes).

The gap is rapidly narrowing, however. In 1970-1972, consumption per adult in the developed countries was 3.25 times higher than in the developing world (see figure 1). By 1980-82, this ratio had narrowed to 2.38, and by 1990-1992, to 1.75. During the last decade, per capita consumption has declined by an average of 1.4% per year in developed countries, but has risen by 1.7% annually in developing countries. If these trends continue, consumption of cigarettes per adult in the developing world will exceed levels in the developed world sometime between the years 2005 and 2010, i.e. within two decades.

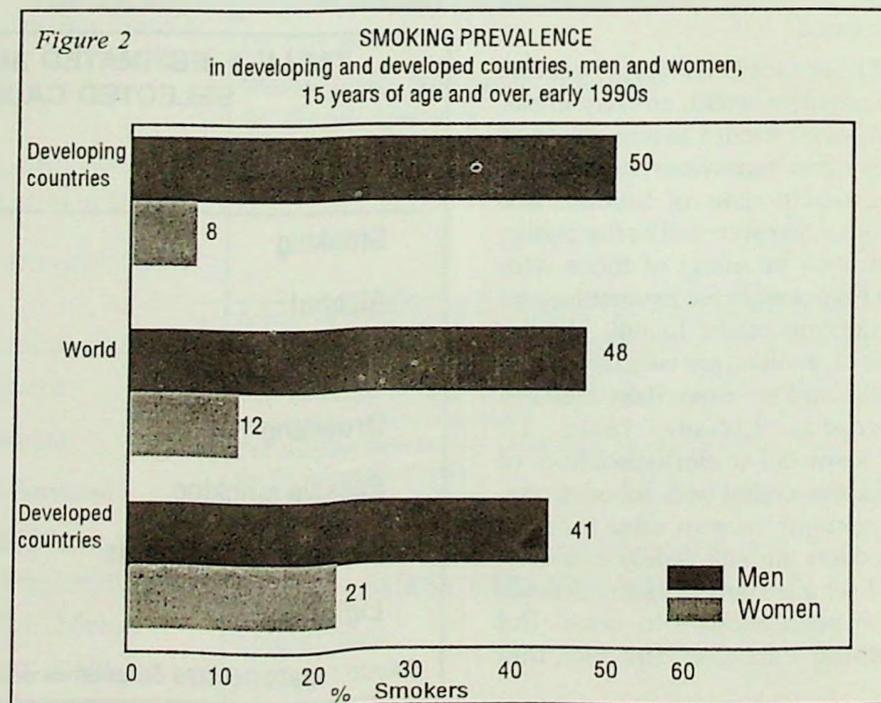
There have been very noticeable differences in trends among WHO regions. Over the last decade, the fastest decline in per capita consumption occurred in the Americas. Nor was this entirely due to declines in consumption in Canada and United States of America; excluding those two countries, per capita consumption in the region still declined by an annual average of 1.7%. On the

other hand, the increasing consumption in the Western Pacific (2.2%) and South East Asia (1.8%) is primarily due to trends in China and India respectively. From 1983, per capita (adult) consumption in China rose by 3.9% per year to reach 1990 cigarettes in 1990-1992. In India, where about 90% of cigarettes are consumed in the form of bidis

(traditional hand-rolled cigarettes), adult consumption has been risen by about 2% per year from the last decade and exceeds 1200 cigarettes (including bidis).

WHO estimates that there are about 1100 million regular smokers in the world today. About 300 million (200 million males and 100 million females) are in the developed countries, and nearly three times as many (800 million: 700 million males and 100 million females), in developing countries. In developing countries, 41% of men are regular smokers, as are 21% of women (see figure 2). Half the men living in developed countries are smokers, compared with about 8% of women.

The health consequences of the smoking epidemic in developed countries have been quantified by WHO, in close collaboration with the Imperial Cancer Research Fund's Cancer Studies at the University of Oxford, UK. A major report giving detailed estimates of



the number of the numbers and rates of smoking attributed deaths for over 50 countries, or group of countries has been published. Between 1950 and 2000, it is estimated that smoking will have caused about 62 million deaths in the developed countries (12.5% of all deaths: 20% of male deaths and 4% of female deaths). More than half of these deaths (38 million) will have occurred at ages 35-69 years. Currently, smoking is the cause of more than one in three (36%) male deaths in middle age, and about one in eight (13%) of female deaths. Each smoker who dies in the age-group loses, on average, 22 years of life compared with average life expectancy. During the 1990s, the report estimates that almost 2 million people a year will die from smoking in developed

countries (1.44 million men and 0.48 million women).

As regards cigarettes the health consequences of tobacco use are much more difficult to estimate in developing countries owing to lack of data. Currently, it is estimated that tobacco causes about 1 million deaths a year in developing countries, but there is substantial uncertainty about this figure. If current trends continue, and if the

risk of death from tobacco use are similar in developing countries to those that have been observed in the industrialized world, then the annual toll of mortality from tobacco will rise dramatically to around 7 million deaths per year in the 2020s or early 2030s (see table 2). The chief uncertainty is not whether, but rather when, these deaths will occur if currently trends in tobacco use persist.

TABLE 2. ESTIMATED NUMBERS OF DEATHS CAUSED EVERY YEAR BY TOBACCO

	Decade	
	1990s	2020s/early 2030s
Developed countries	2 million	3 million
Developing countries	1 million	7 million
Total	3 million	10 million

Let's Say No To Smoking

- Tobacco kills nearly 30 lakh people every year globally. One out of every five victims is from India. Smoking leads to various fatal diseases. These are cancer of lungs, mouth, voice box, food pipe, urinary bladder, cervix (among women), pancreas etc.
- 50 per cent increase in tobacco consumption increases chances of cancer by 25 per cent. Besides, diseases like bronchitis, paralysis, hypertension, gangrene of limbs, heart diseases, peptic ulcer, diminished vision and every sterility may result from tobacco use.
- Tobacco contains about 4,000 chemical substances. Importing among them are nicotine and tar, which are largely responsible for their harmful effects.
- The burning of tobacco releases carbon monoxide, which is poisonous and reduces oxygen carrying capacity of blood. As a result body gets less oxygen. Smoking therefore, is a slow action poison.
- Use of tobacco adversely affects like wrinkled skin, fragile hair, red eyes, foul smell and discoloured teeth. There are even indications of low fertility, early menopause etc.
- Tobacco does not harm smokers alone; even non-smokers (passive smokers) are equally harmed when they are in the vicinity of smokers. Cost of tobacco use can only be partially measured. A large portion like human suffering, loss of resources, environmental degradation are not easily measurable.
- It is now time to generate a movement to disseminate the information that the 'gains' of tobacco at the beginning have to be paid very heavily in future.

“SPORT AND THE ARTS WITHOUT TOBACCO:PLAY IT TOBACCO FREE!”

*Dr. Anil Kumar
M.L. Mehta*

Alarmed by the scientifically proven risks to health that smoking causes, the member-countries of W.H.O.including India,have committed themselves to fighting this menace. Moreover,the smokers alone are not at risk. Even the passive smokers are also at risk.

World No tobacco day is observed on 31st May each year.It is intended to encourage governments,groups and individuals to become aware of the problem and to take appropriate action to combat this harmful behaviour.

To help them in this task, W.H.O.since 1989, suggests a well-defined theme for thought and action each year.

This year, World No-Tobacco Day is dedicated to the theme: “Sport and the arts without tobacco: play it tobacco free!” The theme is significant because it provides a unique opportunity to mobilise athletes, artists and the media, as well as the public in general, to promote a society and a life-style where tobacco use is no longer an accepted norm.

World's giant tobacco industries are now targeting developing countries of Asia, Africa and South America.India,being the 2nd most populous country in the world, is the prime target.The *modus operandi* of these companies is to sponsor important sport and the arts events and to associate tobacco use with the sport and the arts. Millions of people, young and old, are glued to their T.V. sets to watch sport events like world cricket and football cups. They watch with rapt attention the teams of different countries vying with each other for the coveted prize.On viewing the sport stars and artists as role models, the younger population particularly, accept tobacco-use unwittingly when they see these events on T.V. or otherwise.

THE OBJECTIVE

This is an era of electronic media. Television has almost reached every nook and corner of the world.Important and larger sport and the art events are being organised world over with live coverage on television. Sponsoring is a modern way of marketing which catches its target group in their leisure time when the audience is more receptive and susceptible to messages.These events however, require sponsorships to meet the higher cost involved in organising them.Tobacco industry which is one of the highest profit earning industry competes with other Industries.Tobacco industry has chosen the method of sponsoring these events to promote their product and reach the target groups. This is because advertisements of their product are banned in most of the countries. Under these circumstances it is essential to motivate politicians and decisions-makers to generate necessary political will against tobacco sponsorship. It is also necessary to educate the community to seek their participation and to put adequate pressure on politicians and decision-makers.

SOME FACTS

TOBACCO KILLS

Tobacco kills one person every ten seconds in the world and every forty seconds in India. One out of two smoker dies of smoking-related diseases. The latest epidemiological studies indicate that death rates for smokers are two to three times higher than for non-smokers at all ages.

By the end of the century, cigarette smoking will have killed about 62 million people in developed countries: 52 million men, 10 million women.

In India tobacco kills 10 lakh (1 million) people

**TOBACCO USE IS A KNOWN OR
PROBABLE CAUSE OF DEATH FROM :**

Cancers of the:

Lip, oral cavity and pharynx
Oesophagus
Pancreas
Larynx
Lung, trachea and bronchus
Urinary bladder
Kidney and other urinary organs

Cardiovascular diseases:

Rheumatic heart disease
Hypertension
Ischaemic heart disease
Pulmonary heart disease
Other heart diseases
Cerebrovascular diseases
Atherosclerosis
Aortic aneurysm
Other arterial diseases

Respiratory diseases:

Tuberculosis
Pneumonia and influenza
Bronchitis and emphysema
Asthma
Chronic airway obstruction

Paediatric diseases:

Low birth weight
Respiratory distress syndrome
Newborn respiratory conditions
Sudden infant death syndrome

**Lung cancer and possibly
other diseases caused by
passive smoking**

**Fires caused by smoking
materials**

In addition, betel-quid chewing, and consumption of *Khaini, Mawa, Mishri, Godakha and Pan Masala* cause the largest number of mouth cancers. Millions of smokers suffer from crippled lungs and over-strained hearts.

ILL-EFFECTS ON CHILDREN

- Excessive and frequent coughs, colds, pneumonia, asthma, headache, tonsillitis, ear-aches, stomach aches, bad breath and bad teeth.
- Higher rates of absence from school and reduction of fitness levels, reaction time, vigilance and concentration.
- More prone to disease/death from lung cancer, heart disease, bronchitis and mouth cancer later on in life.
- Delayed physical and mental growth

ILL-EFFECTS ON WOMEN

Apart from the usual effects, women who smoke may have the following:

- Wrinkled skin, fragile hair, red eyes, bad smell,

discoloured teeth and hoarse voice.

- Low fertility, higher still-births, more abortions, early menopause and low calcium in bones-fractures.
- Smoking during pregnancy may cause death of fetus in utero or result in the birth of babbies with resultant effects.

**ILL-EFFECTS ON PASSIVE SMOKERS
(ENFORCED SMOKING)**

- People inhale other persons' smoke either from the burning end of cigarette, bidis or from exhaled smoke of smoker. Children get smoke from parents, and wife from husband or vice versa. They are called passive smokers. Passive smoking leads to the almost same type of diseases as in active smokers.

NICOTINE-THE CULPRIT

Tobacco contains 4000 chemical substances. Important among them are Nicotine, Carbon monoxide and Tar. These are responsible for various diseases.

TOBACCO SPONSORSHIP - HOW MUCH DO WE LOSE?

Today, direct advertisement of tobacco is banned both in print and electronic media in most of the countries the world over. The tobacco industry therefore has found out this alternative i.e. sponsorship of sport and the arts events. World Cup 1996 for Cricket which was jointly hosted by India, Pakistan and Sri Lanka and was telecast live world over was sponsored by a Tobacco giant. Although there was no advertisement of the tobacco product as such; but the name of the company which is almost synonymous to its product, was written in bold letters on the ground. It was shown on T.V. hundreds of times everyday. People, specially younger ones, who saw their favourite cricket star hammering the ball for fours and sixes and making a century associated this performance with the tobacco company. They, therefore unconsciously were attracted towards the tobacco product. More likely, it was a beginning to start using tobacco in various forms. Similarly, various arts events are also being sponsored by tobacco companies.

Sport and the arts promote health and healthy habits. But, events sponsored by tobacco companies are likely to result in increased tobacco use with resultant tobacco-related diseases. Similarly, the national government or its subsidiary while organising the events for earning some money through sponsorship by a tobacco company are in fact losing manifold. For, they have to spend more on establishment and maintenance of health care facilities for tobacco-related disease. They are also losers due to loss of manhours because of tobacco and resultant inefficiency and related diseases indirectly. This is besides the unmeasurable loss suffered by the victim and his family.

SPECIAL PROBLEM RELATED TO BIDI WORKERS IN INDIA

In India, there is an astonishing variety of forms of tobacco use. It includes manufactured cigarettes, hand-rolled cigarettes, *bidis*, *chutta*, *reverse chutta*, smoking *hookah*, *Panmasala Khaini*, tobacco toothpaste, etc. Of these, *bidi* smoking is very widespread widely and its consumption is more than 900 billion *bidies* per year. These *bidis* are hand rolled in small factories and cottage industries. This provides employment to a number of *bidi* workers. Therefore, *bidi* escapes taxation; the result: it is

cheap. There are enough public health reasons to impose tax on *bidi*. However there are a number of people and institutions with an interest in the continuous supply of cheap *bidis*. The taxation on *bidi*, therefore, is not likely to be imposed in the near future.

STRATEGIES TO STOP TOBACCO SPONSORSHIP

These facts prove that organising sport and the arts events through tobacco sponsorship is much more costlier than organising them through Govt. fund. The need is to educate people about it, the real solution of the problem however lies in understanding this equation.

It has been observed that 10% increase in tax on tobacco products reduce consumption by 7%. There is therefore an urgent need to increase tax on tobacco. the revenue earned through this tax can be used to fight tobacco menace. This tax can be termed as tobacco control tax for the defined purpose.

This money can be used to increase awareness among politicians, decisionmakers and the community besides sponsoring sport and the arts events. The pro-health and anti-tobacco messages can be given before, during and after the event on the electronic media and otherwise.

Revenue earned through tobacco control tax can also be used to provide alternative employment for *bidi* workers and their welfare. This in turn will generate community support and political will against tobacco use. If tobacco companies are still able to sell more products they generate more revenues through tobacco control tax and make anti-tobacco efforts stronger. They will thus free the human beings from the menace of tobacco use.

TALKING POINTS

Efforts should be made to emphasise the following points for convincing politicians, decision makers, health workers and the community.

- (1) Tobacco use by the community is very costly. It consists of direct, indirect and unmeasurable cost and much more than one can think of.
- (2) Sponsorship of sport and the arts events is a form of indirect advertisement and the name of the tobacco companies becomes synonymous with their product.
- (3) Huge sums of money are being spent on these

sponsorships not because of their interest in sport and the arts but basically to promote the use of their product.

- (4) When the tax on tobacco product increase its use decreases.
- (5) The revenue being earned on tobacco products should only be used for sponsoring sports and arts events and events wherein anti-tobacco and prohealth messages can be given.
- (6) There is a need to generate a movement against tobacco use and tobacco sponsorship.
- (7) Promote good health and a tobacco-free life-style in conjunction with cultural and art events. It will contribute not only to improving people's health but also to giving full expression to the creativity and vitality of different groups and cultures.

SUGGESTED ACTION

1. Community organisations should put pressure on the politicians and decision-makers to increase tax on tobacco product.
 2. Revenue earned through tax should only be used to :
 - a) organise sport and the arts events
 - b) give anti-tobacco and pro-health messages
 - c) give alternate employment to bidi workers
 - d) promote alternate farming for tobacco producer.
 3. As sport or the arts promote health, these events be organised by community participation and they should give pro-health messages through these events.
 4. folk arts events should be used to spread health
- related messages which generate revenue and prove less costly to sponsor.
5. Organisers of sports and/or cultural events and the officers of sports and cultural associations should make this commitment. "I undertake not to promote the use of tobacco and its derivatives in connections with sport and/or cultural activities."
 7. Young people may be invited to exercise their creative talents on tobacco-free themes in many fields of artistic endeavour like essays, drawings and photographs, comics, cartoons, etc. Prizes may be awarded for the best presentations.
 8. To persuade the sports persons, cinema artists and other eminent personalities not to promote tobacco products.
 9. I.E.C. programmes should be organised to counter the advertisement of tobacco at all levels.
 10. What can each one of us do to give up smoking?
 - * If we are smokers, let us promise ourselves that we will not smoke at least on this Day. We might find it difficult but it can be done.
 - * If we are non-smokers let us encourage one smoker each to stop smoking for one day on 31st may. the smoker might be a family member, friend, colleague or a neighbour.
 - * If we are teenagers, let us take a pledge that we will never smoke a cigarette, not even for the fun of it. One drug could lead to another and eventually to addiction.
 - * Let us resolve to say 'No' while we still can despite the invisible persuasion of sponsors of sport and arts events by the tobacco industry.

SMOKING SHOULD BE BANNED IN PUBLIC PLACES AND OFFICES

WORLD NO - TOBACCO DAY 31 MAY 1996

SPORT AND THE ARTS WITHOUT TOBACCO: PLAY IT TOBACCO FREE!

Dr. Hiroshi Nakajima

DIRECTOR-GENERAL OF THE WORLD HEALTH ORGANIZATION

The lives and accomplishment of sports heroes, leading actors, musicians and other artists are highly visible and attract widespread interest all around the world. Young people in particular look to sports stars and art performers as a role models. It is fitting therefore that the World NO-Tobacco day 1996 should be dedicated to the theme Sport and the arts without tobacco. Athletes and artists can lead the way in promoting healthy life styles where tobacco use is no longer the social norm.

Every year, World No-Tobacco Day is a special occasion for the World Health Organization and the people from all its Member States to call attention to the harm that results from tobacco use. It is also a day when governments, communities groups and individuals together explore the ways through which they can stem the tobacco epidemic, and especially prevent young people from becoming addicted to this harmful substance. We applaud those individuals who have already given up tobacco use, and encourage those who still use tobacco to make a special

effort to finally break free from this dependence.

World No-Tobacco Day 1996 is cosponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Olympic Committee (IOC). These organizations have welcomed the initiative of combining the sport and the arts to promote, jointly with WHO, the prevention of tobacco use. They too have fully realized the importance of athletes and artists as role models who can convince the public in general and young people in particular that a healthy lifestyle should be "smoke-free".

Communities and societies express themselves through their arts and culture. Promoting good health and a tobacco-free lifestyle in conjunction with cultural and artistic events will contribute not only to improving people's health but also to giving full expression to the creativity and vitality of different groups and cultures.

We also want to promote "sport for all" as the right for all human beings to participate in sport and physical activities for recreation and to improve

their health and well being. Regular physical activity is vital for good health : it provides protection from a wide variety of physical and mental ailments. Physical fitness and good health, however, can be ruined by tobacco use. It is estimated that about half of the adolescents who start smoking cigarettes and continue throughout their lives will eventually die from tobacco-related diseases. Not only smoking but all forms of tobacco consumption are extremely hazardous.

Unfortunately, the tobacco industry has geared its efforts towards developing positive images for its products through extensive sponsorship of sports and cultural personalities, organizations and events. In many countries, sport and the arts rely heavily on the sponsorship from commercial enterprises, and tobacco companies are among the main sponsors. In many cases, sport and cultural events, which should celebrate good health, physical prowess, intellectual freedom and cultural independence are cynically used as an opportunity to promote addictive and hazardous products among the young

(Continued on page 45.)

TOBACCO-FREE SPORT, ARTS AND HEALTH PROMOTION

SPORT AND ARTS OFFER EXCELLENT OPPORTUNITIES FOR HEALTH PROMOTION, ESPECIALLY IN THE AREA OF TABACCO CONTROL. DEVELOPING PARTNERSHIPS WITH SPORT AND ARTS GROUPS WITH HEALTH IN MIND IS IN CONTRAST TO THE TABACOO INDUSTRY POLICY OF USING SPORT AND ARTS TO SELL CIGARETTES.

Sport and arts offer the tobacco industry lucrative opportunities because of the size of the audience exposed to the tobacco messages - immediate audiences of spectators, and much larger and more significant audiences through electronic and print media.

In particular, sports sponsorship links smoking strongly to an active, sporting lifestyle, thereby undermining warnings of the health consequences of smoking.

Tobacco Industry use of sponsorship of sport and arts.

Promoting cigarettes: Using role models

A positive association is created between sport and arts, and cigarette smoking. Consumers, especially

young people are encouraged to associate smoking with high profile sports, arts and cultural achievers. The tobacco industry has exploited to maximum this use of sport and arts achievers and role models to sell cigarettes.

Promoting cigarettes: Marketing
Innovative methods are used to promote the marketing message. Tobacco companies use marching girls, signs around the perimeters of sports grounds, signs in the foyer of arts and cultural events, signs on cars for motor sport, international telecasts of high profile speeches that mention tobacco sponsorship and ceremonies to present trophies branded with the tobacco company's name and logo. The range of marketing methods used

not only highlights the name of a company's product, but also promotes the product in subtle ways associating cigarette smoking with strength, sexual prowess, glamour, beauty, wealth and elegance.

Promoting cigarettes : Patronage
Cigarette companies also see sponsorship as an opportunity to enlist support. They do this by encouraging sport and arts organization and personalities to support their cause and by making good use of preferential seating at sport and arts events to influence senior decision makers to support legislation and financial policy at a state and national level. □

(continued from page 44)

In contrast, tobacco-free sports and cultural events are ideal venues to promote good health and healthy lifestyle. Alliances must be forged between the public, the health sector and all those who are active and interested in sports and the arts to sponsor sports and cultural organizations so that these no longer need to depend on tobacco sponsorship.

This has been done in many places around the world.

Health organizations can sponsor sporting and cultural activities, and in so doing create major opportunities to convey their health promotion messages in novel and effective ways. Such sponsorship, however, requires resources. Some governments have generated new revenue for this purpose by increasing taxes on tobacco products, a measure which has also helped to decrease tobacco consumption.

The sponsorship of sports

and the arts by tobacco companies is now widely recognized as ethically unacceptable. More and more people and communities are giving precedence to health and being able to live in a tobacco-free environment. With all the people and sectors concerned, WHO will work to promote tobacco-free events which celebrate good health together with excellence in sports and the arts - a winning combination for all ! □

TOBACCO IN AFRICA

Derek Yach

Tobacco has been a common commodity in Africa for over three centuries. By 1993, some 500000 tonnes of tobacco were being grown in 33 African countries, with only two countries exporting more than they import. Attempts to measure the current and potential impact of the tobacco business on health, society and the environment are still in their early stages, but the need for preventing action is already inescapably clear. Comprehensive control strategies are urgently required to prevent a major epidemic of tobacco-related disease in Africa.

Tobacco was introduced to Africa in the seventeenth century by the Ottoman conquests in the north and the slave trade. Cultivation spread rapidly throughout the continent. All commercial plants are variants of the same species, *Nicotiana tabacum*. On his first expedition to trace the course of the Niger in 1875, Mungo Park, a Scottish explorer, found tobacco in demand wherever he went, more for smoking than for snuff. A typical entry in his journal reads. "The natives of all descriptions take snuff and smoke tobacco. Their pipes are made of wood, with an earthen bowl of curious workmanship. Tobacco often served as a gift".

The growth of the industry

Nicotiana tabacum was first produced in Zimbabwe by Father Boos at the Chisawasha Mission outside Harare in 1893. The tobacco industry grew rapidly in Zimbabwe. In 1900 a small Department of Agriculture was established, and its

officials took immediate steps to encourage the production of tobacco in the new colony. As "Rhodesia" moved into the twentieth century, Earl Grey, a director of the British South Africa Company, charged with administration in the colony, saw the potential of tobacco production and sent one of his officials, a Mr. Odlum, to the USA for a year to learn about it. On his return to the colony, Odlum pioneered Rhodesia's first curing barn and the production of "some nice yellow leaf of decent texture".

The first major tobacco manufacturing group can be traced back to 1880 when United Tobacco was set up in South Africa. The most important tobacco company in South Africa now is the Rembrandt group, which began in 1948. By the 1990s Rembrandt had established one of the major multinationals. Richeumont, based in Switzerland. Its luxury goods and media divisions complement the marketing and promotional activities of the major tobacco division,

Rothmans International. They are poised for even further growth through the 1990s worldwide.

The world's major tobacco trading companies are British American Tobacco (BAT), R.J. Reynolds, Philip Morris, Imperial Group, Rembrandt/Richeumont, and France's SEITA (Service d'exploitation industrielle des tabacs et allumettes), and they are all represented in Africa. Together these companies control 89-95% of the world's leaf tobacco. They control all the essential aspects of the business:

- the supply of fertilizer, pesticides and machinery;
- the cultivation of crops;
- the processing, production, marketing and selling of the final product;
- tobacco prices.

By exercising this control and offering inducements to farmers, they have made tobacco the most widely grown non-food crop in many

African countries. (1)

In 1978, Muller warned that cigarettes were being pushed by high-pressure marketing to the most remote corners of the world, and that tobacco-related disease would constitute one of tomorrow's major epidemics (2). His prediction is being fulfilled in Africa.

Agriculture and trade

The United States Department of Agriculture estimated that about 500000 tons of tobacco were grown in 33 African countries in 1993. Of this, 90% was grown (in order of magnitude) in Zimbabwe, Malawi, South Africa, Kenya, United Republic of Tanzania and Nigeria, with the first two countries accounting for 74% of the total for the continent. The All Africa Tobacco Control Conference in Harare (1993) was regarded as a historic meeting between tobacco growers and public health professionals (3). A small success of the conference was to elicit a statement from Mr. Henry Ntaba, head of the International Tobacco Growers' Association, in which he conceded that he was 'a farmer first, a tobacco farmer second'. This opened the door to a major discussion on diversification. Ronald Watts, an agricultural consultant from Zambia with 40 years' experience in Africa, listed 53 alternative crops and ways of using the land. These included maize, export horticulture, fruit, nuts and fibre crops. He showed that the average return per

dollar invested could be higher for several of the crops. However, the alternatives are limited for small-scale farmers without irrigation, such as most of the Malawi tobacco growers. No single crop should be considered as a replacement. Successful case studies of diversification are now appearing from the Congo, South Africa and Zimbabwe. These case studies and the whole effort to diversify need more support from the international community, particularly if Malawi and Zimbabwe are to reduce their national dependence on one crop.

At the Harare Conference the Zimbabwean Health Minister, Dr. Timothy Stamps, observed that there was a need to separate the production and the consumption of a commodity when framing national policy on tobacco control. He also stated that he would not compromise his position as Minister of Health by failing to tackle tobacco control as a major public health problem. He suggested that farmers in Zimbabwe would be able to ensure their long term livelihood far better if they were to accelerate diversification. Of the 44 countries which trade in Africa, only 50% export tobacco. Malawi (with over 75% of its export earnings coming from tobacco) and Zimbabwe (with over 25%) are atypical of the continent, accounting for 94% of its entire export earnings from tobacco. Kenya and the United Republic of Tanzania contribute almost all the rest, and the other trading nations import more than they export.

In 1992 Angola, Ethiopia, Nigeria, Senegal and South Africa reported negative annual tobacco trade balances of more than US\$ 100 million. This loss deprives countries of precious foreign exchange (3).

Environment

A series of papers commissioned by the Panos Institute, an international environmental group based in London, have documented the environmental and social consequences of tobacco growing in Kenya, the United Republic of Tanzania and Uganda (4). This work provides detailed accounts of the extent and consequences of deforestation in relation to tobacco growing and curing. They show that the amount of surviving trees in reforestation projects had been vastly overestimated, particularly in Kenya, the United Republic of Tanzania and Uganda. For example, over the past 50 years Tanzania's area of natural forest has been halved. Extensive use of wood fuel for curing tobacco leaves (500000 to 750000 m³ of solid wood in 1993) has contributed to this decline. Reforestation has fallen far behind these depletions.

There is also growing concern about the health of workers in the tobacco industry. Methyl bromide and ethylene dibromide both extremely dangerous chemicals, are used extensively for fumigating seedbeds and other land. The use of ethylene dibromide for tobacco growing is illegal in the USA. According to a recent report "Much of the equipment used for spraying chemicals is

of poor quality. Workers often don't wear protective clothing and are usually unaware of the potential health risk of their work" (4). Moves are being made to improve safety, but it is clear that tobacco is more dependent on hazardous chemicals than many other crops.

Tobacco advertisements range from scenes of football players and leaping tribesmen to upwardly mobile young couples with sports, cars and high fashion clothing.

A reduction of the area of land used for tobacco crops would reduce this dependence and the dangers that agricultural workers are exposed to.

Wealth, consumption and control

The relation between gross national product, disposable income and cigarette consumption has been well documented globally. At the lowest economic levels, money is simply not available to buy cigarettes. Increases in income of 10% in low-income countries have been estimated by the World Bank

to result in a 7% increase in consumption, while increases of 10% in even lower-income countries are associated with an increase in consumption of 13%(3).

The Food and Agriculture Organization of the United Nations projects that the level of tobacco consumption in Africa will grow to one of the highest in the world unless new national policies are introduced to change the trend. Between 1985 and 1990 the estimated annual increase in consumption for the developing world was 3.4%, and for Africa 2.4%. However, for the period 1995-2000 the estimated figure is 2.7% for the developing world and 3.2% for Africa, with a slight reduction for the developed world.

This growth in tobacco consumption is related to both demographic and socioeconomic change. As more children survive and reach young adulthood, tobacco consumption increases. In Africa, infant mortality rates are continuing to decline. In addition, a combination of urbanization, westernization and increased disposable income has led to an increase in smoking. These

changes are well advanced in many African countries. Other factors associated with increased smoking relate to the promotional and marketing strategies of the tobacco industry, particularly in most African countries where the absence of legislative controls and high levels of illiteracy make people more vulnerable to sales efforts..

Sub-Saharan countries can be broadly categorized into four groups as shown in the Table.

In the richer countries the rate of increase in tobacco use is likely to continue to be rapid. In the case of South Africa and Mauritius, control measures including legislation, excise tax and the development of tobacco control organizations are advanced. In Botswana there is a complete ban on tobacco advertising, a ban on smoking in many public places, and a tobacco control office in the Ministry of Health. In Mauritius and South Africa there are bans on sales of cigarettes to children, increasing bans on smoking in public places, and the start of media campaigns against tobacco.

In the middle-income

Relation between tobacco consumption and socioeconomic indicators in sub-Saharan Africa

	Richer countries	Middle-income countries	Poorer tobacco-exporting countries	poorer countries
Gross National product in 1992 (US\$)	2000+	c. 800	<600	60-750
Examples	Botswana Mauritius South Africa	Cameroon Senegal	Malawi Zimbabwe	Mozambique Zimbab
Infant mortality rate, 1990-95 (per 100 000 live births)	<60	60-60	60-140	80-140
Adult literacy rate (%)	>60	c.50	37-75	33-73
Cigarettes consumed per adult per year	1000-2000	c. 800	180-600	<350

countries there have been marked increases in cigarette consumption, especially in the West African francophone countries since the early 1980s. Legislation which exists is not implemented. There are signs of the development of strong tobacco control movements, particularly in the case of Senegal, where the *Movement anti-tabac* has focused on building a base for future tobacco control by targeting school-children.

In the poorer countries which export tobacco, the strength of the tobacco-growing fraternity and their influence on government have combined to prevent legislation from being introduced. However, there is evidence of growing non-governmental tobacco control activity, for example by the Kenyan Medical Association.

In the other poorer countries, tobacco marketing is less extensive, and the preventive potential is thus greater. It is significant that despite their relatively low levels of wealth, health ministries in several of these countries have already introduced legislation, for instance in Mozambique and Zambia, which bans certain forms of advertising. In Ghana the media emphasize the dangers of tobacco, and in Zambia the Anti-smoking Society, often in combination with the Zambian Medical Association, has been active in building up campaigns aimed at tobacco control.

In general, the aggressiveness of tobacco advertising

and promotional activities in African countries seems to be increasing. In Ghana, there are lavish cigarette displays near tourist sites; free cigarettes are openly handed out in markets by the Embassy cigarette company; Embassy sponsors the Miss Ghana pageant; the support of tobacco companies for reforestation by farmers is publicized as an example of corporate responsibility by the industry; and tobacco advertisements are placed on road signs. Such efforts are seen in several African countries. Tobacco advertisements elsewhere range from scenes of football players and leaping tribesmen to upwardly mobile young couples with sports cars and high fashion clothing. In Kenya, tobacconists' shops are painted in the BAT colours and free mobile cinemas bring cigarette advertisements and free cigarettes to villagers.

Health impact of tobacco

There are four national cancer registries in Africa (Algeria, the Gambia, Mali and South Africa), and national mortality data are available only for Mauritius, Sao Tome and Principe, Scyhelles and South Africa. Estimates of total mortality from cancer for western and eastern Africa are much lower than those for western Europe. The only countries in sub-Saharan Africa where there is solid evidence of rising mortality caused by tobacco are South Africa and Zimbabwe. For sub-Saharan Africa as a whole, lung cancer constitutes 5.8% of all cancers. This is in sharp contrast to the over

20% found in countries where the smoking habit has been practised for several decades. In southern Africa the proportion of lung cancer attributable to smoking is 86% for men and 39% for women. International experience shows that this figure could exceed 90% once tobacco use becomes more established. Because the current lung cancer rate is based on past consumption, often with a time lag of decades, the recent increase in consumption will cause an inevitable increase in illness in the future.

In Zimbabwe, lung cancer is now the third cause of neoplasm deaths among African men, and rates among African men equal those among Europeans. In the same country, the lung cancer rate in African women is one third that of European women, reflecting the fact that smoking rates were low two decades ago.

Trends in South Africa indicate that among Whites, tobacco use has declined during the last 15 years, while it is rising among Blacks and continues, though to a lesser extent, to be high and rising among Coloureds. For the country as a whole, lung cancer already accounts for 24% of all deaths from cancer in men, and 10.6% of all such deaths in women. Cape Town researchers recently showed that lung cancer rates had increased by more than 100% among Coloureds of both sexes and among White women over the last two decades. These trends were mirrored by trends in chronic obstructive lung disease mortality.



Poor data precluded similar analysis for Blacks. However, since smoking rates among Black African men exceeded 50% in the late 1980s, an epidemic of lung cancer can certainly be expected early in the next century. Smoking rates among Black African women are still low but starting to increase in metropolitan areas (6).

The International Agency for Research on Cancer, using data from three locally based African cancer registries, has shown that a more than tenfold difference exists for the occurrence of lung cancer. The highest incidence in males is found in Setif Wiloya at 11.7 per 100000, compared to 2.6 in Bamako and 1.0 in the Gambia. Among women, lung cancer rates are still very low, from 0 in the Gambia to 2.6 in Bamako.

In 1982 a WHO meeting on tobacco control was held in Mbabane, Swaziland, and concluded that in most of Africa, health departments were still struggling to eliminate diseases of poverty such as tuberculosis, measles, malaria, trypanosomiasis and cholera. With the rise of tobacco consumption, health departments would be forced to siphon scarce financial and human resources into dealing with smoking-related diseases requiring the expensive diagnostic and therapeutic resources of large hospitals. This is in sharp contrast to nutritional and infectious diseases which require a relatively low-cost preventive community approach. Thus, acting vigorously now, particularly to prevent African women from starting to smoke, would yield long-term

savings for the health system in the next century.

WHO's Regional committee for Africa, which met in Gabon in September 1995, stressed the need for concerted action to prevent increases in tobacco use in Africa. Countries called for a ban on tobacco advertising, a regional effort to harmonize and increase tobacco excise duty, and improved educational programmes for children. Malawi's Minister of Health appealed for international support for his country's efforts to reduce its dependence on tobacco revenue.

Tobacco control

The World Bank has become so concerned about the health and economic impact of tobacco that it has adopted a policy which requires health sector work to include anti-tobacco activities, and prohibits the Bank from lending for producing, processing, importing or marketing tobacco, whether for domestic consumption or for export. Between 1974 and 1988 the World Bank provided loans to Benin, Malawi, Swaziland and the United Republic of Tanzania for agricultural projects supporting tobacco production, so this new policy represents a significant change.

Legislation

Roemer's recent review of legislative action to control tobacco use shows that progress has been slow in introducing this approach in Africa (7). Only a few countries have introduced bans on sales to children

(Mauritius in 1990, Botswana and South Africa in 1993); and only slightly more have introduced partial advertising bans. Senegal (1981) and the Gambia (1985) were among the earliest to do so, but the Senegalese legislation was later partly rescinded. Health warnings are required on advertisements in Ghana, Kenya, Nigeria and South Africa. However, in Ghana and Kenya the warnings are so small that they are barely visible. The new warnings required as of May 1995 in South Africa are among the strongest in the world and are backed by a strong media campaign. Countries like Botswana and Mozambique have bans on broadcast advertising, but they are within the radio reception area of South Africa, which makes the bans ineffective. In Mauritius the ban on smoking in public places includes health, education and sports facilities.

Roemer recommends that a comprehensive approach to legislation should be developed to forestall epidemics of tobacco related disease. She warns against entering into voluntary agreements with the tobacco industry, and the South African experience with such agreements supports this viewpoint. She also recommends that regional meetings should be held regularly for the exchange of scientific and technical information so that both national and regional approaches to tobacco control can be developed.

International agencies such as WHO, the World Bank, the United Nations (through its new Project on Tobacco or Health), and UNICEF could play a very significant role in controlling tobacco use in Africa, where such agencies are held in high esteem. Continental bodies such as the Organization for African Unity, health-related organizations such as the Pan-African Association of Cardiologists, the International Lung Association and the International Union against Cancer (Africa sections) have unique and complementary roles to play in helping countries plan and carry out tobacco control strategies.

Excise tax

Excise tax affects the affordability of cigarettes, especially for children and poor people, and is thus an important device for tobacco control. However, in Africa there are concerns about smuggling and shifting to high-tax homemade products which limit the scope for control by increasing taxes and require systematic study. Information is also needed on the level of excise tax (in relation to inflation) on tobacco products in each country, as well as the existence of regional preferential trade areas and their implications for the harmonization of excise tax. Information on the elasticity of demand in relation to price will be needed for a range of countries at varying levels of development. This involves gathering data on price changes in relation to consumption over time.

Here and in the area of legislation, shortage of human resources is a major impediment to progress. There is a dearth of health economists in Africa. For richer countries the use of excise tax to fund health promotion and reduce the dependence of sporting and cultural activities on tobacco should be considered. Initiatives of this kind are under way in South Africa.

The role of women in tobacco control

The role of women in tobacco control has become more clearly defined in recent years. It is now recognized that preventing women from starting to smoke can improve the health of their unborn children and children in the household, and curb long-term use of tobacco products. Proposed strategies for preventing smoking among women include making more use of women to lobby for legislation and enforce it through social pressure; promoting positive role models, such as successful women who do not smoke, to spread the message that it is smart not to smoke; and ensuring that health education programmes continuously reinforce anti-smoking attitudes and behaviour. Such strategies should include assertiveness training to strengthen self-confidence, so that women can change their position from relative powerlessness and take the lead in protecting their own health and that of their families.

Tobacco Control Commission for Africa

In 1994 the Tobacco

Control Commission for Africa was set up in order to speed up the process of designing and implementing the necessary measures. Its specific objectives are as follows:

- to facilitate the training of tobacco control advocates in Africa and thereby build sustainable human and institutional capacity for long-term tobacco control;
- to identify data needs and research priorities in relation to all aspects of tobacco control (including biomedical, agricultural, economic, environmental, legislative and political issues) and assist in the funding and implementation of such research;
- with other agencies already active in tobacco control in Africa such as WHO, nongovernmental and government organizations, to provide advice to governments continental, regional and international organizations about policy development in relation to tobacco control;
- to disseminate relevant information regularly to tobacco control groups and individuals in Africa or working with Africans;
- to develop long-term sustainable sources of funding through country-based tobacco excise taxes and other methods.

Political leadership

In recent years, ministers of health from several African countries have voiced their

support for tobacco control as a crucial component of primary health care, and in 1994 Nelson Mandela announced his opposition to tobacco companies using his name to promote their campaigns. His statement was in response to a proposed "Benson and Hedges Nelson Mandela cricket tournament". President Mandela said "I personally discourage people from smoking and I therefore dissociate myself from any campaign using my name to promote this habit". He said he would contact concerned parties both in South Africa and abroad to ensure that any misrepresentation of this position is rectified". He was successful in this, and Benson

and Hedges will no longer be sponsoring cricket as of 1996.

In recognition of his contribution to tobacco control, President Mandela was awarded a WHO medal on World No Tobacco Day, 1995. Such political leadership in Africa bodes well for the future of tobacco control.

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JOINT DECLARATION OF THE INTERNATIONAL OLYMPIC COMMITTEE (IOC) THE UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO) AND THE WORLD HEALTH ORGANIZATION (WHO)

Good health cannot be taken for granted; its protection and improvement depend on the active involvement of individuals and communities in many different activities. The promotion of a tobacco-free environment is one such activity and encouragement of cultural, sporting and artistic events is another. They go together naturally to add vitality and happiness to our lives.

Each in our own areas of competence, IOC, UNESCO and WHO are working for human well-being and friendship through sports, culture and health. World NO-TOBACCO DAY 1996 gives us a special opportunity to join forces and remind the world that physical and mental well-being is of the utmost importance to all of us. These two aspects of health are inseparable and should always be promoted together. To make sports and the arts even more rewarding, we invite everyone to "Play it tobacco-free!"

HEALTH HAZARDS OF TOBACCO

- Some Facts

Smokers and non-smokers alike often do not fully appreciate the health risks of tobacco use, particularly cigarette smoking. The latest epidemiological studies indicate that death rates for smokers are two to three times higher than for non-smokers at all ages. This means that half of all smokers will eventually die as a result of their smoking. If current smoking trends persist, about 500 million people currently alive, nearly 9% of the world's population will eventually die as a result of tobacco.

People who die from tobacco use do not die only in old age. About half of all smokers who are killed by tobacco die in middle age. On average, these smokers who die in middle age lose about 20-25 years of life expectancy.

Smoking Trends

→ Cigarettes consumption in developing countries has been rising among men over the last three or four decades. In some developing countries, the health effects of this increase in tobacco use are already evident. For example, in China, smoking is estimated to be the cause of at least half a million deaths a year, mostly men (per capita cigarette consumption in China has increased almost four-fold since the early 1970s).

→ Most smokers live in developing countries. Of the 1.1 billion smokers in the world in the early 1990s, 800 million (70-75%) live in the developing world.

→ In developing countries 50% of men smoke (plus about 8% of women). The proportions for men and women in the developed countries are 41% and 21% respectively.

→ In developed countries the proportion of female deaths in middle age due to smoking has increased six-fold since 1955, rising from 2% to 13% by 1995.

→ Per capita consumption is falling in the developed countries at about 1.5% per year, but rising in developing countries at about 1.7% per year. As a result, it is projected that per capita (adult) cigarette consumption in the developing world will exceed consumption in developed countries within the next decade.

Passive Smoking

→ Passive smoking is a cause of additional episodes and increased severity of symptoms in asthmatic children. Asthmatic children are up to 2.5 times more likely to have their condition worsened by passive smoking. In the United States alone it is estimated that 200000 to

one million asthmatic children have their condition worsened by passive smoking.

→ Exposure to environmental tobacco smoke (ETS or "passive smoking") is a risk factor for new cases of asthma in children who have no previously displayed symptoms.

→ The risk of lower respiratory tract diseases (such as croup, bronchitis and pneumonia) is estimated to be about 50-60% higher in children exposed to ETS during the first 1-2 years of life, compared with unexposed children. About 10-15% of lower respiratory tract disease in young children under 18 months of age is attributable to passive smoking.

→ In children, exposure to environmental tobacco smoke is causally associated with increased prevalence of fluid in the middle ear, symptoms of upper respiratory tract irritation, and a small but significant reduction in lung function.

→ Environmental tobacco smoke is a cause of lung cancer in lifelong non-smokers exposed to ETS. Epidemiological studies carried out in several countries suggest that the lung cancer risk is about 20-30% higher than for never smokers not exposed to ETS.

□

PRIMARY PREVENTION OF CORONARY ARTERY DISEASE

Dr. C. Shyam

Epidemiological studies have finally established that cigarette smoking independently predisposes to myocardial infarction (MI) and sudden cardiac death in populations with mean plasma cholesterol level in excess of 180 mg%. A large body of data suggests that this causal relationship between smoking and Coronary Artery Disease (CAD) is strong, gradual, consistent, temporarily connected, prospectively demonstrable, independent of other risk factors, and additive to the other risk factors.

The proven "Prevention is better than cure" has been recognised in case of communicable diseases long ago. And the concept has become broad based and extended to non-communicable diseases too, including chronic diseases such as coronary Artery Disease (CAD) Hypertension, Cancer, etc.

It is customary to define prevention in terms of three levels :

- Primary Prevention
- Secondary Prevention: Early Diagnosis and Treatment
- Tertiary Prevention: rehabilitation

Primary Prevention can be defined as Action taken prior to the onset of the disease, which removes the possibility that a disease will ever occur.

The concept of primary prevention is now being applied to the prevention of chronic disease such as CAD, Hypertension, Cancer, etc. based on elimination or modification of "Risk Factors"

of the disease.

This is basically based on the study of natural history of CAD. The study of natural history of CAD with its many critical points clearly indicates that Primary Prevention is the mainstay of community prevention of CAD.

Atherosclerotic coronary artery disease is the most common of the killer diseases the world over. The human and economic costs of CAD are enormous. The symptomatic phase of the disease develops quite late in the history of atherosclerotic CAD.

Atherosclerosis has a pediatric beginning and takes several decades to develop and to prevent into clinical phase. Hence attempts to control the ravages of CAD after clinical presentation would be a delayed action.

Hence Primary Prevention is the vital strategy.

Some authorities differentiate between primordial prevention and primary prevention and others treat them as the same. Primordial preven-

tion involves preventing the emergence and spread of CAD risk factors and lifestyles that have not yet appeared or become endemic. The term has been basically introduced to cover the concept of lifestyle modifications.

In 1981 the expert Committee of WHO on prevention of CAD identified a number of lifestyle and environmental factors as the underlying causes of CAD and described a comprehensive strategy for the prevention of this disease.

1. Population strategy :

Prevention in the whole population

Primordial prevention in the whole population

2. High risk strategy

3. Secondary prevention Population strategy :

The WHO recommends a population of community approach for altering the lifestyle and environmental characteristics and their social and economic determinants that

collectively cause coronary disease. Various heart societies/associations make the following recommendations as corner stones of good health in a community.

1. Elimination of smoking.
2. Control of Hypertension by diet / medication
3. Reduction of serum cholesterol content
4. Maintenance of ideal body weight
5. Regular moderate physical exercise
6. Control of diabetes mellitus

The strategy aims at a community adoption of healthy lifestyle and progressive reduction of the prevalence of coronary risk factors.

Risk factors for CAD

Non-modifiable Modifiable

Age : Cigarette smoking

Sex: High blood pressure

Family history : Elevated serum cholesterol

Genetic factors : Diabetes

Personality: Type A

behaviour : Obesity

Sedentary habits Stress Oral contraceptive drugs

High risk strategy :

Interventions in high risk individuals :

WHO recommends the identification and assessment of an individual's coronary risk from the data available at a routine medical checkup including age, sex, weight,

family history of CAD, oral contraceptive use, smoking, hyperglycemia, habitual physical inactivity and electrocardiographic abnormalities. These individuals need intensive and individualised preventive programme. The coronary risk handbook based on Framingham study data aids in multi-variate risk assessment predicting a rough estimate of the probability of cardiovascular events. Estimation of lipid profile and exercise test in individuals at high risk can further help in the risk stratification.

Secondary prevention :

Secondary prevention must be seen as a continuation of primary prevention. It forms an important part of an overall strategy.

The aim of secondary prevention is to prevent a recurrence and progression of CAD. This is like a type of "high risk strategy".

Each strategy-population/high risk/secondary prevention/has its advantages and disadvantages but population strategy has the greatest potential.

Risk factor modification; Risk factor intervention trials · Hyperlipidemi :

Framingham heart study data established that a one per cent increase in total cholesterol produced 2 per cent increase in CAD incidence. Apart from this there is considerable evidence from diverse sources - experimental, pathological, epidemiological and genetic

that raised serum cholesterol predominantly Low Density Lipoprotein (LDL) cholesterol, a strong independent and consistent causal factor for atherosclerosis and ischaemic heart disease.

The protective role of High Density Lipoprotein (HDL) cholesterol (especially HDL 2) levels is well documented.

The protective role of High "Density Lipoprotein (HDL) cholesterol (especially HDL 2) levels is well documented and high HDL/LDL ratio correlates with low prevalence of CAD.

Among high risk groups with low HDL levels the largest consists of men with high triglyceride concentration like triglyceride more than 150 mg% and HDL less than 40 mg%.

Combining HDL with other cholesterol fractions greatly enhances the prediction of CAD.

At low cholesterol concentration a very high risk group also has a very low <40mg% of HDL.

Similarly at high cholesterol levels one can see a low risk group who has very high HDL concentration.

Diet:

Serum lipids are determined by a host of factors - diet, genetic, metabolic abnormalities, systemic diseases with abnormal lipid metabolisms and others. But diet has emerged as a powerful modifiable determinant of serum lipids. The relationship

of dietary content of cholesterol and saturated versus poly or monosaturated fatty acids with changes in serum cholesterol is so consistent that qualitative equation have been developed to predict the changes in the serum cholesterol due to changes in dietary cholesterol.

A diet with high levels of cholesterol (>300 mg/day) and high proportion of saturated with low proportion of poly/mono unsaturated fatty acids results in high serum cholesterol and high prevalence of CAD.

There are three important studies to assess the role of dietary interventions to reduce cholesterol level in the blood and the prevalence of CAD.

1. Los Angeles Veterans Administration Study: Randomized double blind study.
2. Finnish study - cross over trial.
3. Oslo primary prevention trial.

Even MRFIT data subset analysis normotensive hypercholesteremic male smokers showed special interventions caused reduction in CAD mortality.

A healthy diet should contain 300 mg cholesterol, 10% or less of calories by saturated fats and 10-12% of calories by poly unsaturated fats. A potential though infrequent hazard of long term use of poly unsaturated fats if the occurrence of cholelithiasis.

Drug therapy :

Several drugs can lower serum cholesterol. A strong

body of data now suggests that some drugs reduce the occurrence of CAD in hyperlipidemic subjects.

1. Clofibrate therapy
2. Cholestyramine
3. Gemfibrozil
4. Lovastatin

Newer agents :

1. Calcium channel blockers
2. Anti-oxidants.

Clofibrate trial by WHO showed reduction of incidence of non-fatal Myocardial Infarction (MI), no decrease in coronary mortality and increase in overall mortality over 5 years.

The increase in overall mortality was attributed to pancreatitis and other abnormalities caused by clofibrate.

Lipid research clinics coronary primary prevention trial (LRC-CPPT): This trial compares the effect of cholestyramine with diet with placebo and diet therapy which has shown reduction in coronary mortality and non-fatal MIs and significant reduction in all other cardiovascular end points.

Helsinki Heart Study : This compared the effect of 600 mg of gemfibrozil twice a day versus placebo in asymptomatic middle aged men with hyperlipidemia for 5 years. Exercise, cessation of smoking and low cholesterol diet were advised to all.

Gemfibrozil caused a decrease in LDL and triglycerides and increase in HDL cholesterol and 34% decrease in the incidence of CAD.

Advent of newer and more powerful cholesterol lowering drugs like lovastatin may alter the situation even more favourably.

Smoking:

Epidemiological studies have firmly established that cigarette smoking independently predisposes to MI and sudden cardiac death in populations with mean plasma cholesterol level in excess of 180 mg%.

A large body of data suggests that the causal relationship between smoking and CAD is strong, gradual, consistent, temporally connected prospectively demonstrable, independent of other risk factors, and additive to the other risk factors.

Smoking adds to coronary mortality by a number of ways. It is suggested that the increased risk of CAD due to smoking is largely reversible on cessation of smoking over a varying period of 2 to 10 years.

After smoking is discontinued the coronary risk decreases within an year. Heavy smokers have even more dramatic reduction in risk than light smokers.

The number of years a person has been smoking is the best measure of coronary disease risk irrespective of the number of years since giving up of smoking.

British Regional Heart Study shows that the benefit of smoking cessation is more gradually acquired and less complete.

This evidence would support the emphasis on

SWASTH HIND

primordial prevention i.e., prevention of the smoking behaviour itself.

Cessation of smoking lowers plasma fibrinogen levels and increases HDL/LDL ratio.

Overall evidence that cessation of smoking reduces morbidity and mortality due to cardiovascular diseases is overwhelming. At the community level all efforts should be made for public health education to lessen smoking in adults and reduce adoption of smoking by teenagers and women.

Hypertension :

There is a proportionate increase in the prevalence in cardiovascular diseases with rising levels of blood pressure.

The lack of change in blood pressure with age in some rural and nomadic tribes shows that the so called "normal" increase in blood pressure with age in urbanized people is biologically abnormal and associated increased risk is potentially preventable. This is the conceptual basis for primordial prevention in this setting.

And also it has been estimated in population studies that even a small reduction in the average blood pressure by a mere 2 or 3 mm Hg would produce a large reduction in cardiovascular complications.

In a paper published in American Journal of Medicine 1991 February, the effects of anti-hypertensive drugs on mortality from stroke/CAD and non-vascular causes have

been studied in 14 trials in more than 37,000 patients. In the treated patients blood pressure was 5-6 mm Hg lower than that placebo treated patients. The mortality from stroke was reduced by 42% but CAD mortality reduced by only 14%.

A major reason for this lack of effect on CAD mortality is apparently the adverse effect of the primary drugs used in these trials (diuretics and beta blockers) on glucose intolerance lipid levels and insulin resistance.

The ACE inhibitors favourably influence many CAD risk factors and their use can be expected to reduce CAD mortality in patients treated for hypertension.

The benefits of ACE inhibitors include not only reduction in blood pressure but also improved insulin responsiveness, prevention of potential loss and diminished myocardial oxygen demand.

Overall data strongly supports early detection and control of hypertension in the community. An initial trial of non-pharmacological methods should always be made. Concomitant reduction of other risk factors like smoking, cholesterol and obesity is vital.

At the population level adoption of a healthy lifestyle to prevent the development of hypertension in normotensives and a shift of overall hypertensive profiles of the community may be the most rewarding strategy in terms of the magnitude of benefit in primary prevention

of CAD.

Diabetes mellitus and impaired glucose tolerance:

Diabetes mellitus occurs in 2-6% of population and impaired glucose tolerance is up to 20% depending on the criteria used. Risk of CAD is significantly increased in diabetics than non-diabetics. The increase is particularly striking in women. The relative risk due to diabetes at any level of smoking, hypercholesteremia or hypertension is three to four fold. The mortality from myocardial infarction is higher among diabetics.

Glucose intolerance doubles the occurrence of the CAD in men and triples or quadruples in women, particularly women below 50 years of age.

Atherosclerosis occurs early in diabetics and is diffused and extensive in both the sexes.

Obesity worsens both occurrence of diabetes as well as its complications.

Diabetes may produce atherosclerosis and CAD by a number of ways :
Dyslipidemia, hypertension, obesity, altered platelet functions, microvascular disease, etc.

Control of hyperglycemia alone does not eliminate coronary risk though it does decrease the risk of CAD.

Control of diabetes and impaired glucose tolerance by diet and weight reduction and if required insulin and possibly newer oral hypoglycemic agents with antiplatelet activity like gliclazide may be useful.

Obesity : Obesity is a weak independent risk factor especially in women and the elderly but its effect through other risk factors is far more powerful.

The predominant rationale of control of obesity is to control hypertension, impaired glucose tolerance, diabetes, hyperinsulinemia, hyperlipidemia with elevated LDL and low HDL levels and hyperuricemia.

Central obesity appears to be an independent risk factor.

Weight reduction by diet low in saturated fats, cholesterol and in total calories is recommended though no confirmatory evidence from intervention studies is available. Because weight reduction has many systemic benefits and moderate diet therapy has no apparent adverse effects it should be tried.

Physical activity: A persuasive body of data from various epidemiological studies show an inverse relationship between physical activity and prevalence of CAD and a causal relationship is often inferred.

As per the paper published in Clinical Sports Medicine 1991 January entitled, The role of exercise in the primary and secondary prevention of CAD, there is now substantial evidence linking exercise training to a reduced risk for CAD and for mortality after myocardial infarctions. The actual mechanism by which physical activity aids in reducing the risk for developing CAD or death from CAD has still to be elucidated. Several possible

mechanisms have been postulated including decreased myocardial oxygen demand, increased myocardial oxygen supply, reduced propensity towards ventricular arrhythmias reduced platelet aggregation, increased fibrinolytic activity and modification of multiple CAD risk factors. Irrespective of the precise mechanism it now appears that lower levels of physical activity are needed to reduce the risk for CAD than are needed to optimise cardiorespiratory fitness. In this regard it is recommended that the type, frequency, intensity and duration of exercise training be modulated to achieve a weekly energy expenditure of between 14 and 20 kcal/kg of body weight. Although aerobic activities should be emphasized, muscle strengthening and flexibility exercises should also be incorporated into the training programmes in order to promote muscular and skeletal health

Personality and behavioural factors : Certain personality and behavioural patterns described as type A or coronary prone behaviour are associated with the occurrence of severity and progression of CAD.

The western collaborative study group characterized this group by excessive time urgency, hostility, aggressiveness, ambition, competitiveness, impatience, feeling of excessive external pressure and frustration and found that type A behaviour was associated with double the risk of CAD independent of other risk factors.

Though an association between personality trait and prevalence of CAD has been noted by others also, the causal link has not been established and it is premature to recommend aggressive changes in personality/behaviour and stress. However, proven relaxation techniques like yoga and biofeedback and recreational activities involving modest exercises may have other benefits in addition to reducing stress and are desirable.

Other risk factors:

Oral contraceptive drugs : Oral contraceptive drugs increase body weight, blood pressure (BP), serum triglyceride levels impair glucose tolerance and reduce serum HDL levels. In addition they increase blood coagulability, platelet adhesiveness, reduce fibrinolytic activity and may adversely affect vascular endothelium. Women using these drugs have an increased mortality from MI, stroke and other thromboembolic events.

The drugs are relatively safe in young (<35 years) non-smoking women who do not have hypertension or other risk factors. An increase in the prevalence of CAD is described after natural or surgical menopause. Estrogen replacement does not help.

Oral contraception should be discouraged in diabetics, smokers, hypertensives and older women (>35 years).

Primary prevention unrelated to conventional risk factors:

1. **Aspirin**: Aspirin as an anti-platelet agent has been found

to be useful in the secondary prevention of various subsets of vascular diseases like acute MI, unstable angina, chronic ischaemic heart disease, after coronary surgery, etc.

Two primary prevention trials have evaluated the role of aspirin in middle aged physicians in the prevention of CAD.

In physicians health study in USA, 325 mg of aspirin A/D in healthy male physicians (without contra indications to aspirin) caused 50% reduction in the incidence of MI with a slow incidence of adverse GI events.

In British physicians trial using aspirin 500 mg daily vs placebo significant benefit was not demonstrated, probably due to smaller sample size and lower drug compliance.

Overall effect was considered beneficial but more data are required before aspirin therapy is recommended to the whole middle aged population. There is no data on benefit to women.

Fish oils: Epidemiological studies show an inverse relation between age adjusted mortality from CAD and ingestion of these oils especially those rich in omega3 poly unsaturated fatty acids.

Cardio-vascular diseases in the elderly:

A symposium was held in February 1988 in California on CVD in the elderly which addressed the following questions.

1. Are data derived from younger subjects applicable to elderly.

2. Is control of risk factors such as hyperlipoproteinemia, hypertension and diabetes important in preventing cardiovascular diseases in the elderly.

3. How do these recommendations of national cholesterol education programme panel on detection, evaluation and treatment of high blood cholesterol in adults apply to the elderly.

4. Is reversal of atherosclerosis feasible in the elderly or is the process irreversible.

5. What directions should future research take in this area.

The value of preventive treatment for CAD in the elderly still needs to be determined. Few studies have discussed this issue. But extrapolation of data on younger patient suggests that even modest benefits may, translate into real gains in the elderly who form a group at high risk for CAD mortality.

In future preventive treatment for CAD may revolve around elevation of HDL level possibly through treatment with gemfibrozil or other HDL increasing agents.

Resolved and unresolved issues in the prevention of CAD:

Advances in cardiovascular research during the past two decades have resulted in an improved understanding of the chain of events that lead to end-stage CAD. These developments have been paralleled by the therapeutic

advances and now make it possible to intervene virtually at every stage in the development of advanced cardiac disease from asymptomatic persons at risk of developing coronary atherosclerosis to patients with endstage heart failure. By interrupting this chain of events, perhaps at multiple sites it may be possible to prevent or slow the development of symptomatic heart disease and hopefully prolong life.

The epidemiologic evidence linking HDL level with CAD is persuasive. But between population comparisons of HDL and CAD do not match within population relations. Animal research on the relation between HDL, atherogenesis and CAD has been relatively scanty. Problems with measurement of HDL have inhibited widespread recommendation for its use in preventive programmes. Hence a consensus regarding the prevention of CAD by increasing HDL level could not be achieved.

Inter-nation variation and inter-country differences:

International information on risk factor trends for any age group is limited.

On a purely cross sectional basis, average serum cholesterol levels were related to ischaemic heart disease mortality across 19 countries in men aged between 40-69 years in 1980.

About 45% of the wide international variations in the mortality was explained by inter-country differences in cholesterol levels.

HDL : cholesterol was found to have the usual protective relation.

Approximately 32% international variations in IHD mortality was explained by variation in HDL cholesterol concentration.

However, the differences could not be explained completely.

Apart from these, methodological limitations and difficulties to correlate observational data and experimental data do exist.

We have to answer ourselves if we can make generalised a statement and recommendations based on International studies or should we repeat the whole process again to evolve conclusions to be suitable to the Indian context ?

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ACHIEVING SPORT AND ARTS WITHOUT TOBACCO IN INDIA

Tobacco company sponsorship of sport and arts is wide spread in many countries. India, the world's second most populous country, is far from immune to this phenomenon. Sports sponsored by tobacco companies in India cover an astonishing range including field hockey, football, cricket, billiards, golf, wrestling, archery and even kite flying.

It has been suggested that a special tax on tobacco products (cigarettes, bidis and others) could be used to finance tobacco control activities, and replace tobacco company sponsorship with health promotion sponsorship. Such an approach

would build on the succesful model of health promotion sponsorship pioneered by the state of Victoria in Australia and funded by new revenue raised from special tobacco surtaxes. The application of this model in India would require adoption. A wide variety smoking and smokeless tobacco products are consumed in India. Except for manufactured cigarettes, which represent only a small fraction of the total tobacco market, taxes on tobacco products in India could be difficult to impose and collect. Therefore, tobacco sponsorship replacement in India should be considered in conjunction with strategies to improve tobacco imposition and collection.

The World's first Smoke-free World Championship in Athletics, Gothenburg 1995, was launched by Sweden's Institute of Public Health and the

of the stands, the track and field area, the changing-rooms, the press centre or in the public premises in the stadium. Tobacco sales were banned inside the arena as well

Swedish Medical Association. It

immediately received the backing of the Swedish Athletics Federation, whereupon the International Athletics Federation declared the 1995 Athletics World

SMOKE-FREE OLYMPIC GAMES

1988 Calgary

1988 Seoul

1992 Barcelona

1992 Albertville

1994 Lillehammer

1996 Atlanta

as any advertising and marketing of tobacco. Nearby pharmacies with expanded hours of operation had available a supply of nicotine substitutes, such as chewing gum and patches. An information tent, manned almost round the clock provided information on a

Championships a smoke-free event. Separate specially designated areas were available for those who wished to smoke. However, smoking was not allowed in any

number of non-smoking themes. A survey carried out consequent to the Games found that the majority of smokers supported the smoke-free event.

TOBACCO CONTROL AND CHILDREN

Tobacco control efforts are often undermined by the promotion of cigarettes on the most powerful medium to which children are exposed ; television broadcasts of tobacco sponsored sports. In some countries coverage of such events are regulated by a voluntary agreement between the tobacco industry and national authorities. One aim of the agreement is to protect children from the exposure to tobacco promotion by confining television coverage to events which are aimed at an adult audience.

Yet, studies have shown many children aged between 9 and 15 claim to see cigarette advertising on TV . What they are seeing are sporting events sponsored by tobacco companies: tennis, rugby, motor racing, cricket, snooker, sailing competition, etc.

In surveys of children's attitude to smoking, the sponsorship of sports and other events by cigarette companies is cited as evidence that the government is not seriously concerned about the problem of smoking. "If they really want to make us realise smoking is dangerous, why do they allow all this sponsorship", is a typical comment.

Children see things straight. We should be straight with them.

Sir Donald Maitland, Chairman

Health Education Authority, UK.

WORLD HEALTH DAY-7 APRIL 1996

THEME : HEALTHY CITIES FOR BETTER LIFE

Dr. (Mrs.) K. Kehar

Dr. Anil Kumar

M.S. Dhillon

Every Year on 7 April, the World Health Organization celebrates World Health Day to commemorate the coming into force of the Constitution of the Organization on April 7, 1948. This year, the theme for World Health Day is "Healthy Cities for Better Life"

WHO has chosen this theme because of the dramatic growth of cities since the beginning of this century. Back in 1900, one person in ten lived in a city. By 1948 the proportion was three in ten. And by the year 2000 over half the world's population will be urbanites. A second reason for this theme is the impact urban growth is having on the health of city dwellers. In developing countries, for example, more than 600 million urban dwellers are living in conditions that threaten their health, even their lives.

Within 15 years, 20-30 cities will have over 20 million people slightly more than the population of Australia today. As cities grow, so does their adverse impact on health. Cholera, malnutrition, mental illness, accidents and chronic respiratory infections thrive in an unhealthy urban setting.

Keeping the alarming world situation in view the WHO launched a Healthy Cities Programme. The basic

aim behind the programme is to bring together the local governments and community associations to improve urban health and solve various related problems. The programme is found to be extremely successful. The theme has been chosen to draw attention of the world community towards the problem and discuss and find out solutions to implement at various levels.

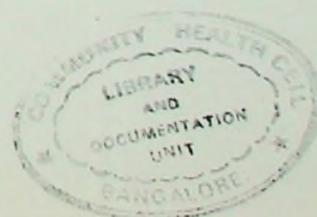
WORLD SCENARIO

Urbanisation has been rightly described as one of the most characteristic features of the 20th century. The unimaginable fast pace of unplanned and uncontrolled urbanisation has already become a matter of global concern. A direct consequence of population explosion, it is already being referred to as "Urban Crisis" and "Urban Explosion". Like "Population Explosion", the "Urban Explosion" is therefore a self-inflicted malady which the mankind has brought upon itself. Consequently, numerous problems are becoming more and more difficult to tackle with the existing resources. An unpredictable influx of migrant population from rural to urban areas in search of means of livelihood is also responsible for the crisis. The urban authorities and local bodies are finding it extremely difficult to solve this problem due to several

constraints. As a result slums and shanty towns have been cropping up at an unbelievable unprecedented rate. Besides this, the migrant population have also been using roadside pavements and footpaths for their temporary shelter. The fast pace of urbanisation in its wake has given rise to problems of housing, transport, health and medical care, water supply and sanitation, education and other public services, environmental pollution and also psycho-social problems leading to deteriorating law and order situations.

DEVELOPING COUNTRIES

Cities in the developing world are the worst affected. According to WHO it has already become a major challenge for "Health for All" by 2000 AD since according to current projections, by the turn of the century there will be 60 mega cities in the world of over 5 million population each, of which no fewer than 45 will be in the developing world, compared with just one in 1950. Population projections (based on population size in 1985) for the year 2000 in respect of world's 49 largest cities indicate that 24 of them will cross 10 million mark. This includes 3 Indian cities also,



namely Calcutta (15.94 million), Greater Bombay (15.43 million) and Delhi (12.77 million). At the beginning of the 19th century, only 3 per cent of the world population lived in towns. By the beginning of the next century, more than half will be living in cities. More than 1000 million men, women and children are living in shanty towns where living conditions and hygiene are appalling. Urban poverty is consistently on the increase and likely to outstrip rural poverty in the 10 years time. The mean salary has already gone down by at least 25 per cent in many developing countries. Although the demand for health care has never been so high in the past and is consistently on the increase, it is not commensurate with the funds available. More than 50 per cent population of the Third World cities is living in conditions of obvious poverty. Millions of children among these population who are growing up today under such horrible conditions, are not going to realize their full mental and physical potential. Among these children, diarrhoeal diseases account for 25 per cent deaths in the least developed countries. Respiratory infections and malnutritions, the 2 major causes of morbidity and mortality in young children have become part and parcel of life in urban fringe areas. With increasing urban poverty, the situation is not likely to improve - on the contrary may worsen.

The population of people in the older age group is also registering an increase. There are 300 million people aged 65 and above in the world today. In the next 10 years time, their

number is likely to surpass 400 million mark. It has been projected that by 2025 AD, 70 per cent of these will be living in the developing countries, a majority of them in the urban areas, where they will be facing deplorable living conditions, struggling for survival, looking for employment in the absence of any guarantee of their social security and family support.

In 1990 at least 600 million people living in cities in developing countries were being threatened by lack of food, clean water and shelter and situation is not improving since then..

DISHEARTENING URBAN SCENARIO -INDIA

As regards India, slum areas and shanty towns are cropping up at unprecedented rate with no prospects of control or proper planning in future. Half of the population of Bombay continues to live in slums. During 1985, nearly 78 per cent of the families were found to be living in single room tenements and sharing a lavatory. Bombay still has the dubious distinction of housing more than 40,000 people in Asia's largest slum - Dharavi. However, the problem is not peculiar to Bombay alone. It has already afflicted all major /mega cities and even towns of our country. Madras was supposed to be having 21.08 lakh slum dwellers. Ahmedabad 11.33 lakh, Hyderabad 11.12 lakh, Bangalore 10.37 lakh, Kanpur 8 lakh, Pune 5.15 lakh and even a relatively small city of Bhubaneswar about 30000 slum dwellers during 1990 according to one official estimate.

It is a known fact that population in cities in India

especially in metropolitan cities is growing rapidly so as to make it difficult for the local municipal authorities to cope up with the problems of public health. Failure of sewage system, collection of water in different localities, noise, water and air pollution, overcrowding are the problems one can easily observe. But rest of the problems are much more beyond one's observation. Problem of rapid urbanization is affecting everyone's life and therefore it requires everybody's involvement to solve the problem.

Children in Indian Metropolitan cities are more prone to respiratory diseases due to increase in air pollution as a result of increase in the number of vehicles. In the city of Delhi alone more than 2.5 million vehicles emit poisonous smoke leading to an increase in the prevalence of respiratory diseases. The incidence of such disease is 12 times more than the national average. Pollution also leads to nervous weakness, and irritation of the eye, allergy, etc.

There is urgent need to improve the health of urban population through concerned participatory and multi-sectoral approaches. There is also a need to share the experiences at regional and national levels of all concerned so as to maximally utilize indigenous technology, channels of communication keeping social and cultural factors in mind.

In India, most of our population is living in rural areas, there is a need to improve not only the cities but also the towns and villages, and so the concepts

of healthy cities has to be suitably modified to include healthy towns and healthy villages. This would help reduce the migration of our people from rural areas to urban areas.

In order to achieve the aim of healthy cities, it is essential to ensure that the smaller individual units are healthy also, for example Schools, Market places, industrial units, etc.

TEN SIGNS OF A HEALTHY CITY

A Healthy City

1. is clean and safe
2. provides safe and durable supplies of food, water and energy, and efficient waste disposal
3. through a diversified, robust, innovative economy, meets the basic needs of all citizens for food, water, shelter, income, safety and work.
4. has a strong mutually supportive community, in which different organizations work in partnership to improve health
5. enables its citizens to work together to shape the policies that effect their lives generally and their health and well being in particular
6. provides entertainment and leisure activities that facilitate interaction and communication among individual groups
7. values the past and respects the diverse cultural heritage and specificities of its citizens, regardless of race or religion
8. regards health as an integral component of public policy making and gives its citizens

the right to adopt behaviour consistent with a healthier life

9. is constantly making efforts to improve the accessibility and quality of health services
10. is one in which people live long in good health and suffer less from disease.

"A healthy city is one that improves its environments and expands its resources so that people can support each other in achieving their highest potential A healthy city is conscious of health as an urban issue and is striving to improve it. Any city can be a healthy city if it is committed to health "

Healthy city is not just the outcome of a process but is a process itself. To make a city healthy it is required to improve environmental, social and economic determinants of health or in other words improving the conditions at home, at school, or at work place, etc.

PROBLEMS OF CITIES

A. Lack of food, clean water and shelter

Cost of living in cities is generally high and food, etc. are beyond the reach of the people belonging to the lower socio economic segments of the population. In terms of quality of food, it does not sometimes fulfil the criteria set up under local Acts. Safe potable water may not be available to the slum community and if available becomes contaminated during supply, transportation, storage or use. As the prices of houses are sky high in the cities a large

number of people are forced to live in jhuggies and 'jhoparies' not even fulfilling the basic requirements of healthy living.

B. Overcrowding

The fast and unregulated urbanisation is leading to the growth of large slums and squatter settlements in bigger cities. This phenomenon has created social tensions and inter-regional imbalances and is leading to environmental degradation and deprivation of a large section of population from basic services.

Large families may be found living in a small enclosure with no privacy. In such an environment, it is no wonder that husband-wife relationship become unstable and other forms of vices like gambling, drinking, stealing, drug-abuse, etc., thrive .

C. Inadequate Waste disposal

It is very difficult for local municipal authority to keep pace in providing basic amenities like sewage systems with growing population leading to collection of waste water and human excreta in low lying areas of unplanned urban settlements threatening human life and health. The absence or inadequacy of drainage is directly linked to the resurgence of malaria, filaria, and diarrhoeal diseases.

D. Hazardous working conditions

Rapid urban development is often preceded by haphazard industrial development leading to hazardous working conditions at workplace threatening not only the life of workers but also

indirectly affecting the health of their family members. It also leads to labour unrest, lock outs, affecting economy and leading to unhealthy living condition.

E. Pollution

Air and noise pollution are parts of modern urban life. During recent past the number of vehicles in Indian cities has increased rapidly. Pollution level of noise and dangerous ingredients in air has crossed all the set acceptable standards.

Air pollution has assumed an alarming increase in several cities around the country. Mere breathing of air in Bombay now equals to smoking of 10 cigarettes per day. Every day in Bombay, over 1200 metric tonnes of pollutants are released by vehicles which is 60 per cent of the total load of pollutants. Delhi alone has a record number of 25 lakh vehicles emitting pollutants in the air, besides industrial pollution. The annual cost of treatment of pollution related ailments in Bombay has been worked out at Rs.400 crores. The growing number of automobiles, in all urban areas has now become a matter of major concern. Besides automobiles, industrial and domestic sources are also responsible for increasing air pollution in urban areas where respiratory infections and chronic lung irritation are predisposing more people to lung cancer.

These factors are also responsible for increasing noise pollution in urban areas. Although WHO has fixed 45 dB as the "safe noise level", cities like Bombay, Calcutta and Delhi

register over 90 dB. Bombay in fact holds the dubious distinction of being the third noisiest city in the world. The noise levels have also been found doubling every 6 years or so therefore by 2000 AD (target year for Health for All), it is possible that no one above the age of 10 will have normal hearing capacity.

Rapid urbanization, increase in population, deforestation and depletion of greenery is causing increase in level of carbon dioxide and is added to Green-house effect and global warming. It has been found that the dust content of the air drops by 40 per cent in green spaces which also absorb and dissipate sound energy and thus a good means of protection against air and noise pollution.

Increased solid and liquid wastes and particularly the discharge of domestic sewage and industrial wastes has resulted in the contamination of river and surface water as well as ground water in most of the cities. The water supply and sanitation services in slum and squatted settlements are practically non-existent. People therefore are forced to use unsafe sources of water. They use open land and water bodies for defaecation, thereby polluting surface and ground water.

F. Accidents/Street violence/Suicides

With the increase in industrialisation and urbanisation of the country, the vehicular traffic has registered nearly seventy fold increase since independence. There is road accident every two minutes and a fatality every nine minutes in

India. Ill-designed, ill-maintained and narrow roads, negligent or drunken driving are the chief factors for accidents. Maximum brunt of injuries are borne by pedestrians and two wheeler users including cyclists. Thousands of workers die every year due to occupational accidents in the industrial establishments.

Increasing social tensions in the metropolitan cities physical violence is becoming more prevalent as a way to deal with certain problems at various levels. The instinctual tendency of humans to aggress under frustration, neglect, deprivation, disputes is more evident. Violence has become a standard topic in films, TV, newspapers and magazines to which youth are getting exposed more and more.

Stress, depression, mental disorders are on the increase in cities due to socio-cultural factors and family disputes because of maladjustments. Such factors are responsible for the increasing incidents of suicides.

STRATEGIES TO CONVERT EXISTING CITIES INTO HEALTHY CITIES

A. Setting up Task Force

Any effort to make city healthy should involve both municipal agency to local government administration and population groups. The member of task force from government should be one who can take decision and member from community should be the local leader who have a say in the community and whose decisions are acceptable to a large segment of the community. Basic function of Task Force should be as follows:

1. Gather and analyze information,
2. Set up priorities,
3. Contact key individuals based on priorities,
4. Help in implementation of municipal health plans,
5. Gain support from different sources.

B. Formation of local committees to implement decisions taken by Task Force

Local committees may be formed at the level of schools, offices, industrial units, etc. so as to make a healthy school, healthy office and healthy industrial units. Ultimately, the objective is to make the city healthy. Local community workers, union leaders etc. should invariably be involved in forming committees.

C. Action at Community Level

To implement a programme at the grassroots level community members should be consulted. Local voluntary organisations play a vital role in taking the community in confidence. Appreciation of city's unique cultural privilege and sense of place in community can be a powerful driving force to motivate the people to improve the living conditions.

SUGGESTED ACTION

1. Encouraging local cottage industries, agriculture based industries. Shifting heavy industries to suburban areas so to reduce the movement of population towards cities.
2. Shifting hazardous industries from residential areas to outskirts of the city to reduce its effect on human population.

3. Planning the city roads, industrial areas, offices and residential areas in such a way so as to reduce the traffic movement.

4. Development of green belts and construction of parks, tree plantation to reduce air pollution.

5. Encouraging people to use public transport, and pooling of vehicles to reduce traffic.

6. Constructing buildings in such a way so as to reduce traffic, noise at work and in residential colonies.

7. Encouraging the use of biogradable material for packaging and for other daily use.

8. Establishing library and recreation centres in residential areas.

9. Starting movement to develop good human relationships among the members of different communities.

10. Action plan by the government to reduce and improve living conditions in slums.

11. Educating community regarding healthy habits and healthy lifestyles utilising all the existing channels.

12. Encouraging people to form groups to supervise public health works and to help reduce source of infection and its transmission.

13. Encouraging government agencies to implement health related legislation strictly.

14. Organising seminars, conferences, etc. in different cities/towns to share their experiences.

SUGGESTED EDUCATIONAL ACTIVITIES

Media plays an important role in the dissemination of information and creating awareness, if planned properly. The general educational activities related to different situations are listed below. Appropriate items may be selected by the concerned agencies individually or collectively to suit their resources.

1. Special broadcasts/telecasts on the theme could be arranged in the form of talk, discussion, plays, spot announcements, skits, quiz programme, etc. on Radio and Doordarshan.

2. Short film sequences on different aspects of the theme can be incorporated to illustrate news programmes, talks, discussions, etc. on Doordarshan.

3. Feature articles written in simple and non-technical language and messages from public leaders can be issued to newspapers and magazines to suit different target groups. This may be followed by issuing of periodic handouts to the Press. Special supplements in local language of regional newspapers may also be brought out. Liaison with the Press should be maintained throughout the year.

4. Educational and publicity material such as posters, leaflets, pamphlets, folders, etc. written in simple non-technical language can be distributed at the PHCs, MCH centres, public places and other educational industrial and professional institutions. SHEBs/Voluntary organisations can produce such materials. Field Publicity Units, Public Relation Departments, Health Centres

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ROLE OF EDUCATION WITH REGARD TO ENVIRONMENTAL HYGIENE AND PROMOTIONAL ACTIVITIES

Dr. C.P.Mishra

After describing population dynamics and its implications and existing scenario of environmental hygiene, in this article, the author emphasises on strategic changes for the improvement of environmental hygiene. Reference has been made about innovative approaches that may be of immense help in planning and execution of health education programmes. It is their effective implementation that will decide the future of our efforts to safeguard environment and promote human health.

The world population is going through its third, and greatest, substained surge and is projected by UN demographers to reach 9 billion by 2030 and 11-12 billion later in the next century. Approximately 90% of this growth will occur in the poor third world, where pressures on dwindling supplies of arable and pasture lands are extending erosion, desertification and other forms of land degradation. The unprecedented combination of a huge and rapidly expanding population, resource intensive industrial practices and land exhausting agriculture is causing the systemic overloading of the 'carrying capacity' of Earth's natural systems.

Considering the facts that world is witnessing a phenomenal growth of urban populations (i.e. more than half of the population in cities) particularly in developing countries and rapid and unplanned urbanization is responsible for several risks of city life, concern for better urban life will be of very high priority on

the social agenda of the 21st Century. City dwellers of developing countries are threatened by lack of food, clean water and shelter. The other serious problems are related to availability of safe housing, solid waste disposal and health care services. Problem of social outcasts, drug addicts and street gangs have broadened the scope of environmental hygiene or sanitation by adding social environment to it and giving a concept of environmental health.

The urban population of India is increasing at a faster rate than rural population. The proportion of urban to total population has increased from 11% in 1901 to 26% in 1991. It is estimated to be around 30% by 2001 and 40% in the next two decades. Due to migration, which accounts for 40% of the urban population growth, and fast urbanization, in metropolitan and large cities about 40-50% of the urban dwellers are estimated to be living in slum areas where the health status of the people is as bad as, if not worse than,

in rural areas. Although we have recommendations for creating infrastructure for health care in rural areas in the form of Bhore Committee Report, nothing was specified for urban areas till recently. Some guidelines for health care in slum areas are provided in the Government of India's documents like Minimum Needs Programme (1976) and in the working Group on Family Planning and Primary Health Care services in urban areas (Krishnan Committee Report, 1983).

Recently a number of schemes (viz. ODA assisted projects, World Bank assisted India Population Projects, Environmental Improvement of Urban Slums and Urban Basic Services for the poor) have been initiated in the country for slum improvement. Organic linkages are being developed between health sector and Urban Basic Services for comprehensive development of health and welfare services.

THE EXISTING SCENARIO

Good sanitation and proper nutrition prevent many common illnesses. Poor sanitation helps spread infectious diseases particularly in congested areas. The high incidence of mortality and morbidity rate among infants and children is attributed largely to unsafe water supply, poor hygienic practices and insanitary environment. Many people think that sanitation means only a sanitary latrine. This is not correct. No doubt, exposed human excreta is one of the major sources of disease. However, even when latrines are used, this does not always eliminate the diseases of bad sanitation. Good sanitation depends mainly on practices and attitudes of the people. It relates to a package of health-related measures. In fact, environmental hygiene covers all aspects of environmental and household cleanliness as well as personal cleanliness or hygiene. It may be well understood by H.W. and 4 Fs.

Environmental hygiene refers to

H : Housing

W : Water supply

F : Faeces disposal (provision of Latrines)

F : Flies control (Solid Waste Management)

F : Food hygiene

F : Finger related practices.

Housing : Housing has been primarily self-help activity for the majority of households. Backlog of housing exists both in urban and rural areas. Though achievements of **Indira Awas**

Yojna in rural areas and several housing schemes, in urban areas (viz. Social housing schemes for different income groups, **Nehru Rozgar Yojna** and Footpath Dwellers Night Shelter Scheme) have been significant, sheer number of additional housing with increasing population presents a formidable task.

In rural areas, traditional types of houses with poor ventilation and illumination continue to be constructed. Programmes such as Gobar Gas Yojna and Smokeless Chullahs have been on low profile. Villages still have major reliance on traditional cooking fuel which produces considerable smoke leading to respiratory diseases in housekeepers.

Water supply : Though Handpumps are contributing significantly in the provision of safe water supply in rural areas, still wells continue to be the predominant source of water supply. Chlorination of wells have been on low profile. A recent study in Varanasi District has revealed that enough importance has not been accorded to safe water supply by the PHCs/CHCs studies.

Interesting findings, as given below, have been observed in a study conducted in Urban Mirzapur of Uttar Pradesh.

(a) Private source of water supply were 71%, 41% and 14% in developed, slum and village type areas of urban Mirzapur, respectively, (b) Scarcity of drinking water has been perceived as topmost problem by 77% of the respondents; (c) Scarcity of water during summer months had direct implication on

the quality of drinking water at consumption points, and (d) Quality of water samples from standposts (Public taps and Handpumps) was satisfactory. Well water and samples from water storage vessels were heavily polluted. Pollution of water mainly occurred due to unsatisfactory water use practices.

In fact, such situations exist in many urban areas of the country.

Provision of latrines : In rural India 89.2% households are without latrine. Even where latrines have been constructed either majority of them are not in usable condition or they are not being used. This has happened in those areas also where community members have shared the cost of construction of latrines. This clearly demonstrates that in rural areas latrines have not become the felt need of the community. It is understandable that the rural developmental activities, being pursued through Community Development Block, are technocentric and target oriented. Unless multisectoral linkages (viz. Rural Development, Health and Education) are established, utilization of such services seems to be a remote possibility. Situation is not better in urban areas. In 1985, only 28% of urban population had access to proper sanitation. Our experience under Ganga Action Plan in Urban Mirzapur has shown that many families are not using latrines just because of the absence of superstructure. Indiscriminate throwing of babies' stool persists in the area.

Solid Waste Disposal : Construction of compost and

* GIVE A MAN A FISH AND YOU FEED HIM FOR A DAY.
TOMORROW ... HE MAY BE A BEGGAR.
* TEACH A MAN TO FISH AND YOU FEED HIM FOR LIFE.
TOMORROW ... IF WELL TAUGHT ... HE WILL
BE TEACHING OTHERS.

MORLEY & LOVEL, 1986.

soakage pits has been on low profile in rural area. People have not perceived their importance. Schools have failed to set good examples. In the absence of proper drainage facilities, masquito borne diseases are rampant in rural and urban areas. Heaps of garbage and choked open drains are common sites in urban slums. In busy urban pockets, renovation work is responsible for huge collections.

Unplanned expansion of cities are posing a serious challenge. Collection of water around water sources and submerging of standposts during rainy season has been responsible for outbreak of water borne diseases. Accumulation of garbage in rural and urban areas is responsible for high fly density and this has caused outbreaks of gastrointestinal disorders, more so in those pockets were open field daefication has been in vogue along with bad food hygiene. Unsatisfactory refuse storage and collection at family level and indiscriminate throwing of refuse, even in those areas where community pits exist, pose serious challenge to behavioural scientists. Once community understands the implications of accumulation of refuse and water collection, they may emerge as 'PRESSURE

GROUPS' to force town Committee/Nagarpalikas/Corporations to take corrective measures.

Food hygiene : The condition of edible items sold in many shops and schools are far from satisfactory. It is common to find hawkers, selling good items in urban slums, being surrounded by children and women. Unsatisfactory bottle hygiene for infant feeding is contributing significantly to infant mortality.

Personal hygiene : Personal cleanliness helps to prevent contracting diseases. It is not rare to find bad personal hygiene in rural and some urban schools, children attending Anganwadi Centres and Creches. Practice of using mud for washing hands after defecation still continues in the villages. During winter months, daily bathing is rarely done by children in rural areas. Bad eye and oral hygiene are common finding in many school surveys. It is not uncommon to find children playing in dirt and muddy water.

Emerging problems : Environmental problems associated with home based industries and their ill-effects (Viz. refractive errors, musculoskeletal disorders and reduction in PEFR in carpet weavers of Urban

Mirzapur), issues related to urban ecology (e.g. traffic accidents, air pollution, river pollution, sound pollution, alcoholism, drug addiction, enhanced risk of STDs and AIDS), obscene posters, advertisements and magazines polluting social environment, and nutritional problems in urban areas are serious emerging challenges for health planners and Environmental scientists.

STRATEGIC CHANGES

It is obvious that only supply oriented and technocentric approaches are not going to make perceptible difference in the environmental hygiene of the people and promotion of their health. Human and behaviour aspects concerning water and sanitation facilities and promotive activities have to be taken into account. We should not take it for granted that 'people know it'. In fact, Health education, an enabling process, should be integral part of any service activity.

Multisectoral involvement, multimedia mix and community based communication techniques with community being itself the ultimate communicator are major concerns in health education today. Mass communication media and print media have full potential of demand

generation but they need careful planning. Outstanding leaders in many countries have successfully built social reformation and freedom movements utilising the prevailing cultural and religious knowledge, attitude and practices and mechanisms of communication and working together. These cultural and religious traits and power of the people, if mobilized, may prove very cost-effective. Information, Education and Communication (IEC) strategy.

INNOVATION APPROACHES

Experiences of following innovative approaches may be of immense help in planning an effective IEC programme :

- (a) Media Seminars on Health (Sri Lanka)
- (b) Establishment of infrastructure for effective production and dissemination of health education materials;
- (c) Mobile health education teams for areas with difficult terrain;
- (d) Strengthening of communication and counselling skills of health

workers;

- (e) Involvement of Mother's clubs (Nepal) NGO's and Youth groups;
- (f) Participatory communication process through religious leaders (Bangladesh and Bhutan). Frontline Personal, Traditional Healers and Village Social Functionaries (Varanasi), and trained Community Volunteers, leaders (Urban Mirzapur and Varanasi);
- (g) Use of entertainment to incorporate health communication (Varanasi);
- (h) Use of social marketing principles to enhance health education inputs in CBD project (Varanasi);
- (i) Campaign approach in health programmes with intra and intersectoral collaboration and involvement of the private sector (Karnataka experience);
- (j) Education through Schools (viz. The Little Doctor

Programmes of Indonesia);

- (k) Promotion of sanitation through Anganwadi Workers in India; and
- (l) WHO's Healthy City Programme.

THE FUTURE

The success of health education measures in improving environmental hygiene and promotion of health will depend on how well IEC strategies are defined, plans are made and executed and extent of community participation in the planning, execution, utilisation and evaluation of IEC programmes.

*IF YOU ARE PLANNING FOR A YEAR.....SOW RICE

*IF YOU ARE PLANNING FOR A DECADE.....PLANT TREES

*IF YOU ARE PLANNING FOR A LIFE TIME....EDUCATE THE PEOPLE

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can produce such materials. Field Public Units, Public Relation Departments, Health Centres can be entrusted the responsibility of distribution of such educational material.

5. Small exhibitions and displays on different aspects of the theme can be organised at schools, fairs, shopping centres, public places.

6. Film shows and slide-shows are very useful in educating the masses. Cartoon films may specially be shown to students for educational purpose, if available

on subject.

7. Advertisements relating to the theme sponsored by well-known industrial establishments and philanthropists, can be issued to newspapers, magazines, etc.

8. Folk media could be advantageously employed for the purpose of educating the masses. Prabhat pheries, Puppetry, folk dances are some of the popular folk media.

9. Cultural programmes by involving song & drama parties, magicians and folk singers, etc.

sponsored by the Song & Drama Division of the Ministry of Information and Broadcasting may be organised to disseminate the messages on the theme.

10. Competitions on activities relating to the theme such as Essay Writing, Painting/Drawing competitions, etc. may be organised at various levels of observance. Regional officers of the Dte. of Field Publicity, Youth organizations, Lions Club, Rotary Club, various development agencies, voluntary organisations may be involved to organise such competitions.

MESSAGE FROM DR HIROSHI NAKAJIMA,
DIRECTOR-GENERAL OF WHO

WORLD HEALTH DAY 1996

HEALTHY CITIES FOR BETTER LIFE

On this World Health Day therefore, let us resolve to make our cities healthy so as to ensure a healthy life for all their inhabitants.

The proportion of people in the world living in cities is escalating. Many of the world's cities are expanding far beyond their mid-20th-century frontiers. The result? Hundreds of millions of people - the world's urbanites as they are called - are now living in conditions that are detrimental to their health and even endangering their lives. "Healthy Cities", the theme chosen by WHO for World Health Day 1996, addresses this crisis.

In 1990, already the health of at least 600 million people living in cities in developing countries was being threatened by lack of food, clean water and shelter. Overcrowding, inadequate waste disposal, hazardous working conditions, polluted air and street violence were contributing to what have now become the routine, but no less intolerable, risks of city life. Since 1990, on the whole, the situation has not been getting any better. By the end of century, more than half of the developing world's population will be living in urban areas and thus exposed to major health hazards.

Against this alarming backdrop was born WHO's Healthy Cities Programme. The main aim of the programme is to call the local governments and community associations to form coalitions for improving urban health and solving environmental problems.

To date, the Healthy Cities Programme has been extremely successful. It has been adopted as a model for promoting urban health - particularly of low income population groups - in over 1000 cities around the world. Many cities councils are using the "Healthy Cities" slogan to publicize health and environmental issue. And in some places, the concept has been broadened to include other sectors of society, such as "Healthy Islands", "healthy Villages" and even "Healthy Schools".

Cities committed to improving the health of their populations through concerted, participatory and "multisectoral" approaches are linking their efforts and sharing their experiences through national and regional networks that exploit the many existing channels of communication that serve for exchange of goods, services, technology and information.

Most encouraging, a glo-

bal network now seems to be emerging. International efforts to improve urban living conditions are being undertaken by WHO together with other United Nations agencies, in particular the UN Centre of Human Settlements (UNCHS), the UNDP, the ILO and the World Bank. In June 1996, representatives from these agencies will gather in Istanbul for "Habitat II", the second Conference on Human Settlements, at which WHO's Healthy Cities Programme will be of pivotal interest.

The health of urban populations deserve our urgent attention. If we continue to let our cities grow without proper planning, local government authorities will be overwhelmed and unable to provide even the most basic conditions for health such as housing, employment, and safe environment. At a time of explosive urban growth, the health of city populations is a challenge for all concerned with human development - from municipal and national authorities to international health and development organizations.

Through the Healthy Cities Programme, WHO has taken up the challenge.

SWASTH HIND

MESSAGE FROM DR UTON M. RAFEI
REGIONAL DIRECTOR
WHO SOUTH-EAST ASIA REGION

WORLD HEALTH DAY 1996

Over the years, the world has seen a phenomenal growth of urban populations, particularly in developing countries. It is, therefore, understandable that concern for better urban life will be of very high priority in the social agenda of the 21st century. Under present trends, by the year 2000, we can expect half the world's population to be living in urban settlements.

While cities have been referred to as engines of development that fuel economic progress, they are also increasingly being seen as the prime machines that pollute and degrade the environment, creating conditions for ill-health that jeopardize the very hope of better living for which the city dweller aspires. The densely populated cities of our Region

shelter close to half of their populations in substandard housing with little or no access to the basic necessities of water, sanitation, and health care.

Over the next decade the world is expected to have 20-30 cities with a population of over 20 million each, more than the present combined population of Bhutan, Nepal and Maldives. Our Region, with five of the 32 most populous countries in the world, already accounts for nearly a fourth of world population. In less than a decade, six people out of ten will be city dwellers in our Region.

The problems of cities - heavy traffic, noise and air pollution, inadequate housing and basic civic amenities - are only too well known to city dwellers. Cities, however,

also have resources to improve the living conditions of their citizens. What is needed is a partnership between the civic authorities, the private sector and the people. A partnership to tackle existing urban problems and to prevent others from becoming threats to the health of citizens.

WHO has chosen the theme "Healthy Cities For Better Life" for this year's World Health Day. The Organization has already launched a global healthy cities initiative to help make cities healthier. I am confident that by raising the necessary awareness and taking urgent action we will be able to achieve our goal of making the cities of today and those of tomorrow healthier and happier places to live in.



SMOKE-FREE OLYMPIC GAMES

1988 Calgary

1988 Seoul

1992 Barcelona

1992 Albertville

1994 Lillehammer

1996 Atlanta