INTEGRATED
RURAL WATER SUPPLY
AND
ENVIRONMENTAL SANITATION PROJECT

Report
of
The Panel of Independent Consultants

Project Planning and Monitoring Unit
Department of Rural Development and Panchayati Raj
Government of Karnataka

Bangalore

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FOREWORD

The Government of Karnataka constituted a Panel of Individual Consultants to review the implementation of the World Bank assisted Integrated Rural Water Supply and Environmental Sanitation Project and to recommend such changes that may be conducive to its more effective and timely implementation. This report presents the views of the Panel.

In the preparation of this report, the Panel has had to draw upon the expertise and time of many officers, institutions and organizations and acknowledges with gratitude the ready assistance it received. In particular, the Panel would like to acknowledge the support it received from the Development Commissioner, the Principal Secretary, Rural Development and Panchayati Raj Department (RDPR), Secretary II, RDPR, the Engineer-in-Chief, PHED, Director of the Watershed Development Programme, and the Director of Health Education and Training.

The Chief Executive Officers of the Zilla Panchayats and the Executive Engineers of the Project Cells of the districts that the Panel visited made every effort to make the visits instructive and useful. While thanking them for their assistance the Panel would like to place on record its appreciation of the candid manner in which they shared their views and experiences relating to the project.

The representatives of the Consultants and NGOs gave full assistance to the Panel in understanding their roles and field issues. In particular, the assistance received by the representatives of these organizations in the field is gladly acknowledged.

Detailed questionnaires were sent to the CEOs, Project Cells, the World Bank Cell in PHED, the Engineer-in-Chief, the Director of the Watershed Development Programme, the Consultants, the NGOs and others. The replies received were of great help in the wok of the Panel. The assistance received from the recipients of the questionnaires is gladly acknowledged.

The work of the Panel was very heavily dependent on the assistance of the Director PPMU and his colleagues. The Director rendered all assistance necessary and readily made all information that the Panel wanted for which assistance the Panel is very thankful. The Panel would also like to place on record its appreciation and thanks for the help given by all the officers of the PPMU and in particular thank the Deputy Director and Assistant Engineers for their ready help at all times.

The visits to the project villages were a unique experience and sharpened the perceptions of the Panel of the vital need to temper projects relating to essential needs to ground realities. The Panel would like to thank the village communities, the members of the Village Water Supply and Sanitation Committees

and the women's groups of the villages visited for their sparing so much of their time and being so helpful.

This report is presented in full awareness of the complexity of this project in terms of novelty of approach and the experimental integration of related elements, all set against the backdrop of public participation. If the recommendations of this report result in the successful implementation of the project in the short period left for completion and assist in formulation of a follow on project, the Panel would consider its efforts more than worthwhile.

Gulam Ahmad P.Padmanabha Gita Sen

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INTRODUCTION

Various projects for establishing and improving water supply in villages have been undertaken by the Government of Karnataka. Among these one of the important projects that has been taken up is the Integrated Rural Water Supply and Environmental Sanitation Project which is financially assisted by the World Bank. The Project, as planned, was expected to provide piped water supply to 1200 villages in the State spread over 12 districts. It has an important component relating to sanitation, health and hygiene. The project was commenced in June 1993 and was expected to be completed by June 1999. However, various factors have inhibited its progress and a recent Mid-Term Review of the Project in September 1996 had, among other reasons, identified the institutional structure of the management of the Project as an area of concern. The view was taken that the present management structure was not fully conducive to the attainment of the various objectives of the Project. The review of the management structure was, therefore, considered necessary not only from the point of view of enhancing the effectiveness of the structure in relation to the on-going project but also with regard to such follow on projects that may be undertaken. It was felt that such a review should be carried out by an outside group of consultants rather than be in-house. Accordingly, the Government of Karnataka constituted a Panel of Individual Consultants to review the current management and institutional arrangements relating to this Project and recommend appropriate modifications. The relevant order of Government is at Annex I.

The terms of reference of the Panel are as follows:

(1) To review the institutional frame work including the District Level Co-ordination Committee created for the implementation of the Karnataka Integrated Rural Water Supply and Environmental Sanitation Project being implemented with the financial assistance from the World Bank and to suggest changes that may be considered necessary to enable the Government of Karnataka to implement the Project as per the Project scope and objectives well within the Project period itself;

(2) To review the delegation of powers to the officers and institutions and to suggest changes that may be considered conducive for the proper implementation of the Project;

(3) To consider other relevant issues as may be considered necessary by the Panel to implement the Karnataka Integrated Rural Water Supply and Environmental Sanitation Project in an effective way;

(4) To consider implementation structure, delegation of powers and other aspects considered necessary by the Panel to implement the likely follow on project pertaining to the Integrated Rural Water Supply and Environmental Sanitation in Karnataka to be taken up with the financial assistance from the World Bank.

The term of the Panel was three months from December 1996 to February 1997. It was originally envisaged that the Panel would submit an interim report regarding the institutional framework and delegation of powers within one month, to be followed by the final report. Later, after discussions with the representatives of the World Bank and the Director PPMU, it was agreed that the interim report would be submitted by the end of January 1997. However, as the work progressed, it was noted that the quantum of work had been underestimated. It was noted that field visits were necessary and extensive interviews with the Consultants, NGOs, Project Cells and other authorities and agencies involved in the Project were necessary. Responses to

questionnaires were also not always prompt. Due to these reasons, it was realized that the submission of an interim report would tend to delay the work of the Panel. It was indicated to Government that the Panel would prefer to submit its full report within February 1997.

The Panel elicited information through questionnaires from the Consultants, the Chief Executive Officers of the Zilla Panchayats, Project Cells in the districts, the Engineer-in-Chief of the Public Health Engineering Department (PHED), and the NGOs. Discussions were also held with the Consultants, the E-in-C PHED, the Director PPMU, Development Commissioner, the Principal Secretary RDPR Department, the Secretary II RDPR Department, Director of Health Education and Training, the Director of the Watershed Development Programme and the NGOs.

The Panel visited 14 project villages of the Pilot phase and of Phases I and II in the districts of Bangalore, Mandya, Mysore, Bidar, Tumkur. The purpose of these visits was to have an idea of the implementation of the project in the field. Opportunity was also taken to hold discussions with the representatives of the NGOs and Consultants working in the field. During these visits, meetings were held with the CEO of the ZP, the Executive Engineers of the Project Cells, the Executive Engineers of the regular Engineering Divisions of the ZP, the district representatives of the consultants and others.

The field visits provided the Panel an opportunity to meet the VWSCs of the villages visited. Particular attempt was made to meet women's groups. The discussions with the members of the VWSC and with women's groups were refreshingly frank and free.

Chapter I

THE PROJECT - A BRIEF DESCRIPTION

The Integrated Rural Water Supply and Environmental Sanitation Project assisted by the World Bank was undertaken to provide safe drinking water and environmentally appropriate sanitation facilities to 1200 villages in the 12 districts of Bangalore (Rural), Belgaum, Bellary, Bidar, Dakshina Kannada, Gulbarga, Hassan, Mandya, Mysore, Raichur, Shimoga and Tumkur in Karnataka[1]. The Project Agreement and the Development Credit Agreement was signed on 4th June 1993, the credit becoming effective from 23rd February 1994. The Project completion was specified as 30th June 1999, with the credit closing on 31st December 1999.

1.2 The project comprises the following four components[2] :-

1. Rural Water Supply, including construction of new and rehabilitation of existing water supply schemes in about 1200 villages, assistance for PHED's borewell programme, leakage repair works, a water quality monitoring programme and measures for ground water recharge.

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[1] The elements of the Project are very briefly described in this Chapter. The Project details are available in the documentation of which the important ones are the Staff Appraisal Report of March 1993, the report of the Review Mission of September 1996.

[2] These four components are indicated in Para 2.06, Page 11, Staff Appraisal Report, March 1993. Environmental sanitation includes individual and institutional latrines and resurfacing of roads.

The water supply is planned on a demand of 40 litres per capita per day (lpcd) for a public stand post and at 70 lpcd for home connections;

2. Environmental Sanitation, including construction of environmental sanitation facilities in all the project villages based on demand, covering sullage drainage, pit latrines, washing platforms, cattle troughs, bathing cubicles, street bins and biogas plants.

   The community is expected to contribute 30% of the cost of drainage works as estimated in the design reports, any excess being met from project funds.

3. Institution Building and Project Support, including community development programmes for creation of village water supply and sanitation committees, comprehensive training programmes and strengthening of the project management, PHED and Zilla Panchayats (ZPs);

4. Health Communication for creation of greater community awareness and demand for hygiene and environmental sanitation.

1.3 The initial Project cost was estimated at Rs. 447.20 crores, shared in the proportions of 78% as loan from the World Bank, 15% from the State Government and 7% by the beneficiary communities. The expenditure on the main components of the Project as at the end of December 1996 was Rs. 55.566 crores for Water Supply, Rs. 3.1029 crores for Environmental Sanitation, Rs. 1.05 crores for Ground Water Recharge and Rs. 9.7554 crores for other components, including software and project support totalling Rs.69.4743 crores.

1.4 The Project has certain unique features which distinguish it from conventional water supply schemes which are being implemented as part of Plan activity. These are the (i) inclusion of important components of Community Participation for operation and management of the water supply and environmental sanitation including drainage and latrines, with contribution by the community for the environmental sanitation component, (ii) induction of Consultants for design and supervision of the water supply components, and for intensive training of those involved in the project and for development of basic skills (iii)involvement of Non-Government Organizations for evoking community participation in the selected villages, supervised by a Consultant on Community Participation, (iv) a separate Project Management Structure.

1.5 The objectives of the Project were not merely to establish safe water supply systems but to involve the community in the management and operation of these systems to ensure their sustainability. The other social objectives include a strong element of watershed management and the development of an awareness of the need for health and sanitation measures by the community through a Health Sanitation and Health Education programme.

1.6 The induction of consultants for the hardware components of both design and construction supervision was based on the conviction that the Public Health Engineering Department (PHED) of the Government did not possess the staff strength for this purpose. Similarly, the induction of NGOs and the Consultant for Community Participation Management was considered desirable because official agencies, accustomed as they are to work in isolation, would not possess the skills to evoke community participation.

1.7 The involvement of the community at every stage of the water supply and environmental sanitation components is built into the process of implementation. The design of the water supply scheme for a village is the responsibility of the Design Consultant who first prepares a Conceptual Design Report (CDR) based on a survey of the village, its current and projected population and other relevant parameters. This CDR is discussed with the village community or Gram Sabha, with the active involvement of the NGO concerned, the Design Consultant and the official agencies. The suggestions of the community are noted and taken into account in the preparation of the Engineering Study Report (ESR) which, after scrutiny by the PHED, becomes the basis for the preparation of bid documents. Similarly, at the construction stage, the Consultant for Construction Supervision is expected to take

into account reactions of the community with regard to adequacy of quality of construction.

1.8 The Project is being implemented in three Phases. These are i)a Pilot Phase in 11 villages, ii)a Phase I in 257 villages in 10 districts (excluding Hassan and Tumkur) and iii) a Phase II in 932 villages in 12 districts, including Hassan and Tumkur.

1.9 The Pilot Phase is almost completed, with water supply works having been established in 10 out of the 11 and handed over to the communities. Environmental sanitation works have been completed in 4 villages while work is in progress in the 7 others.

1.10 In Phase I, contracts for all the 257 villages have been awarded for the water supply civil works between March and November 1995. However, 18 villages have been dropped later, leaving 239 villages in this Phase. As at the end of December 1996, these are under construction in 218 villages. Environmental sanitation works are in progress in only 113 villages. Out of an expected community contribution of Rs.466.41 lakhs for this Phase, Rs. 271.90 lakhs have been contributed as at the end of January 1997.

1.11 The delay in the implementation of the Project, as mentioned earlier, has been a matter of concern. Various factors have been identified in the Mission Report of September'96 among which the institutional arrangements were considered important.

1.12 Delays have occurred due to various reasons. In PhaseI for example, the preparation of the ESRs was expected to commence from 1.4.1991 and were expected to be ready by 31.1.1992 or in 38 weeks. But these were completed only by August 1993. Similarly, in Phase II, the stipulation was that 40% of the ESRs of the total of 935 would have to be ready within 60 weeks of the commencement of the assignment to the Design Consultant, which was March 1994 and the balance within 104 weeks. In other words, about 374 ESRs were to be ready by April 1995 and the balance by March 1996. The earliest 10 ESRs were ready only by May 1995, much after the contract period.

Chapter II

REVIEW OF PROGRESS

In assessing the status of the project, its many facets would have to be considered. These would include, among others, (i) a review of delays in physical progress, (ii) cost factors, (iii) components that have been delayed, (iv) some main issues with regard to performance.

Delays in physical progress:

2.1 The delay in the implementation of the Project, as mentioned earlier, has been a matter of concern. Various factors have been identified in the Mission Report of September 1996 among which the institutional arrangements were considered important. The Mission Report of September 1996 concluded that while 50% of the Project implementation period is over only 40% of the implementation in 250 villages of Phase I has been carried out. With the Project coming to an end by June 1999, the activity with regard to Phase II has yet to gather momentum.

2.2 Delays have occurred due to various reasons. In Phase II, the stipulation was that 40% of the ESRs of the total of 935 would have to be ready within 60 weeks of the commencement of the assignment to the Design Consultant, which was March 1994 and the balance within 104 weeks. In

other words, about 374 ESRs were to be ready by April 1995 and the balance by March 1996. The earliest 10 ESRs were ready only by May 1995. By March 1996, about 156 ESRs were completed while by December 1996 about 525 were ready. These delays have been caused mainly by the inability of the Consultants concerned being able to maintain the "milestones" or targets stipulated in the agreements signed by them. However, other additional contributory factors are delays in final selection of water source points, lack of effective monitoring by the Consultant of field staff and by the official agencies. The delays also appear to have been tolerated since rarely has prompt action been taken to review progress, identify missing of the stipulated "milestones" which should have resulted in administrative action, penalties, or institution of early warning systems of monitoring.

2.3 The target dates set for completion of piped water supply schemes and other activities are as follows [1] :-

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[1] Extract from Form No. PPMU - 13 Summary: Project Physical Progress for the period ending December 1996.

A **WATER SUPPLY**

Description	Total Scope		FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	Cum achievt. to date
Piped	(No.of villages)									
Pilot	11	T	8	2	0	0	0	0	0	
		A	-	7	3	-	-	-	-	10
Phase -1	257	T	0	135	97	25	0	0	0	
		A	-	-	-	-	-	-	-	-
Phase - 2	935	T	0	0	50	200	327	326	32	
		A	-	-	-	-	-	-	-	-
Leak Repair Works	(No.of villages)									
Phase -1	75	T	5	20	50	0	0	0	0	
		A	-	-	-	-	-	-	-	-
Phase - 2	275	T	0	55	55	55	55	55	0	
		A	-	-	-	-	-	-	-	-
Ground Water Recharge	(No.of villages)									
Pilot	16	T	8	8	0	0	0	0		
		A	_	_	3	6				9
Phase -1	142	T	0	30	30	30	30	22	0	
		A	_	_	_	_	_	_	_	_
Phase - 2	550	T	0	0	150	150	150	100	0	
		A	_	_	_	_	_	_	_	_

Note: **T** *= SAR Target(annual);* **A** *= Achievements (annual)*

B **WATER SUPPLY - LABS AND EQUIPMENT**

Description	Total Scope		FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	Cum achievt. to date
Water Quality Control				(Labs new and upgraded)						
Number	15	**T**	0	8	6	1	0	0	0	
		A	_	_	_	_	_	_	_	_

C **WATER SUPPLY - BOREWELL DRILLING, EQUIPMENT & WORKSHOP**

Description	Total Scope		FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	Cum achievt. to date
No.of wells	4400	**T**	1400	1500	1500	0	0	0	0	
		A	1355	112	399	819	_	_	_	2685

D **ENVIRONMENTAL SANITATION - SULLAGE DRAINAGE & LATRINE**

Description	Total Scope		FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	Cum achievt. to date
Sullage Drainage			(No.of villages)							
Pilot	11	**T**	0	5	5	0	0	0	0	
		A	_	3	1	_	_	_	_	4
Phase -1	257	**T**	0	0	135	88	25	0	0	
		A	_	_	_	_	_	_	_	_
Phase -2	935	**T**	0	0	0	50	200	330	362	
		A	_	_	_	_	_	_	_	_
Latrines			(No.of Latrines)							
Pilot	750	**T**	0	250	500	0	0	0	0	
		A			194	296				490
Phase -1	18600	**T**	0	0	10125	6600	1875	0	0	
		A			1127	2236				3363
Phase -2	70650	**T**	0	0	0	3750	15000	24750	27150	
		A								

Note: **T** *= SAR Target(annual);* **A** *= Achievements (annual)*

E **ENVIRONMENTAL SANITATION- BATHING CUBICLES**

Description	Total Scope		FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	Cum achievt. to date
Bathing Cubicles & Biogas Pilot Plant										
No.of BCs	3000	T	0	13	350	345	563	825	905	
		A			11	227				238

2.4 In the case of Phase I villages, against a target of 232 water supply schemes that should have been completed by March 1996 none have been completed. In the case of Phase II villages, 50 such schemes should have been completed by March 1996 but the bids for this phase are in the initial stages of acceptance even in February 1997. In terms of operational workload this would mean that 935 such schemes would have to be completed in the next 28 months since the project completion date is June 1999. In assessing the implications of this workload it would be necessary to keep in mind the time slots required for the essential processes of preparation of Conceptual Design Reports, Participatory Rural Appraisal programmes, preparation of the Engineering Study Reports, finalization of Engineering Study Reports, calling for bids and awarding of works, and for completion of the works. The pressure on the management of the project would be evident.

Costs and their implications:

2.5 The delays have also resulted in escalation of costs of the project. It would be relevant, in this context, to consider the per capita costs for the civil works part of the water supply component, being the main component in terms of investment, rather than total outlays. The per capita costs of this element for Phase I averaged Rs. 665 on the basis of the lowest bids obtained as compared to Rs. 296 on the basis of the SR of 1992-93 unloaded for factors such as investment and inventory costs of materials, insurance, etc, Rs. 405 on the basis of the SR of 94-95 and Rs. 593 on the basis of the market rates for labour and materials of 94-95. The per capita costs for Phase II estimated in the Mission Report of September 1996 is Rs. 786. Consequently, the said Report has concluded that the Phase II water supply cost estimates would be about 130 per cent above the SR estimate. As a consequence, the total outlay being fixed, it is envisaged that the number of villages included in the Project would have to be reduced from 1200 to 850. In other words, Phase II which was planned for 950 villages would now include only about 600.

2.6 At this point it would be relevant to consider the bids obtained recently for such works in the case of some Phase II villages for Mysore district Slice I. The per capita

cost in these villages on the basis of the SR of 95-96 is Rs. 368 while the per capita cost on the basis of the bids worked out on market rates plus stipulated overheads and profit works out to Rs. 523, or an excess of about 42 per cent over the SR. If this trend were to continue, it would permit the inclusion of a larger number of villages in Phase II. However, if the Project has to be completed within the stipulated period, decisions on the number of villages in this Phase and their identification would have to be taken most expeditiously.

2.7 The high per capita costs of Phase I are rightly attributed to the conditionalities that were imposed with regard to pre-qualification of contractors and the grouping of works in large slices. This obviously resulted in the elimination of effective competition. However, based on this experience, the procedures have been changed to permit smaller packages of 5 to 10 contiguous villages with corresponding reduction of the estimated costs per slice, and adoption of post-qualification in place of pre-qualification. The new approach has resulted in more competitive bidding as indicated by the fact that for 74 villages of Phase II there have been 67 bids as against 13 received for all the 257 villages of Phase I.

Delayed components:

2.8 The project includes important components relating to (a) Health, Sanitation and Hygiene Education (HSHE), (b) Ground Water Recharge, (c) Water Quality Monitoring and Water Quality Surveillance, (d) Leak Detection and Repair, and (e) Equipment for the PHED. These were envisaged as integral parts of the project but there has been little progress in their implementation. The table above indicates the slippage in achievement of stipulated targets.

2.9 The delay in the implementation of the HSHE is particularly unfortunate. Conceptually, it is an integral part of the environmental sanitation component with a strong health communication element for achievement of specific focus areas such as (a) promotion of personal and family hygiene, (b) promotion of latrine usage, (c) education on environmental hygiene, (d) management of household water resources and the like. Logically, this component should have been included in the community participation exercises for maximum impact.

2.10 The objective of the component relating to ground water recharge is to conserve rain water in situ in order to enhance recharging of groundwater sources. This is important for the long term sustainability of the water supply project in terms of adequacy. The implementation of this component

has faltered, and the Mission Report of September 1996 indicated the main reasons. As discussed later, conceptual problems have hampered the implementation of this component.

2.11 Water quality monitoring and water quality surveillance are related elements. Currently, such testing is either as a response to an epidemic situation or at the commencement of a project. The main activity is the strengthening of the infrastructure in the PHED and the Directorate of Health and Family Welfare for ensuring continuous testing of water quality.

2.12 Leak detection surveys and repair work are intended to prevent wastage and loss of drinking water. Leak detection followed by preventive measures would considerably improve maintenance of the systems and enhance water availability. It includes both building up expertise and providing necessary equipment in the PHED and ZPs.

2.13 For more effective implementation of the borewell programme which is an essential element of the water supply component, it is proposed to provide equipment to the PHED. The equipment that was proposed to be provided included, among others, India Mark 3 hand pumps, 6 borewell drilling rigs, one hydrofracturing rig, 10 yield testing units for borewells, 3 well logger units for geophysical investigations

and strengthening and upgrading the PHED workshops. The rigs, a particularly vital element, have yet to be acquired and action to procure them, after an abortive start, has been recently recommenced.

Some main issues with regard to performance:

2.14 The delays that have occurred in the implementation of various components of the project have been briefly indicated above. The key issue is how the target date of June 1999 for the completion of the project could be maintained. In this context, it would be relevant to recall that (a) 935 water supply schemes would have to be completed, for which action can at best be said to have just commenced, (b) major components involving community participation such as the HSHE and watershed development have yet to be instituted, (c) strengthening of the infrastructure of the main agencies has to be ensured, and (d) an efficient MIS has yet to be devised and implemented.

2.15 In evaluating the current situation with a view to recommending possible structural changes that could enhance operational efficiency, the fact that the current institutional structure of the project is quite different from what government departments are used to, would have to be kept in mind.

Chapter III

ORGANIZATION FOR PROJECT IMPLEMENTATION AND MANAGEMENT - A REVIEW

The organization structure for implementation and management of the project is unique since the conventional departmental structure within government has not been adopted. The distinctive features are (a) the high involvement of non-government organizations (NGOs) in the implementation of the project, (b) involvement of the community in planning, operation and management of water supply and environmental sanitation, (c) the induction of consultants for specific elements, (d) establishment of exclusive project cells in the PHED and in the ZPs and (e) the direct association of other departments of government such as health and watershed development as partners, (f) the creation of an Empowered Committee, (g) establishment of a Project Planning and Monitoring Unit (PPMU) for management of the project. The functions of these organizations are briefly indicated here and the role they perform is appraised.

The Non-government organizations:

3.2 The involvement of NGOs is at the district level for assisting in organizing the Village Water Supply and Sanitation Committees (VWSC), monitoring implementation of community participation aspects of the project, and undertaking promotion of latrine and health communications.

An NGO in each district is also proposed to be involved in the watershed development activities. The rationale for the appointment of the NGOs at the district level, is that official agencies do not have the ability to enthuse communities in these activities and that they, the NGOs, would provide devoted, dedicated service. The PPMU, according to current procedure, selects and appoints the NGOs.

3.3 The role of the NGOs is separately discussed. However, a few observations at this point would be in order. It would be difficult to state categorically that efficiency or role performance has necessarily been better in the case of the NGOs. There are, of course, exceptions but by and large the NGOs did not seem to reach the expectations expected either in impact or involvement. Also, the unfortunate emphasis on collection of the contribution by the community, particularly after the recent decision of a part being first obtained upfront, has skewed their role from motivators and catalysts of social change to collectors of funds. The perception that this is their primary responsibility, despite it being clearly that of the VWSC and the community at large, has in many cases resulted in the objective of their very involvement being lost. In this context, the role of the CPA Consultant vis-a-vis the NGOs would call for serious attention. The mechanisms of induction of the NGOs and of the CPM Consultant need review.

3.4 The experience of the induction of NGOs in large measure seems to indicate that when there is such close operational association with government with financial implications, the NGOs often seem to acquire the character of extensions of government thus losing their vital advantage of innovation or independence. As a consequence, they are unable to perform their primary roles of innovative demonstration and critiques of official programmes.

The Village Community:

3.5 The community at the village level is actively associated with those elements of the project that are of direct interest and benefit to it. The community is expected to be consulted through participatory meetings at various stages such as when the Conceptual Design Reports are prepared, before the Engineering Study Reports are finalized, during construction of the water supply and environmental sanitation works for ensuring adherence to design and specifications, and later for the operation and management of the water supply itself. The official agencies, the consultants and the NGOs are together expected to be actively associated with the village community. The VWSC is responsible for the contribution that the community is expected to make of 30% of the costs of the sullage drainage works and for the entire costs of operation and maintenance of the water supply works.

3.6 In most cases these committees are aware of the project and are articulate about their expectations from it. However, the Project Cells in the districts and some of the NGOs seem to have misconceptions of the role of the VWSSC. In particular, officials in the project in the districts are generally skeptical of the need for and the benefits of the involvement of what are viewed as "non-official" elements in the planning and implementation of such a project. One reason for this is that water supply schemes have been implemented all these years and are continuing to be implemented as normal departmental activity. The rationale for the special emphasis on community involvement in vital programmes relating to environmental sanitation, the water supply element, even though in funding the largest, being just a route for the former is rarely appreciated.

Consultants:

3.7 Consultants are employed for (a) designing of the water supply schemes, (b) supervision of construction, (c) community participation, (d) training, (e) health communications, (f) leak detection, (g) impact assessment of ground water recharge and (h) special studies. The rationale for the appointment of consultants would seem to be (i) official agencies do not have the necessary staff or expertise for a project of this nature and that permanent additions to staff for a project would not be necessary or

desirable, (ii) these agencies have neither the experience nor the sensitivity for evoking and sustaining community involvement in the project, (iii) NGOs are ideal agencies for the latter but need guidance and supervision and (iv) consultants would provide reliable and dedicated service which would not generally be available from official agencies.

3.8 The consultants for health communications, leak detection, impact assessment of ground water recharge and special studies have not yet been appointed. Reviews of the roles of the consultants for design and construction supervision are discussed separately.

3.9 A separate review of the role of the Training Consultant has not been made since the Panel is in general agreement with the assessment made in the Mission Report of September 1996 [1]. It must, however, be emphasized that it would be necessary to orient the engineering staff of the Project Cells in the districts with regard to the special features of this project and the role of the NGOs and the consultants and the need for constant interaction with them. Also, their responsibilities in relation to the environmental sanitation programmes would need to be clearly indicated to

[1] Page 9 and Attachment 3, Report of the World Bank Mid-Term Review Mission, September 1996.

the Cells through training programmes. At present, there is an impression that this activity is that of the NGOs and that the Cells' responsibility relates primarily to water supply, largely due to the environmental sanitation component being made dependent on the water supply component. It is also noticed that the staff at the district level of consultants for design and construction supervision have a purely "engineering" approach. Interaction with the community and the district NGO is often missing or slight resulting in dilution of one of the major objectives of the project. It would be desirable to train or orient these staff so that their role is understood and the other facets of the project taken into account in the performance of their role. Such training would also expose this staff, which despite contractual stipulations is generally raw, to the realities of rural needs and the need to trim their expertise to ground situations both in engineering and societal terms.

World Bank Cell in PHED:

3.10 Special units have been established in the office of the Engineer-in-Chief, PHED and in each of the 12 districts for management of the project activities. The unit in the PHED is generally referred to as the World Bank Cell, PHED and those in the districts as World Bank Project Cells. Though closely associated, it would be convenient to consider these separately. This section relates to the Cell in PHED.

3.11 The former is headed by a Superintending Engineer while the latter are in charge of Executive Engineers. Necessary staff has been provided to these units.

3.12 The main functions of the PHED Cell are to review and monitor all engineering aspects and to provide technical support to the ZPs in engineering aspects of the project [2]. It also has responsibility for review and approval of environmental sanitation schemes. The responsibilities regarding awarding of contracts for water supply schemes, leak detection and repair work and for inspection of quality of work is assigned to the cell. The PHED also has the responsibility for borewell drilling and water quality monitoring.

3.13 The procedures adopted for review and approval of Engineering Study Reports require that the Divisional Superintending Engineer of the PHED reviews them on receipt from the district Project Cell and either seeks clarifications or modifications or sends these on to the PHED for further consideration and approval. This intermediate level of technical scrutiny is no doubt useful but delays

[2] The duties and responsibilities of the Cells, the PPMU and other agencies and departments are fully described in the Staff Appraisal Report of March 1993. Those of the World Bank Cell in PHED is indicated on Page 77, Annex 2, SAR 1993.

could be avoided through personal discussions rather than "back references".

3.14 Inspections have been carried out by the Engineer-in-Chief of the PHED of works relating to both water supply and environmental sanitation. The inspection notes of the E-in-C indicate, and confirm the view of the Panel, that quality of construction of water supply works is at best equal to that in other departmentally implemented water supply schemes and that, in some cases, quality was not of the standard expected. This would, in fact, imply that a full review of the effectiveness of the Consultant for construction Supervision would be necessary which would ensure that in the next phase quality standards beyond the conventional are attained. In this connection it would be relevant to note that the actual work is most often carried out by local contractors [3]. A mechanism for follow up of the observations made and instructions issued must be established. The World Bank Cell, PHED would need to develop such a procedure. It would seem desirable to require the Consultant for construction supervision to react to the observations in periodic review meetings. Otherwise, as usually happens, whether corrections have been made in the field and at the

[3] These comments are based on the inspection notes of the Engineer-in-Chief, PHED for the period June 1996 to January 1997.

cost of the agencies concerned, namely the consultant and contractor, would not be known.

3.15 The links between the PHED, the PPMU and the Project Cells in the districts are considered separately.

World Bank Project Cells in the districts:

3.16 Cells have been established in each of the 12 districts for overseeing the implementation of the project. These cells, generally referred to as World Bank Project Cells, are part of the ZP structure and work under the Chief Executive Officer of the ZP. Their responsibilities relate to water supply and environmental sanitation and coordinating the work of the NGOs and consultants.

3.17 A plain reading of the SAR and the reports of the Missions that preceded it would seem to indicate that it was originally intended that the regular Engineering Divisions of the ZPs would be operationally responsible for the implementation of the project. In March 1993[4], 18 district level project divisions (or cells as they would be hereafter referred to) were established on the basis of two cells in each of the districts of Bangalore (Rural) located at

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[4] The Government Orders relating to these Cells are the following:-

a) G.O. RDP 884 (2) 91 of 23.3.1993
b) G.O. RDP 254 PPM of 31.1.94
c) G.O. RDP 139 PPM of 12.6.1994

Bangalore and Ramanagaram, Shimoga located at Shimoga and Sagar, Dakshina Kannada located at Mangalore and Udipi, Belgaum located at Belgaum and Chikodi, Gulbarga located at Gulbarga and Yadigir, Raichur located at Raichur and Koppal, and Bellary located at Bellary and Harappanahalli and one each in the districts of Mandya and Bidar. In March 1994, when the project was extended to the districts of Tumkur and Hassan, two such cells were created in each of these districts located at Tumkur and Madhugiri in Tumkur district and Hassan and Channarayapatna in Hassan district. The staff sanctioned for each cell consisted of one of each of the following- executive engineer (EE), assistant engineer(AE), accounts superintendent, first division clerk, typist, peon, driver. Thus, by early 1994, there were 22 such cells.

3.18 The intention was clearly to locate these cells, following the practice with regard to the regular engineering divisions of the ZP, one at the ZP headquarters and one at another convenient location. This was evidently on the basis that the project villages were dispersed over the district. However, in July 1994 these 22 cells were reduced to 12 or to one in each of the project districts. The reasoning was that the supervision of the environmental sanitation works required better supervision and that this would be possible if an assistant executive engineer (AEE) was part of the district cell. While creating the posts of one AEE in each

district for the project, the cells were reduced to one each per project district. The staffing pattern of the district cell was one EE, one AEE, 3 AEs/JEs, one accounts superintendent, 2 drivers, 2 first division clerks, 2 typists and 2 peons, except in Mandya and Bidar districts where there were only 2 posts of AEs/JEs. The cells in ten districts, in effect lost the advantage of dispersal and one post of technical supervision of EE.

3.19 The district Project Cells are clearly unable to manage the varied elements of the project or coordinate them. Generally speaking, instead of being a focal point for management and monitoring for satisfactory implementation, they have tended to concentrate on the water supply scheme, with minimal interaction with the community, the NGOs and the consultants. Their capacity for inspections has been diminished resulting in poor supervision of the consultants. In a few cases, there appears to be an impression that the presence of consultants absolves the cells of the responsibility of ensuring performance with quality. While the major responsibility is doubtless that of the NGOs and consultants it would be most unfortunate if official supervision is reduced. The long term implications both in terms of sustainability and accountability are obvious.

Major associated Departments:

3.20 The departments associated with this project and with specific responsibility for important elements are the Health Department and the Watershed Development Cell of the Watershed Development Programme. The Health Department is responsible for the implementation of the HSHE component in Shimoga district, action having yet to be initiated. In the other districts, NGOs have still to be appointed. The Watershed Development Cell, as mentioned earlier, is responsible for development of micro watersheds for sustainability of the water sources established under this project.These aspects are discussed separately.

Empowered Committee:

3.21 An Empowered Committee was established at State level[5] for ensuring quick decisions being taken on matters relating to the project. The Committee is vested with almost all powers of government thus avoiding the conventional and slow process of references to various departments at the Secretariat level. In fact, the only restriction regarding powers is when plant and machinery worth over one crore is

[5] G.O No. RDP 45 RWS(2) 93 dated 10th February 1993. Under G.O RDP 72 PPM 94 dated 17 June 1994 the powers of the Committee were clearly defined. By an order dated 3rd July 1995 the inclusion of Secretary II of the RDPR Department as a member was notified. It was clarified under orders dated 30th May 1995 that the assignment of powers to the Empowered Committee did not preclude decisions being taken by the Heads of Departments concerned under the inherent powers vested in them.

sought to be purchased in which case the matter has to go to the Cabinet. Otherwise, the Committee has full powers and responsibility for overseeing the implementation of the project. The Mission Report of September 1996 had suggested that a Sub-Committee of the Empowered Committee could be established for expeditious clearance of many matters. This, however, has not been agreed to. Alternatively, more powers could be delegated to Sub-Committees with reporting of use of these powers to the Empowered Committee. This is discussed later.

Project Planning and Monitoring Unit:

3.22 The Project Planning and Monitoring Unit (PPMU) was established in March 1993 at State level for management and monitoring the project [6]. It is expected to provide guidance to the implementing agencies and ensure maintenance of high technical standards and the attainment of the objectives of the project. It acts as the secretariat to the Empowered Committee.

3.23 The PPMU is not a separate department of government and the Director, PPMU is not declared as a Head of Department nor have the powers of a Head of Department been conferred. It is a functional wing of the RDPR department and is the secretariat of the Empowered Committee.

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[6] G.O. RDP 884 RWS (2) 91 of 6th March 1993

3.24 The functions and duties of the PPMU have been indicated in the SAR of March 1993 [7]. The overall responsibility for the successful implementation of the project, the adherence to agreed procedures, selection and obtaining approvals of consultants for the hardware components, selection and appointment of consultants for the software components and of the NGOs and ensuring coordination among them would lie with the PPMU. In general, the planning, coordination, management and monitoring of the project is its prime responsibility.

[7] Component 4, Annex 2, Pages 73 - 76, SAR March 1993

Chapter IV

ADMINISTRATIVE PROCEDURES

The administrative procedures evolved for the management of the project are quite different from those followed in the implementation of similar projects. The procedures of the Bank require that almost all major decisions have the Bank's approval, from draft terms of reference, tender and contract documentation, choice of consultants and the like. This procedure is new to the implementing departments and quite often small procedural defects have caused delay in obtaining approvals. The review of the Bank's procedures are beyond the brief of the Panel and, therefore, no views are expressed except to say that these procedures would certainly bear review.

4.2 The firm adherence to the Bank's procedures as currently stipulated should be strictly followed. In many cases, delays have occurred because of deviations from these procedures which were unacceptable to the Bank.

4.3 The responsibilities of the various official agencies involved in the implementation of the project, as specified in the SAR have determined the administrative and accounting

procedures that are in place [1]. The procedures governing the processing of various proposals, of accounting or reporting from and between various levels do not, by themselves, seem to be a deterrent for expeditious implementation. The organizational issues, as discussed earlier, are more relevant for evaluating the reasons for slow implementation. No major changes are suggested with regard to procedural arrangements. However, some issues would need to be attended to, as discussed further.

4.4 The Director, PPMU is a part of the secretariat and not a head of department. Nevertheless, the Director does perform many functions similar to what a head of department would do, including management of routine functions such as touring, etc. At present, all matters require approval of the Secretary, RDPR. This casts a burden on the system totally out of proportion to the importance of the issues. It is suggested that the Director, PPMU be delegated the powers of a major head of department even though not designated as such.

4.5 All payments not covered by Letters of Credit (LOC) that have to be made by the Director, PPMU such as payment of

[1] For example, the responsibilities of the PPMU are indicated in Pages 73 to 75 and 104 of the Staff Appraisal Report, March 1993. Similarly, for the PHED and the Project Cells, responsibilities are at Pages 77 and 78 of this document.

bills of NGOs are now paid through the Well Boring Division of the PHED. This procedure was evidently adopted before the system of exclusive bank accounts that could be operated upon by designated project implementing authorities was instituted. It casts an unnecessary accounting load on the PHED and has built in elements of delay. It is suggested that a bank account be permitted to be opened in the name of the Director, PPMU as in other cases, with allocation of appropriate funds.

4.6 A special accounting system has been developed for this project to enable the expenditure to be distinguished [2]. The main feature of this system is that it authorizes bank accounts being opened in favour of the Executive Engineers of the Project Cells and that funds released to them through Letters of Credit would be credited to these bank accounts. For a large part of the expenditure initial outgo is not through the conventional Treasury system, though reconciliation of accounts with the LOC in the books of the Treasury would still be necessary. No particular difficulties are reported in operating this system. However, to avoid audit issues later, the pace of reconciliation of accounts must be monitored.

[2] The procedure is specified in GO No. RDP 122 PPM 93 dated 27th April 1995

4.7 The delegation of enhanced general financial powers to Heads of Departments and other departmental officers is indicated in government order No. FD 7 TFP 91 of 16th September 1991. More pertinent to the project would be the delegation of enhanced powers to officers of the Public Works and Irrigation Departments specified in order No. PWD 1 FCR 93 of 15th December 1994. As indicated in the latter order, water supply and drainage works are included under "irrigation" for purposes of exercise of the powers.

4.8 The need for delegation of further powers to the Engineer-in-Chief, PHED and other officers in charge of implementation of this project has been under consideration. As emphasized earlier, it is clearly not the want of powers that had contributed to delays in implementation. A scrutiny of the powers specified in the Government Order of 15th December 1994 indicates that it invests sufficient authority in the PHED. Therefore, it would seem that further delegation of powers solely for expediting implementation are not necessary.

4.9 In principle, it would be undesirable to delegate powers liberally because extensive delegations reduce the essential levels of scrutiny of proposals which have large financial implications. Also, except in the case of mega

projects of special character, it would be undesirable to delegate special powers unique to one project.

4.10 However, delegation of some elements of administrative functions now performed by the Empowered Committee could be considered which would help in quicker decision making. It is recommended that two Sub-Committees of the Empowered Committee could be formed with the following functions:-

a) A Management Sub-Committee of the Empowered Committee could be constituted to perform, by delegation by the Empowered Committee, certain functions of the latter. These could include matters which are mostly concerned with operational issues and now included in G.O. RDP 72 PPM 94 of 17 June 1994. These are (i) finalization of villages, (ii) finalization and approval of action plans of villages/districts, and (iii) purchase of vehicles. In general, this Sub-Committee could deal with all matters that do not involve substantive matters of policy.

b) To render monitoring of the project more effective, a Monitoring Sub-Committee of the Empowered Committee could be constituted. This Sub-Committee should have a regular schedule of monitoring of project activities, quantitative and qualitative, and a system of follow up of the results of monitoring.

4.11 The advantage of forming these Sub-Committees would be that they could meet more frequently since a smaller number of officers would be involved. The decisions of these Sub-Committees would have to be reported to the Empowered Committee. The overall responsibility of the Empowered Committee would not be reduced by this arrangement.

4.12 More frequent meetings of the Empowered Committee would also go a long way to inculcate a sense of urgency in the project agencies at all levels. Its main role should be dealing with policy issues and ensuring effective coordination between departments.

Chapter V

PER CAPITA COSTS

The per capita costs of the water supply component provide an insight of the pricing mechanisms that operate in this project. The assessment of per capita costs also determine the number of beneficiary villages that a given level of funding can sustain. The assessment and control of per capita costs would, therefore, be an useful exercise and assist in the optimum application of the funds available for this component of the project. Also, an evaluation of the per capita costs of the water supply component of the project would be necessary for a realistic assessment of the scale of the project in terms of the number of villages that could be covered in the period available for completion.

5.2 For an urban or rural water supply, apart from the approximate total cost, the unit cost for comparison would be the per capita cost of providing the desired quantity of potable water to the beneficiaries. This unit cost would be computed when the water supply scheme is surveyed, designed, estimated and project report prepared. On the basis of the known present population or the projected population at the end of design period the per capita cost is calculated and compared with an estimated unit cost to enable an investment decision to be taken.

5.3 Normally, the SR of the PHED applicable to the period when the water supply scheme is prepared is taken into account in preparing the estimates for the scheme. The SR for each year includes the rates for labour, materials, finished items and lead and lift included in it. For this project, however, the procedures were modified at the instance of the World Bank in as much as the SR was not adopted in toto in preparation of estimates. Under the revised procedure, estimates were prepared adopting the SR for a few items whereas for cement, steel, pipes and valves, etc, market rates of the year of preparation of the estimate were adopted. For purposes of evaluation of the bids received and for purposes of comparison of the bids, the SR was taken into consideration for a few items while the difference in rate for steel and cement, pipes and valves etc, compared to the market rate prevalent at the time of bid evaluation was built in. The estimates derived on this basis would obviously be higher than that on the basis of the SR or the sanctioned estimate. In addition, derived rates for various other items such as insurance, investment charges etc were taken into consideration. This procedure of adoption of the SR combined with derived rates was adopted in contrast to what the bidder adopted which was market rates for all materials, which constitute about 60% to 70% of the total cost.

5.4 In accordance with this procedure, the unit cost for Phase I villages works out to about Rs.300 per capita. This per capita cost was adopted while working out the project cost in the SAR of March 93. An additional provision of about 35% to 40% was made to cover contingencies and escalations. With the latter also taken into account, the unit cost was computed at about Rs.400 to Rs.420 per capita.

5.5 Against this estimated cost, when construction tenders after pre-pre-qualification were called in 1994, evaluated and approved for 257 villages of Phase I, the total cost came to Rs.76 crores against the estimated cost of Rs.29 crores. This is estimated at a per capita cost of Rs. 786. Since these tenders are eligible for price escalation which would be about 15%, the unit cost would rise to Rs.900 per capita on the basis of the 1991 population and Rs.750 if the population of 2011 is taken into account. This means that the project cost has gone up by almost two and a half to three times [1] .

5.6 The project cost as indicated in the Mission Report of September 1996 [2] provides Rs. 129 crores (Rs.100 + Rs.29 crores) for the 1200 villages. With provisions for

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[1] The calculation is based on the information in Para 5(i) and Attachment 2 of the Mission Report of September 1996.

[2] Attachment 2, Mission Report of September 1996

contingencies and escalation also taken into account, the net amount would be Rs.180 crores. Of this, Rs.90 crores is committed for 257 villages of Phase I, leaving a balance of only Rs.90 crores for the balance 950 villages. This will not be sufficient even for about 350 to 400 villages if the per capita cost of the 257 villages of Phase I of about Rs. 900 were to persist even in the tenders for Phase II villages since the latter tenders are being floated about two years later. However, if the trend of lower per capita costs noticed in the tenders obtained for some Phase II villages were to continue, the number of villages that could be benefitted for a fixed quantum of investment would increase [3]. However, if the number of water supply schemes in Phase II that would be dependent on surface water is taken into consideration, the per capita costs would increase, in which case the number of villages would have to be restricted. Therefore, if the original targets of the project are sought to be retained, it would imply that additional funds to an extent of Rs.180 crores would have to be found or the scale of the project curtailed to about 750 villages.

5.7 The per capita costs applicable to this project indicated above must be compared with the corresponding costs

[3] The trend in the per capita cost obtained in the tenders floated for Phase II has been commented upon in Chapter II. The average per capita cost in the case of some Phase II villages of Mysore district is about Rs. 523 while that for Tumkur district is about Rs. 584.

the ESRs prepared by the Design Consultant from the point of view of costing.

5.11 The expectation that a higher unit cost would have been offset by much better quality of work is also, unfortunately, not met. Nor has the time table been adhered to. All the major contractors of the 18 slices of Phase I have missed all the mile stones so far with no valid reasons, other than internal deficiencies.

5.12 It is learnt that the PHE SR for 1996 - 97 has recently been updated as a result of which they will become costlier by about 15% to 20% over last year rates, or about 40% over the base year 1992-93.

5.13 Since the long term implications of the cost factors are important for all such water supply schemes, an analytical review of the system of costing is suggested. This review could be done by,

(a) comparing the costs of samples of works under ARWS and NRWS schemes prepared adopting the SRs of 92-93, 93-94, 94-95, 95-96 and 96-97, taking into account the SPD rate for materials or quotation rates for non covered items with

(b) a similar comparative study of one or two estimates of 2nd phase villages from among those prepared by NIDC and by Kirloskar consultants to determine costing of all parameters.

5.14 In computing the relative costs for this purpose, assessed costs of uncovered services like taxes, insurance etc., which are being taken into account by major contractors and as stipulated in the Bank's conditions, unlike the practice in departmental execution or the piece work system, could also be taken into account.

5.15 The pre-qualification procedure has been given up and post - qualification is now adopted. Packages are now being formed on the basis of a minimum Rs.50 lakhs estimate and may consist of a maximum of about four to five villages. In rare cases of surface sources being utilized, the costs for a single village may exceed rupees one crore. It would be ideal if packages are as small as possible to include just two or three villages but administrative costs would tend to rise if this practice is adopted. A reasonable balance between obtaining maximum benefits of smaller packages which would render the process more competitive and administrative costs would have to be struck. Nevertheless, the adoption of as small packages as possible is suggested.

Chapter VI

COMMUNITY PARTICIPATION ACTIVITIES

Community participation activities (CPA) are a central part of this project, distinguishing it from most of the other water and sanitation projects undertaken by the state. Although CPA accounts for only 1.5% of the total project cost, and, indeed, all of the institution building and health communication activities (which include CPA) together constitute only 4.6%, these "software" components are a key part of the project. Their effective delivery is essential for planning of project activities, and their implementation and sustainability.

6.2 The objectives of CPA in this project are four-fold: (i) to ensure involvement of local communities in planning and supervision of the water supply, environmental sanitation and habitat development facilities; (ii) to facilitate formation of local level institutions (Village Water Supply and Sanitation Committees) which will take full responsibility for operation and maintenance of the assets created (including the fixing and collection of the water tariff); (iii) to effectively communicate the message of and arrangements for community cost sharing equaling 30% of the capital cost of the sullage drainage facilities; and (iv) to

create a sense of ownership among the communities who will be the users of the assets created by the project.

6.3 CPA is to take place in three project stages: participatory planning, implementation, and operation / maintenance. Non governmental organizations are envisaged as the key agents motivating the communities in the villages in the twelve project districts to participate. They are expected to be supported by a CP management consultant whose task is to assist the PPMU in overall management and reporting of CP activities as well of Health, Sanitation and Hygiene Education (HSHE) activities, in coordination with the HSHE consultant.

6.4 The incorporation of CPA into government programmes is relatively new in the state and in the RDPR ministry. Therefore it is worth pointing out some of its implications, both positive and negative. On the positive side, when done effectively, genuine community participation can mobilize communities to be fully involved in planning, monitoring and implementing a programme. This in turn makes government staff, contractors and others more aware and accountable for their performance, thereby raising the efficiency and effectiveness of the services delivered. Both the quality and the cost of the work done can be positively affected. This does not mean that the interactions between the community and

project personnel will always be smooth. There may be tensions and frictions caused by the very process of participation itself, i.e., by the community attempting to hold the service providers responsible for the cost and quality of the services. But this is an unavoidable part of a process that can in the end contribute considerably to the programme's effectiveness.

6.5 However, there are also some inherent difficulties in incorporating CPA into the current setup of government programmes. The first is that effective CPA requires all parties to acknowledge the rights of communities to have a significant voice in project decisions. This can be particularly difficult for government personnel who are accustomed to a hierarchical chain of command, and do not take kindly to questions from below. It requires an initial and continuing process of training and orientation of all levels of project personnel with the aim of building the correct attitude and mindset about the meaning and importance of CP.

6.6 In the absence of such training, there can be considerable misunderstanding, even confusion, about the meaning and objectives of participation itself. Common misunderstandings include the following:

- participation means that people will partially or wholly execute government programmes in lieu of government itself;

- participation means that people will partially or wholly pay for the programme;

- participation means that the community is "motivated" to accept the parameters of a project over whose design and / or implementation they have little say.

6.7 Each of the above can certainly be part of a genuine participatory approach provided the key ingredient is emphasized. That key is the involvement of the community in project decisions in a central way, and their empowerment through awareness, information and authority so that they can participate effectively in making those decisions.

6.8 Another source of difficulty in incorporating CPA is the paucity of simple measures for judging its effectiveness. While quantitative proxies may be unavoidable, it should be remembered that CP is a qualitative process and proxies must be chosen carefully and used with caution. For example the extent of the community's financial contribution may be a poor proxy for the level of the community's enthusiasm for the project.

6.9 Another issue is that the incorporation of CPA into a project such as this one relies on external "change agents", usually non-governmental organizations with previous experience in doing such work. However, the assumption that NGOs will be easily available to do the work is often belied in practice. NGOs are rather thin on the ground in some parts

of the state, and their strengths and experience are quite uneven. Thus one cannot assume that all NGOs themselves have the appropriate knowledge, awareness and experience to conduct CPA.

6.10 A final bottleneck is the status and roles of women in the project communities. A project of this type requires strong and effective participation by women if it is to be sustainable. Women are the ones most likely to have their work and daily lives impacted by the project. They are the ones who are likely to prioritise the environmental sanitation component of the project provided it is explained adequately to them. They should therefore be the ones who participate most strongly, but their status in village communities rarely allows this. Unless a conscious and systematic effort is made to draw them in and give them a space, the project will suffer from the absence of the voice of those who are likely to be its strongest supporters and beneficiaries.

6.11 None of the issues raised here are insurmountable. But they all require systematic and knowledgeable efforts to overcome them through training, guidance and motivation from the early days of any project, and in a sustained way throughout the project's life.

6.12 An additional problem for all "software" activities in a project of this type is the tendency for the "hardware" to dominate in terms not only of the funds allocated, but in the priorities in timing, and time-phasing, and in the minds of project personnel. This is an additional bottleneck that has to be dealt with in the early stages.

6.13 The above problems have been raised here because all of them, to a greater or lesser extent, have affected the CP activities in this project. There does not appear to have been any systematic attempt to guide or motivate the project personnel at either the administrative or engineering levels about the real meaning or importance of CPA. In our review we found time and time again that CP was viewed as equivalent to the NGOs' motivating or themselves helping to collect the financial contribution expected for the capital cost of sullage drainage.

6.14 In addition, the time phasing of the CPA and HSHE has in practice been far from appropriate, and far removed from what may have been envisaged originally. As a result, in Phase I of the project the appointment of NGOs was so delayed that Engineering Study Reports (ESRs) were completed before the Participatory Rural Appraisals were done, thereby rendering this key part of CPA rather meaningless. It also appears to us that, for effective mobilization and

involvement of the community, the HSHE component ought to have been started early in the project, simultaneously with the preparation of CDRs. This would have made it possible for the villagers to truly view this as an integrated project. Incidentally it would have been possible in that case also to use the HSHE to inform and mobilize women to participate better. Instead, the HSHE component has not yet commenced, and as a result, villagers are not convinced about the integration between the water supply provision component on the one side and environmental sanitation / habitat development on the other. Furthermore, the opportunity to bring women into the project at an early stage has been lost, and their participation in most districts appears to be quite poor.

6.15 How can these problems be handled at this stage of the project? It is essential to speed up implementation of the "software" component, and to integrate HSHE with CPA. The project is already suffering from the presence of multiple sets of personnel and consultants, and it is likely to create considerable confusion on the ground if there is a further proliferation of personnel with separate responsibility for HSHE independent of CPA. It may be noted that, in future projects at least, "software" must begin before "hardware" or at least at the same time.

6.16 There is still a need for reorienting key project personnel and officers at the administrative and engineering levels about the real meaning and expectations about CPA so that the pressure on the NGOs to become contribution-collectors is removed, and they can concentrate on mobilizing key sections of the village communities such as women. Hopefully, if the role and staffing of the project cells at the ZP level in the districts is modified as suggested elsewhere in this report, the balance between the "software" and "hardware" components in terms of priorities and coordination will be improved.

Chapter VII

THE ROLE OF THE NON GOVERNMENTAL ORGANIZATIONS

As we have seen already, there appears to be considerable confusion about the role of the NGOs in the minds of engineering and administrative personnel. Ironically the pressure on them to ensure that the villages make their financial contributions seems to have confused even the NGOs themselves about their own role. As a result the level of innovation and creativity in bringing about awareness and involvement on the part of the villagers leaves a lot to be desired. It is to be noted here that, while the CPA objectives are specific about the type of institution to be created (the VWSC), and the need to motivate the communities to contribute, the terms of reference for NGOs also state that the specified list of tasks is only indicative, and that the NGOs are welcome to develop and incorporate innovative approaches.

7.2 Somewhat surprisingly, even well-established NGOs with long experience in participatory development in the field appear to have approached their task rather mechanically. Only in a few cases do they appear to have drawn on their own prior field experience to develop appropriate methodologies. It is possible that, because NGOs were not very involved in

the design of the project, they have tended to feel that their role is to follow instructions from above, rather than drawing creatively from their own experience. Other possible reasons include the fact that all the NGOs are working outside their normal field-bases which are typically much smaller in area, and where they usually work with more relaxed and open time-frames, specific objectives and well defined target groups. Smaller physical area and an open time-frame are conducive to greater experimentation and more intense interaction, feedbacks and learning for the NGO itself. Both these are luxuries this project has not had, and the problem of time has been worsened by the poor time phasing and late entry of NGOs into the implementation of the project. Despite this, we feel that in most cases much more could have been and still can be done to motivate and involve women for example, a major gap in a project of this type.

7.3 Another serious gap appears to be the inadequacy of staffing at the field level. In some cases, where the NGO itself is not experienced, the number, quality and experience of the staff appear dubious. In other cases it is the number of staff that is the problem. Most of the NGOs appear to be operating with field staff based at taluk level, with each staff member handling anywhere from 8 villages to two or more taluks. For effective CPA and to ensure women's involvement, this is woefully inadequate staffing unless it is

supplemented by a corps of village-based volunteers trained, supported and guided by the NGO. For example, the formation of women's sanghas to support the Village Water Supply Committee would require a consistent village based presence at least in the initial phases and possibly longer. In this context the payment being made to the NGOs (a maximum of Rs.1040 per village per month and a minimum of Rs.750) appears insufficient and needs reconsideration.

7.4 The major task currently being performed by the NGOs is the Participatory Rural Appraisal (PRA) exercise. This is preceded by a Grama Sabha at which the villagers are introduced to basic information on the project. Our field visits and interviews with the NGOs revealed that an average of a couple of hundred villagers attend the Grama Sabha of which only about 10% may be women. Each village on average has a population of about 2000. If one excludes about half of this population as consisting of those under 15 years of age, then the proportion of population attending the Grama Sabha is about 20% at best. Even fewer attend the PRA exercise. This would not be a problem in itself if the Grama Sabha and PRA were supplemented by more intensive face-to-face interaction by village based workers. But this has not happened and as a result even basic knowledge about the project, especially on the part of village women is weak, let

alone any sense of genuine ownership, participation and involvement.

7.5 The CPA activity has also suffered from poor coordination with the activities of the Design consultant and the District ZP project cell. The project anticipated considerable and close interaction between these three as the key to the effective meshing of "hardware" and "software". In fact this has not happened. Design consultants and ZP cell staff have often not participated in the PRAs as envisaged. This has been uneven across the districts with the situation being better in some than in others. Nonetheless, NGOs appear to feel that the support they have received on this front has been weak, and hence their ability to answer the technical questions posed by the villagers has been hampered. In fact one NGO has attempted to compensate for this by appointing its own engineering staff.

7.6 As mentioned earlier, coordination between NGOs and the Design Consultant was particularly weak in Phase I with ESRs being prepared before the PRA had been conducted. While this situation appears to have improved somewhat in Phase II, it is far from satisfactory. Of late, the Design Consultant, under the pressure of time and missed milestones for ESRs, appears again to be preparing ESRs without paying enough

- because of the extensive delays in the project work being taken up and the poor quality of the work itself, the villagers have become suspicious and disillusioned about the entire project itself, and are unwilling to risk their money;

- particularly in villages that are nearer to district headquarters and where people are therefore more politically aware, people have become so accustomed to the government paying for everything that they do not feel they have an obligation to pay; this has in some cases been worsened by political interference.

7.9 It is also not clear conceptually why making people pay for the capital cost of public assets will increase their sense of ownership. Public goods still remain public goods and simply having to pay for a part of the capital cost does not mean that one will treat it as one's own. One might equally view the charge as an unavoidable "tax" and continue as before without feeling any sense of genuine ownership. It would have been better to put much more emphasis on early and strong HSHE and strong CP activity to motivate people towards a sense of responsibility for public goods such as drains etc. There also appears to be an inherent inequity in asking villagers to pay for the construction of facilities that their urban counterparts do not have to pay for. Assuming that the main objective was to foster a sense of ownership, this mechanism has worked singularly poorly.

7.10 The mechanisms for redefining the role of the NGOs in the districts are discussed later in this report.

8.3 The consultant is also supposed to function at the level of the project cell in the district, facilitating and coordinating the activities of the design consultants and NGOs. It is difficult to see where they have done this successfully since, as already mentioned, this level of coordination has been particularly weak. It is doubtful whether the CPM consultant has the standing or clout within the project to ensure that recalcitrant engineering staff and design consultants will cooperate with the NGOs.

8.4 A third level at which the CPM consultant is supposed to function is to provide support to NGOs. While at the mechanical level of organizing meetings and passing bills, there does not seem to be much room for complaint, the consultant does not really seem to have played the active role envisaged in promoting learning, cross-fertilization of ideas and experiences among NGOs and between them and PPMU. An example is the proformas for evaluation of CP activities. These are mainly quantitative and provide few clues to the qualitative impact.

8.5 In the field it appeared that the consultant's staff are often less experienced than those of the NGOs, and can hardly provide the needed support to the weaker NGOs. For the stronger NGOs, their presence has largely been irrelevant. It

is clear that, for all these reasons, this consultancy requires major rethinking.

8.6 The importance of community participation activities as a major component of this project and the roles of NGOs and the CPM Consultant have been reviewed in this chapter and the two preceding ones. The review would suggest that certain structural changes would be desirable.

8.7 It would be advantageous if all software components, including HSHE, in a district are the responsibility of an single NGO. In other words all project activities in a district, excluding engineering elements, should be managed by a single NGO in a district. The NGO would have to include in its staff an engineer for better interaction with the community and liaison with the contractors and consultants. The district NGO would have to be appointed by the CEO of the ZP so that links are clearly defined. PPMU would doubtless assist in selection of the NGO but direct control and supervision must lie in the district.

8.8 The CP Management Consultant on the present terms and conditions is unnecessary. The current role is unclear and since the HSHE component has not even commenced, this consultant has played only a minimal "liaison" role vis-a-vis the NGOs. However, it would be necessary to provide a

supervisory level to provide the necessary guidance for the district NGOs suggested earlier and to monitor them. Such a supervisory level would be required to provide the Director, PPMU with the necessary administrative support in the management of the district NGOs. This level could be provided in two ways as follows:

i) a professional could be inducted into the PPMU with the necessary experience and on a tenure basis for this purpose. This is elaborated later.

ii) if a post of the type cannot be created in the PPMU with the required compensation or if such a professional cannot be found, a consultancy organization could be inducted between the PPMU and the district NGOs. The functions and responsibilities of such a consultant must be clearly defined, including direct responsibility for performance of the district NGOs.

Chapter IX

DESIGN CONSULTANT

As mentioned earlier, consultants were proposed to be inducted into the project on the ground that government departments did not have the necessary staff for carrying out some of the activities in the project. With regard to the water supply component, two consultants are employed - one for design and the other for construction supervision.

9.2 The design consultant for the 950 villages of Phase II was selected on the basis of competitive bidding. The project was formed into three packages for this purpose, each package covering four districts. After due procedures were followed, two firms, namely the National Industrial Development Corporation (NIDC) New Delhi for one package and Kirloskar Consultants, Pune for two packages were appointed as design consultants.

9.3 The responsibilities of the design consultant include carrying out initial surveys, identification of source points to enable PHED to drill the borewells, water quality analysis, and preparation of designs. The latter was to be in two stages. The first stage was the preparation of the conceptual design reports (CDR) for interaction with the

community. The second stage was the preparation of the final design report incorporating the views and requirements of the community to the extent possible and after drilling is completed by the PHED, called the Engineering Study Reports (ESR). The design consultant also had to assist in preparation of the tender documents and bill of quantities and assist the PHED in evaluation of construction tenders. It was only after the last activity was over that the design consultant's services would cease.

9.4 The time limit for the design consultants' work was 24 months from March 1994. The ESRs were expected to be completed by March 1996. The agreements also stipulated that 40 per cent of the work of submission of CDRs, ESRs and preparation of tender documents had to be completed by the end of the first year and the balance by the end of the second year.

9.5 However, for various reasons, the performance of the design consultants has not kept to the prescribed time table. The responsibility for the delays would have to be shared among both official agencies and the consultants. The consultants' allege that the PHED did not mobilize adequate equipment for drilling operations which resulted in delays in the preparation of ESRs, while the department's view is that there has invariably been delay in locating water sources

because the consultants did not employ trained geologists and generally that their staff was thin on the ground. In one case, the consultant had sublet the work to a third party who abandoned it halfway, forcing the consultant to mobilize manpower for its completion. In the result, by the end of the second year not even one ESR was submitted by the consultants. Regular monitoring would have indicated the likelihood of delays with reasons, permitting corrections well in time.

9.6 It is noticed that the consultants did not employ and place on the ground sufficient number of staff. Also, the staff employed were generally fresh or persons with little experience in water supply activities. Both conditions of sufficiency of personnel and their qualifications were stipulated in the agreements. Here again, there was little qualitative monitoring.

9.7 In many cases, the involvement of the consultants in the PRA exercises was minimal. The views of the community were not, as a consequence, adequately reflected in the designs, thus frustrating a basic premise of the project relating to the importance of public involvement in decision making. It is particularly distressing to note that there have some cases of the ESRs being prepared without a CDR and a PRA exercise, reflecting a neglect of the basic premise

again. Even if it is explained that this was done to expedite the work and that these were drafts, the impression that the consultants did not understand or appreciate the need for community involvement would be sustained. This would indicate that the technical staff of the consultants would also benefit by orientation courses which the Training Consultant could organize.

9.8 The delay in the preparation of the ESRs has resulted in a cumulative delay in the completion of other processes. The monitoring system and more important the follow up on the conclusions of monitoring, has not functioned effectively at the level of the PPMU or PHED.

9.9 There is one aspect relating to the conditions attached to the design consultant that needs review. The responsibility of this consultant, as currently stipulated, ends with the preparation of tender documents and evaluation of bids received. Due to delays, when the work is finally awarded and the consultant for construction supervision comes on the scene, changes in the design are sometimes found to be necessary. The SAR states that the scope of the work of the latter consultant includes " checking of all designs and tender documents for completeness and comparison with local conditions, carrying out additional surveys and revisions in

drawings if required" [1]. This results in the consultant for construction supervision quite often having to redesign elements of the scheme, including costs, leading to further delays. It is recommended that the design consultant should continue till the commencement of the construction work so that he performs all functions relating to design, including the changes that may be found necessary when the work is sought to be executed. The compensation for such an additional responsibility would be small if there is little delay between evaluation of the tenders, awarding of the work and its commencement. The assignment of this responsibility to the design consultant would imply that the SAR would have to be amended to the extent necessary.

9.10 For the follow on project, the conditions for selection of the design consultant should be more stringent. The best consultants with the necessary capability should be selected, cost being one of the factors but not necessarily the deciding one. The scope of the consultant's work should be clearly defined to ensure that processes of community involvement would not be curtailed and that continuation of association would be till the construction work commences.

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[1] That the consultant for supervision of construction has this responsibility is indicated in the "Outline Terms of Reference" for this consultant - Page 90, Annex 2, Staff Appraisal Report, March 1993.

Chapter X

CONSTRUCTION SUPERVISION CONSULTANCY

This project was conceived on the presumption of a fast and time bound execution of works through resourceful, experienced and competent major contractors so that the accrual of benefits could take place with minimum gestation period and with quality assurance.

10.2 Such time bound construction also calls for intensive supervision of construction activity over an extensive area. This, in turn, would imply extensive organization at the field and supervisory levels with placement of competent staff at these levels. It was presumed that the present departmental hierarchical set up of the official agencies combined with their multifarious responsibilities would not be able to carry out this task. In particular, with the staff available with the Zilla Panchayat Engineering Divisions it was thought that the intensity of supervision of construction activity could not be achieved. It was also felt that obtaining sanction of additional staff and their placement in time would have been extremely difficult and time consuming and that even if such sanctions were obtained well in time, the posting of willing competent and experienced staff would not have

been possible. The result would have been a large scale turnover of personnel.

10.3 Therefore, it was felt that adequate supervision of construction work of the major contractors would be possible only through the appointment of a construction supervision consultant for the first phase of 257 villages in 10 districts. The responsibilities of the consultant for construction supervision are clearly specified in the SAR and agreement with the consultant [1].

10.4 Following adherence to the stipulated procedures of shortlisting, floating of tender documents, bid evaluation and obtaining the approval of the World Bank and Government, M/s NIDC, New Delhi were appointed as the construction supervision consultant in view of their association with the activity relating to the preparation of the engineering designs of the first phase villages as the prime consultants and other qualifications.

10.5 The experience based on inspections by the Panel and by the competent authorities has been that the quality of construction is at best equal to that in similar works executed by the PHED. There is no perceptible improvement

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[1] Page 52, Annex 2 of the Staff Appraisal Report, March 1993.

in quality of construction as a direct result of what was expected to be a system of better supervision. In fact, in a few cases, the quality of construction is disappointing. It would seem clear that the appointment of an exclusive consultant for supervision of quality of construction has not resulted in the attainment of standards of construction very much different from those routinely achieved in the case of departmental work. There have been many occasions of complaints by the VWSC and by the inspecting authorities[2].

10.6 The poor quality of construction, a consequence of inadequate supervision, could generally be attributed to the weaknesses in the performance of the consultant. The site engineers of the consultant are said to lack expertise of quality control tests, are untrained and spread thinly on the ground. The view of the controlling authority was that "the consultant requires substantial improvement in

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[2] Such complaints were voiced by the VWSC and other members of the village community to the Panel during field visits. Also, the inspections by the Engineer-in-Chief, PHED have indicated lack of supervision resulting in poor quality of construction. For such examples, reference may be made to various inspection notes of the E-in-C such as those of June and October 1996 for Bangalore (Rural) district, November 1996 for Raichur and Gulbarga districts, December 1996 for Shimoga district, January 1997 for Belgaum district.

several aspects like staff pattern, positioning experienced field staff, competence to sort out field problems ..." [3].

10.7 The problem could have mitigated to some reasonable extent if these inexperienced staff had been subjected to an intensive orientation and training in the appropriate fields. This does not appear to have been undertaken by the consultants.

10.8 It was also unfortunate that even out of this inadequate field supervision staff quite a few of them were withdrawn by the consultants for use in their other consultancy for engineering designs in 4 out of 12 districts.

10.9 There was also lack of sufficient co-ordination between the various agencies involved such as the district Project Cells, the construction contractor, and the NGOs involved with regard to responding to lack of supervision or remedying defects noticed. Also, there was lack of constant interaction by them with the VWSC. As a consequence, a general impression has been created that

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[3] Comments by the Engineer-in-Chief, PHED on observations made in the Mission Report of September 1996 on construction supervision, in his letter of 6th January 1997 No. EIC/PHE/SLWBC/AEF/96-97 to the Director, PPMU.

supervision of construction has been insufficient and ineffective.

10.10 The monitoring of construction supervision has also been weak. Constant rigorous monitoring and review of performance of the consultant, particularly on qualitatively aspects, has not been in place. Unfortunately, no specific parameters were stipulated in the contract document nor were they developed for review of performance during implementation[4].

10.11 The present system does not seem to lend itself to effective supervision by the consultant or to effective control of the consultant. The need for such a consultancy is recognized for the same reasons that prevailed earlier. However, the level of consultancy for supervision of construction would need reconsideration. It is recommended that one such consultant be appointed for each district. This would permit better monitoring of the performance of the consultant, including whether his staff are in place to the extent stipulated and with the necessary qualifications and training. The accountability on the part of the consultant would be more easily enforced. The CEO of the ZP and Project Cell would be able to supervise the performance

[4] Incidentally, the consultancy cost works out to Rs.6000 per village per month for 30 months.

of the consultant in a more timely and effective manner. Such consultants could be highly qualified institutions or even expert individuals provided they have the necessary organization for this task.

10.12 The terms of reference of this consultant would have to exclude responsibilities for modification of designs or revision of estimates at the time the construction work commences. This should be the responsibility of the design consultant as mentioned earlier.

10.13 Firm conditionalities should be specified relating to staff numbers, qualifications, training, inspection parameters and monitoring parameters.

Chapter XI

GROUNDWATER RECHARGE MEASURES

Ground water recharge is one of the important components of the project with the objective of recharging of groundwater resources for ensuring the sustainability of the drinking water sources. The rationale for undertaking this activity has been explained in the project document. In the Staff Appraisal Report of March 1993 it is stated that the objectives of the measures envisaged in this element for groundwater recharge and watershed development are to conserve the rain water in-situ in areas of high dependence on rain fall, to enhance infiltration and recharge of groundwater and, at the same time, reduce soil erosion. Micro- water sheds were proposed to be treated in each village or group of villages in size from about 100 to 400 hectares. Also planning and selection of treatment for groundwater recharge in the project villages was expected to be highly site specific. 700 project villages were proposed to be covered under this component of this project. Three phases were envisaged namely, a baseline survey, a master plan and finally an action plan.

11.2 The SAR recognizes that the Government of Karnataka had experience of thoroughly tried and tested methodologies

for watershed development. Based on this experience, it was proposed to undertake this activity. As mentioned earlier, this is an important element of this project. However, this activity was proposed to be restricted to "core" areas, that is, this activity to the extent that it was funded by this project was to be restricted to non-arable land in the upper catchment areas and drainage courses. "Non-core" measures which would primarily benefit arable land or land under cultivation was not proposed to be undertaken in this project since such land would usually be privately owned. The watershed activity on the latter type of land was expected to be funded by the beneficiaries, the input of the project being only motivation through the formation of "sanghas".

11.3 At present only 9 micro- watersheds have been completed and 17 are expected to be completed by March 1997. The Mission Report of September 1996 states that the progress of activity under this component has been very slow, and has identified the contributory factors for such slow progress. One of the reasons apparently is the apprehension of the Government regarding the direct benefits of the method of micro- watershed treatment. Consequently the Government is considering alternative and more effective methodologies of ground water recharge. An expert committee for study of possible alternative methodologies has been set up and its report is still due. Also, during discussion with the

Director, Watershed Development Programme, it was noticed that there is some conceptual problem regarding the scope of "selective treatment" recommended in the Mission Report of September 1996. The Mission Report recommended that there is scope of adopting selective treatment near the vicinity of drinking water tubewells, the intention being that the investment should directly benefit the tubewells established under this programme. The treatment of an area has been suggested to be limited to the vicinity of these tube-wells.

11.4 The "selective treatment" which has been suggested would seem difficult to operate in the field because of two restrictive conditions. The first is that such watershed treatment measures should be restricted to public, non-arable lands. The second is that it should almost exclusively relate to the particular tubewells established under this project. These conditions, if strictly applied, are likely to be only of marginal utility. To be effective, micro- watershed treatment would have to be undertaken over wider areas without distinctions of usage of land for optimum returns on investment. Activities over an essential minimum area would also seem necessary if the objective of soil conservation has to be met.

11.5 An important issue is that relating to arable land not being included for funding within this component. It is

understood that the farmers located in the micro watershed area who own land falling under the category "arable" are extremely reluctant to undertake watershed treatment measures at their cost, the latter being of the order of Rs.3500 per acre.

11.6 It is extremely doubtful whether such highly restrictive works on the ground would be of much benefit. Such distinctions in the field would seem unreasonable. If arable land has to be excluded and the project activity limited to only a part of watershed area, the optimum results envisaged are not likely to be achieved. The investment as contemplated in the project, with this restricted approach, would seem unproductive.

11.7 It would seem more reasonable to integrate a micro-watershed scheme into the much larger watershed programmes of the Water Development Programme so that, in the result, specific areas relating to project tubewells are also benefitted. As a consequence of such differing views on basic technical aspects, The Watershed Development Programme appears to have serious difficulty in accepting the efficacy of the suggested selective approach.

11.8 On an operational aspect, it is noticed that Sanghas have not been established. Here again, it would be doubtful

whether the involvement of Sanghas in this project at this stage would be very productive because of the restricted approach of watershed development. This activity does not evidently benefit all people in a village or in a group of villages. Unless the benefits are perceived by the entire community or at least the beneficiaries, it is scarcely likely that the farmers would contribute to the programme or agree to join the Sangha for a restricted purpose.

11.9 The involvement of the NGOs has also been minimal. Since the activity itself is low key, there would seem little point in involving the NGOs at this stage.

11.10 It would seem necessary that the basic approach to watershed development in relation to this project be re-examined. It would be reasonable to suggest that till the basic issues of methodology are sorted out, this element of the project should be kept on hold.

11.11 The component is an important one and integral to this project in terms of sustainability of drinking water sources. However, for the various reasons mentioned above, methodological and operational, it is suggested that a separate project for watershed development would seem desirable instead of its being a component of the current project with only partial objectives.

Chapter XII

LEAK DETECTION, WATER QUALITY MONITORING AND EQUIPMENT

Leak detection and repairs:

In any water supply system, whether urban or rural, loss of water is inevitable. The system management would have to ensure that such losses are minimized. In order to minimize such losses in the water supply systems being established in this project, a component was included relating to leak detection and repairs of leaks. It was envisaged that a leak detection survey would be undertaken followed by repair of leaks in the existing distribution systems included in this project. The expectation was that in about 800 villages where there were piped water supply systems already existing which have been included within the 1200 project villages , water losses of more than 20% could be prevalent. It was also estimated that about 350 of such systems would require repair of leaks. In order to reduce water losses to the minimum, it was proposed that an independent consultant would be employed for survey and supervision of such leaks and repair works and a time schedule of two years was stipulated.

12.2 The institutional responsibility for leak detection and surveys was that of the ZP Engineering Divisions in each district, but, as in other elements this responsibility is now that of the Project Cell in the district. The employment of a consultant for survey and supervision was on the ground that the official agencies did not have the staff, the necessary equipment or the expertise for this purpose. However, the PHED and the Project Cells in the district were expected to monitor the works of the consultants and, in this process, also gain experience and expertise [1].

12.3 However, even by the end of 1996 activity relating to this component had not commenced. The consultants have not been appointed and therefore, for all practical purposes, the work has not commenced. Because consultants could not be appointed in time, it was proposed to have a pilot study in a few selected villages. Even this limited activity did not take place. The pilot study could not be undertaken because the Project Cells in the districts do not have staff or experience for carrying out this activity nor is there any infrastructure in the cell for initiating this work. The regular Engineering Divisions of the Zilla Panchayats, who have field staff, have not been involved in such activity as noticed earlier.

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[1] Page 56 Staff Appraisal Report March, 1993

12.4 It is strongly urged that the consultancy for this purpose be finalized as soon as possible so that this component of the project can be taken up. Also, it would be very useful to take up a pilot study in one of the project districts or in a few selected project villages so that the expertise is developed for carrying out such surveys.

Water Quality Monitoring and Surveillance:

12.5 Experience has shown that ground water is not necessarily always safe for human consumption. The quality of water has, therefore, to be tested for physical characteristics, chemical composition and bacteriological content. Of the 62 parameters specified for testing quality of water it is understood that at least 9 parameters are critical. Because of the importance of testing the quality of water made available in this project, a component was included to ensure that the drinking water supplied to the rural population through the water supply schemes of this project is safe. Accordingly, water quality monitoring and a surveillance system were included as the main element of this component.

12.6 Water quality control would relate to routine testing of water supply, monitoring the activity of those agencies involved in such testing and providing technical support. The PHED was made responsible for performing this role and also

for providing training and technical assistance to the Zilla Panchayats. The second element relates to quality surveillance. Such surveillance would ensure that early warning signals are available regarding likely adverse health conditions and would assist in preventing epidemics. The responsibility for such surveillance was assigned to the Health Department.

12.7 Both these elements included setting up or upgrading laboratory facilities and providing other equipment. However, the progress in the implementation of this particular component has been extremely slow. Testing facilities, including the establishment and construction of laboratory building have not yet been established.

12.8 This component is an extremely important one. It is urged that action should be taken for its implementation. In particular, the surveillance activity by the Health Department could be instituted on a pilot basis.

Equipment:

12.9 In order to ensure that the PHED was able to carry out its responsibilities with regard to the water supply systems under this project, it was proposed to strengthen the infrastructure of this Department through the provision of certain specific items of equipment. The latter include 6

drilling rigs, one hydrofracturing rig, 10 yield testing units for borewells, 3 well loggers . It was also proposed to strengthen and upgrade the two existing workshops of the PHED.

12.10 The strengthening of the infrastructure of the PHED is a critical element of the project activity because this department has taken over the responsibility of flushing out the borewells drilled for the first phase villages, testing their yield, identifying new sources for the villages included in Phase II and drilling borewells of the order of 3000 for the latter Phase. In the absence of better infrastructure, the PHED has been carrying out these responsibilities with their existing equipment or through private contractors. This has caused delays which have, in turn, delayed submission of the CDRs and ESRs by the Design Consultants.

12.11 The equipment has not yet been procured though it had to be in position within two years of the start of the project, nor has any attempt been made for strengthening and upgradation of the two existing workshops. In fact, it has been stated that the well loggers are not proposed to be procured [2] and that the delays were mainly due to procedural

[2] As communicated by the Engineer-in-chief, PHED in his letter EIC:PHE:SLWBC:TA-D:AE-P:96-97 of 20/1/97

difficulties including differing views with regard to the specifications for rigs.

12.12 In view of the need to adhere to the stipulated date of completion of the project, viz., June 1999, it would seem difficult for the PHED to undertake these responsibilities in the absence of strengthening of its infrastructure.

Chapter XIII

HABITAT DEVELOPMENT AND HEALTH COMMUNICATION

If the objective of rural health has to be achieved, sanitation and habitat development must be integral elements of water supply schemes. The health of the community is, among other factors, dependent on the adequacy and quality of its water supply. It is because of this close relationship between water supply and health that important components relating to habitat development and health communication were built into this project. It was the recognition of the importance and relevance of environmental sanitation and habitat development and their relationship with water supply that motivated the inclusion of these components in this project. In fact, this is what makes this project an integrated one.

Environmental Sanitation and Habitat Development:

13.2 The environmental sanitation component includes small scale surface drains and disposal sites for sullage, individual latrines, bathing cubicles for women, cattle troughs, washing platforms, street bins and biogas pilot plants. Road resurfacing is also included to the extent that it is necessary for proper operation of the surface drains.

Of these, washing platforms, cattle troughs and street bins are considered as part of the water supply scheme.

13.3 The water supply works, including the three elements mentioned above, are fully funded by the project. The other components, which are part of environmental sanitation and habitat development, are funded partly through contributions from the community, as beneficiaries, to an extent of 30 per cent of the cost, the contribution being in cash, materials or labour. This contribution was included to evoke the interest of the community in establishment, operation and maintenance of these assets and to create community awareness of the importance of these elements for their health. The habitat development component is about a third of the total cost of the project and the contribution of the community would be of the order of seven per cent of the project cost.

13.4 The environmental sanitation element relating to construction of latrines is meant to provide latrines to private households. Low cost latrines were proposed to be installed on a demand basis but the demand itself was to be generated through health communication campaigns by the NGOs and field staff of the Health Department and by providing subsidies. The owners were expected to contribute labour, materials or cash and the subsidy was fixed at Rs. 1650 per household for low income groups and at Rs. 1200 for others.

Masons trained under the training programmes of this project were to provide the skilled services required. This element has not progressed to the extent envisaged and quite often beneficiaries have opted for pans that are not considered appropriate for this type of latrine. However, as a measure of public education it is a commendable venture. It would benefit by better supervision and monitoring.

13.5 Some degree of awareness of the project goals and its objectives has been created in many of the villages, but in varying degrees. A similar awareness of environmental sanitation has been created. In fact, it is very encouraging to note that women's groups in some of the project villages give first priority to latrines, followed by water. However, such awareness would have been higher had the nexus between health, water supply and sanitation been communicated, as was envisaged. In physical terms, the progress of implementation of this component has not been up to expectations. It is recognized that the latter is very much dependent on perceived needs of the community and that it includes an element of inducing social change. The latter is the very rationale of inducting NGOs into this programme but their impact has not been to the degree expected. Partly this is because there has been excessive emphasis on beneficiary contribution and, as mentioned earlier, the NGOs have been held responsible for ensuring adequacy of the contribution.

Such pressures have, in some cases, created a reluctance on the part of the community to participate in the project activities.

13.6 The recent decision to insist on an up front part of the contribution and to prioritise villages on the quantum of contribution has skewed the scheme further. It would appear that the application of this revised approach of obtaining an up front contribution may result in nearly 200 villages being relegated to the lowest priority. In one case, in Bangalore (Rural) district the water supply is almost ready for commissioning but operation is being held back as an "inducement" for contribution for the habitat element! As pointed out earlier, provision of water supply should be guided by criteria of need by priority rather than being linked to contribution for habitat elements.

13.7 The habitat development works and the collection of the community contribution are the responsibility of the VWSC. The VWSC is active when its chairperson and the majority of its members are from the beneficiary village. Where, by virtue of office, the chairperson is the Chairman of the Gram Panchayat and does not belong to the beneficiary village, this committee is at a disadvantage for obvious reasons of lack of interest on the part of the chairperson and some degree of politicisation. It would be necessary to

gently insist on the chairperson being from the beneficiary village itself.

13.8 The technical support that the VWSC or the NGO receives from the Project Cell of the district is not sufficient. The Cell, as noted elsewhere, does not have the staff strength for carrying out this responsibilities over a wide spread area and, as a consequence, the quality of these works suffer. Supervision at the critical stages of implementation is often weak for the same reason. The possible measures to remedy this situation have been indicated elsewhere in this report.

Health Communications - Health, Sanitation and Health Education:

13.9 The health communications element of the project, was included to strengthen the environmental sanitation and habitat programmes and to impart to the village community an appreciation of the health implications of these inter-related elements.

13.10 The four objectives of this component are: (i) to promote personal and family hygiene, (ii) to promote latrine usage, (iii) to create greater consumer awareness of the requirements and importance of water supply schemes and,

(iv) to create greater community awareness of their responsibility for and importance of the maintenance of drains. Health communication strategies were to be developed by consultants for dissemination through mass media methods. The communications programme relating to Health, Sanitation and Hygiene Education (HSHE) was expected to promote personal and family hygiene and provide knowledge regarding management of household water resources.

13.11 This is an extremely important component of the project which, if successfully implemented, would have helped in improving health conditions in the project villages and would have provided a demonstration to other rural communities of the benefits of these practices. Unfortunately, there has been almost no progress in its implementation. It was recently decided that this component would be implemented in Shimoga district by the Health and Family Welfare Department, the implementation in other districts being through NGOs and a HSHE consultant. However, discussions with the Director, Health Education and Training of the Health Department indicate that knowledge of the programme within the department is minimal and that no action has been initiated for commencing activities in Shimoga district. Similarly, little progress has been made in the other project districts. The methodology of implementation

itself does not appear to have been determined in the absence of the HSHE consultant.

13.12 Reasons for the tardy progress include poor monitoring of the programme, lack of coordination with the Health Department and loss of time in asserting the capability of the department in implementing the programme.In fact, it was after protracted discussions that the department has been assigned this responsibility in Shimoga district.

13.13 The Mission Report of September 1996 has made certain specific suggestions for expediting progress in commencing activities under this component. While doubtless the PPMU would take action in the light of these suggestions, it would be necessary to emphasis that the expertise in the Health Department must be fully utilized. The department has Block Education Officers, a District Health Education Officer and others in supervisory capacities and a wide network of health functionaries. This department must be assigned a prime role in the implementation of this component and to the extent possible the training and communication material of the department must be made use of and built upon. This would help in enhancing the role of the department in such activity and also improve its communication skills.

13.14 The appointment of a consultant for HSHE is not necessary. It has been suggested later in this report (Para 15.29) that the position of the health specialist in PPMU should be strengthened. If this is done, and the expertise in the Health Department fully utilised, a consultant for HSHE would not be necessary.

Chapter XIV

SYSTEMS FOR MONITORING, EVALUATION AND SUPERVISION

Since the inception of the project, and indeed from the time of its formulation, the emphasis has been on the need to complete it within stipulated and agreed to time limits. The reports of the various missions that have reviewed the progress of the project have regularly commented on the slow pace of implementation and have repeatedly stressed the need for an effective system of monitoring which would assist better management of the project.

14.2 The induction of consultants, at considerable expense, in implementation of the various elements of the project was specifically on the ground that they would be able to maintain better time management in implementation. On this assumption, targets of achievement and completion of specific activities were stipulated, the failure to adhere inviting liquidated damages or penalties.

14.3 There are, as indicated earlier, many agencies, both official and non-government, that are active participants in this project. Obviously, the project management would have, among other responsibilities, the dual tasks of ensuring coordination among these various agencies but also of

monitoring the performance of each one of them. The ability to effectively monitor a multi-agency activity of this nature presumes the availability of adequate information. In other words, effective monitoring systems are an essential requirement.

14.4 The management structure of the project assigns a central role to the PPMU. It has to coordinate all activities relating to the project and also assist other important participants such as the PHED, the consultants and the NGOs in their assigned tasks. It is, as mentioned elsewhere, the secretariat for the Empowered Committee. To be able to carry out its responsibilities effectively, the PPMU would necessarily need to develop an efficient management information system.

14.5 However, the need for timely and reliable information on activities relating to the project is not the exclusive requirement of the PPMU. The other agencies who are partners in implementation and who have a direct operational responsibility would also have to develop reliable internal systems of reporting for effective monitoring. These would include the PHED, the Project Cells in the districts, the Water Shed Programme, the Health Department, the Consultants and the NGOs.

14.6 How the PPMU would monitor, evaluate and supervise the activities relating to the project are clearly delineated [1]. The objectives of such monitoring are to ensure that (i) the physical works are progressing to schedule, (ii) the community management, health communication and training programmes are being carried out satisfactorily and (iii) all activities are cumulatively achieving the project objectives. The reporting system for this purpose would have to provide information which would permit such a monitoring role being effectively performed. This would imply that there is in place an internal system that lists all activities in priority and provides a calendar of events and activities that determine the achievement of a given milestone. Also, it would assume that there exists a reporting system that provides timely and valid information of the required character for monitoring an activity. The latter would range from information on physical progress to qualitative aspects of the activities within each component of the project.

14.7 The absence of an internal mechanism for review of programme activities from the commencement of the project would partly explain the neglect of some major components such as HSHE, watershed development, water quality monitoring and leak detection.

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[1] Paras 3.32 to 3.35 and Annex 6 Page 104 of the Staff Appraisal Report, March 1993.

14.8 The reporting system that is currently in place permits an effective evaluation of physical and financial activities. It is built on the conventional lines of routine reporting of limited items. As now structured, it does not permit the evaluation of those aspects of the programme which have characteristics and objectives not related to large asset building. These include the activities relating to community management, HSHE and training programmes. The evaluation of the latter require the development of appropriate impact indicators. Such indicators have yet to be developed. The effective monitoring of these components has, consequently, been neglected. Had such indicators been developed early in the project and used for evaluation of progress, implementation of the components would have been expedited and better coordination between construction activities and these components would have been possible. It is urged that such impact indicators be developed so that the monitoring system is rendered more effective for better management.

14.9 The internal reporting system relevant to this project within the PHED seem adequate to the extent that it relates to physical and financial progress relating to the water supply component. However, qualitative aspects are not built into the reporting system. For example, the results of

inspections, including those relating to quality of construction, are not built into the review system. Follow up and corrective action does not, therefore, follow soon after inspections.

14.10 In this context, it is pertinent to note that the PHED has to assist PPMU in the preparation of progress reports since the latter is the focal point for the project and that these reporting functions of the PHED vis-a-vis the PPMU are adequately carried out. However, the internal use of information for more effective management of the hardware component by the PHED seems insufficient. The information system for carrying out its responsibilities [2] relating to components associated with water supply is inadequate. The need to use the reporting system as a tool for management of the hardware component by the PHED itself, which is its direct responsibility, would bear emphasis.

14.11 The reporting system within the Project Cells is weak since it does not provide adequate information on the activities of the NGOs and consultants whose activities these Cells are expected to oversee. The technical staff have not been oriented with regard to those aspects of the project

[2] The main responsibilities of the PHED are indicated in Annex 2 of the Staff Appraisal Report, March 1993.

that involve community association and participation. Monitoring is, therefore, of the usual routine nature.

14.12 The reporting system for community participation places excessive emphasis on the element of contribution as a parameter to the neglect of more sensitive indicators of community involvement and social change. The extent of community participation, the impact on women's groups of the programme, the effectiveness of communication programmes and similar aspects are not adequately reflected in the reporting system. To that extent, the monitoring of these elements suffer. The absence of an effective monitoring system has also inhibited the evaluation of the inadequacies in the performance of the consultants and the NGOs relating to inadequate or untrained staff, ineffective performance and the like. The lack of such an evaluation has, in turn, affected the implementation of the software and hardware components.

14.13 Indicators would also need to be developed for other components such as training. The conduct of the training programmes in terms of stipulated numbers and participants is easily monitored. Aspects relating to training such as adequacy, retraining, use of skills with competence and the like, including inadequacy of trained personnel due to

wastage or withdrawal would also need to be monitored. Indicators would have to be developed for this purpose.

14.14 Indicators that would permit an assessment of the sustainability of the project would also have to be developed.These would include aspects such as maintenance of water supply, functioning of the VWSC etc.,

14.15 Recognizing the importance of an effective information system, the appointment of a consultant for developing a management information system as part of the project was suggested in the SAR of March 1993. It is most unfortunate that the consultant has not yet been appointed. It is urged that this be done expeditiously. As an interim measure, it is suggested that an internal review be carried out of the system of reporting and a set of indicators be developed for other components of the programme.

Chapter XV

THE MANAGEMENT STRUCTURE - ALTERNATIVES

The current management structure of the project has, among other aspects, been identified as one of the factors that has impeded the implementation of the project. A brief description of the existing management structure and of the agencies associated with the project has been presented in Chapter III. Some suggestions have also been made on a few procedural aspects but the larger issue of possible improvements in the structure of the project management would still need consideration.

15.2 In appraising the structure and in attempting to suggest changes or alternatives that might improve the pace and quality of implementation of the project, the temptation to suggest radical changes has been resisted for pragmatic reasons. Any changes in structure within government take time and considerable effort, involving as it does layers of inter - departmental consultations and concurrences and decisions at levels that are continuously pressed for time or with other priorities claiming attention. The primary objective being the completion of the project by June 1999, structural changes would have to be such as could, with least effort and in the shortest interval, be put into place. On the other hand, since a follow on project is envisaged, for the latter

there is no immediate time constraint in establishing an appropriate management structure. Therefore, what has been attempted is a to evolve a set of structural alternatives that could be in place in the short term for the current project and some of which could be adopted for the follow on project too. These suggestions must be considered along with those relating to delegation of powers and other aspects.

15.3 The appraisal of the management structure and the suggestions for modifications are based on the firm premise that this project is, or should be, considered as a district project, to be managed and implemented at that level. The role of the other agencies would be more by way of support and assistance, with overall responsibility for policy and inter-agency coordination.

15.4 A set of alternatives are presented with a brief analysis of their rationale. Some of them, at first sight, may appear to be contrary to the management structure stipulated for this project but the basic framework of involvement of consultants and NGOs has been retained. For convenience, the discussion is restricted to the main management units.

I. Reconsidering the linkage of water supply with environmental sanitation:

15.5 In this project, the water supply component has been closely linked to environmental sanitation and the habitat components. After the recent decision to insist on a reasonable proportion of the contribution by the community being paid in advance before a commitment is made to implement the water supply component, this link is even closer than when the project was initiated. Water supply is now conditional to community participation in the other components, such participation being measured by the quantum of contribution. The recent prioritization of villages on the basis of contribution has carried this unfortunate linking to its illogical conclusion. As a consequence, all these components have suffered.

15.6 This linking has no doubt resulted in the contribution by the community coming forth at least in some measure but it has generally tended to slow down the implementation of the water supply component. This insistence on contribution has also resulted in the role of the NGOs changing, as mentioned earlier, from motivators of social change to collectors of contribution, a perception that seems to prevail with the CP Management Consultant too.

15.7 In this context, a view could be taken that access to safe drinking water is an entitlement - not a free one since

it would be charged for but nevertheless a right, similar to the urban scene. There is little justification for a different approach from that followed in urban areas regarding the conditions under which this entitlement would be met. If this perception were to be considered as valid, then the desirability (or otherwise) of treating the two components relating to water supply and environmental sanitation as separate would need consideration.

15.8 It is, for these reasons, recommended that the component relating to water supply be delinked from other components and operated independently. Such delinking would establish the credibility of the project and enhance chances of community participation in the other components.

15.9 The treatment of these two as separate components would imply a partial change in the concept of the project but it would not need any change in organization except for reorientation of the staff and the NGOs. It would have the advantage of rapid implementation of the water supply schemes. With water supply being available, the impact of communication of principles of water conservation and use, personal hygiene and sanitation would be strengthened. The role of the NGOs would be better defined and they could then focus on the environmental sanitation component more effectively. It is suggested that this should be examined

further in the context of more rapid implementation of the water supply schemes.

II. The district Project Cells:

15.10 The Project Cells are the main operational units in the implementation of this project. As stated earlier, this project should be considered a district level activity rather than a centrally directed one, which would imply that the Project Cells are the key elements at the functional level. Unfortunately, these cells are unable to manage the project activities effectively for various reasons. Their structure is weak and there is apparently a skewed perception of their role and responsibilities among the senior officers in charge of these cells.

15.11 The role of the district project cell and its responsibilities are described in the SAR of March 1993 [1] and in the orders creating these cells. They are the focal point for satisfactory implementation of all components of the project, specially for the environmental sanitation components. They, therefore, have a multiplicity of roles - engineering with regard to water supply, monitoring and assisting with regard to environmental sanitation works, and assisting NGOs and consultants while supervising and coordinating their work. As against these responsibilities,

[1] Page 78, Annex 2, Staff Appraisal Report, March 1993

they are staffed with just engineering personnel all of whom are located at the district headquarters. It would be unrealistic to expect this staff, even with the quick training and orientation they may receive, to carry out these functions satisfactorily, particularly those that relate to the health, sanitation and hygiene or to interact and establish working links with NGOs, much less with the village community.

15.12 These cells are part of the ZP structure and work directly under the CEO of the ZP just like the other departments of the ZP. The ZP has regular engineering divisions, the number depending on the size of the district. In the larger districts, these regular divisions are located at the district headquarters and at other places for operational convenience. They have staff at the taluk level and below, with JEs at the field level. They are, among all other activities, in charge of the water supply schemes being implemented in the districts such as the Accelerated Rural Water Supply and the National Rural Water Supply schemes.

15.13 The reorganization of the project cells would have to be considered from two different points of view. The first is its ability to function as a coordinator of all activities under this project and provide the necessary management support to the CEO. Secondly, its capacity to effectively

implement the various components of the project ensuring both quality and timely performance. These two are interconnected.

15.14 The cells are headed by an EE, all other staff, except for some supporting staff, being engineering personnel. The cells have suffered by the difficulty of posting EEs to the cells. In many cases, the EEs have had no divisional or field experience, this being their first posting on promotion. Transfers have been common. The mind set of the cells, for valid reasons, is not conducive to effective performance of a role they are not accustomed to. Consequently, the cells have rarely had the continuous and competent management which would provide the necessary guidance and control. It is suggested that the head of the cell should function more as a manager and coordinator so that the cell is better able to perform its role and provide the necessary assistance to the CEO, ZP in the implementation of this project. Also, the character of the cell should be more inter-disciplinary.

15.15 As mentioned earlier, this project should be organized and implemented on the premise that it is a "district level project". This would imply that the structure of the district Cells should be such as would ensure effective performance and assumption of all responsibilities for project activities. The character of the cell should be inter-disciplinary. It is, therefore, suggested that the district Project Cells should be organized on the following lines:

i) The cell should be headed by a senior person selected for management skills. A senior officer of the Karnataka Administrative Service could be posted but the post need not necessarily be filled by working officers. A wide choice would be available from the pool of recently retired officers, and the private sector including those who have associated with the larger NGOs. In fact, considering the short tenure of these posts, appointment from the latter categories would be advantageous because terms and conditions could be generous enough to ensure devoted work and the appointment would be on contract.

ii) The post suggested above would be addition to the current staffing pattern of the cell which would have to continue to provide the engineering skills. This would include the Executive Engineer, an Assistant Executive Engineer with two to three Assistant Engineers.

iii) In addition to the staff and posts indicated above, the Cell should include staff members with experience in working with NGOs, the community and social issues. Posts of a Social Scientist to liaise with the NGOs and of a Health Education Specialist would have to be included in the Cell. Such specialists would be available in departments such as social welfare, women and child development, the Land Army, the Health Department and the like. In this case too, open market selection would be an advantage for the reasons mentioned earlier. The number would depend on the size of the district but, generally, one such specialist would seem sufficient in a district.

iv) The Project Cell currently has some supporting staff, including an Accounts Section. These staff and this Section would continue as part of the reorganized Cell.

15.16 These cells work in isolation even with regard to their engineering responsibilities, there being no coordination with the regular engineering divisions of the ZP. They do not have staff at field level, rendering inspections and supervision of engineering works sporadic and

superficial. The small additions to the engineering staff of the Cells suggested earlier would, to some extent, enhance their supervision capacity. In this context, the induction of the regular Engineering Divisions of the ZP for limited purposes could be considered.

15.17 The induction of the regular Engineering Divisions of the ZP for purpose of supervision of construction and Environmental Sanitation activities would be desirable. These Divisions have engineering staff down to field level and such monitoring duties would not add to their workload to any significant extent. The coordination between the Project Cell and these Divisions would have to be provided by the CEO.

15.18 If this responsibility of monitoring the quality of construction and general progress and keeping the Project Cell informed is assigned to the regular ZP Divisions, marginal additional field staff would be necessary. The latter could consist of AEs and JEs, the number being determined as appropriate in each district depending on the number of project villages and associated criteria.

15.19 The advantage of such field staff, placed in the regular Engineering Divisions of the ZP, who would be mainly concerned with works under this project would be that after

the project ends expertise for long term maintenance would be available.

15.20 It could be argued that the implementation of this project could as well be assigned to the regular Engineering Divisions of the ZP. However, the need to adhere to totally different accounting and procedural stipulations and to constantly interact with NGOs and the village community, places these Divisions at a disadvantage. The project would not receive the constant attention it needs. Therefore, the structure suggested retains the Project Cell but utilizes the regular Divisions for the limited purpose of supervision. This structure ensures that the project would continue to receive the attention of a single agency, it reduces problems of coordination with and between the regular engineering divisions of the ZP and eliminates the task of orientation of these divisions in terms of approach, liaison with NGOs and new procedures.

III. Reduction of multiple agencies at district level:

15.21 Various agencies operate in a district, some simultaneously. These include the Design Consultant, the Consultants for Training and Community Participation activity, the Consultant for Construction Supervision and the NGO selected for the district.

15.22 The Design Consultant prepares the water supply scheme of each village and continues to be associated with the project till the final awarding of work for each scheme. Close interaction with the district Project Cell, the Training Consultant and the NGO is essential at all stages by this consultant. The other consultants operate during the period of implementation of the project and, due to the close association of the NGO with the village community, these consultants cannot ignore the NGO. However, the close inter-relationship one would have expected does not exist to the extent desirable often resulting in the communities desires being ignored, poor quality of the work or delays in completion.

15.23 The alternative to this situation would be to consider whether a single NGO could be in charge of a district and responsible for all software aspects of the project described earlier. An single NGO that has or can develop through suitable staff inductions the skills for health and sanitation communication and other elements, excluding the engineering components, could be identified and assigned one district. The advantages would be that the district Project Cell would be able to exercise its authority of supervision and monitoring better and that one agency would be accountable. At present, in some instances, the existence of

multiple consultants and agencies has resulted in dilution of responsibility and accountability.

15.24 If this pattern were to be adopted, an NGO should not normally be assigned more than one district. This would avoid building up large organizations in the NGO which again may result in lack of internal direction and control. The district Project Cell must be associated with the selection of the NGO and the contract must be awarded by it even if the final selection is by the PPMU.

15.25 It is, therefore, recommended that:-

a) All activities in a district, excluding engineering elements, should be managed by a single NGO. There would be only one NGO per district.

b) All software components in the district, including HSHE, would be managed by this single NGO. This would permit better supervision and monitoring.

c) The district NGO must be appointed by the CEO so that links are clearly defined. PPMU would assist in selection but direct control must lie in the district.

d) The NGO would have to have sufficient number of staff members formed into teams, the number of teams depending on the number of villages.

e) The NGO would have to employ an engineer per team for better interaction with the community and liaison with the contractors and consultants.

f) The NGO must appoint part-time village level motivators from the village community, preferably women.

IV. The Project Planning and Monitoring Unit:

15.26 The role of the PPMU and its responsibilities have been indicated earlier. The appraisal of the adequacy of the structure of the PPMU for satisfactory performance of its role could, for convenience, focus on some specific and important areas. These would include its internal structure, monitoring capacity and powers exercised by it.

15.27 The internal structure of the PPMU, with a Director and functional specialists, would need consideration in view of the recommendations that a single NGO be in charge of a district and that the long term CPM consultant be eliminated. Also, an important issue is the linkage between the PPMU, the PHED and the district Project Cells.

A. Structural Changes:

15.28 The PPMU has technical and supporting wings. The latter are not discussed here since they do not need any change and would continue as now constituted. The technical wing relating to engineering aspects consisting of the superintending engineer and two assistant engineers would also continue. However, the reorganization of the wing concerned with software components, currently consisting of a social scientist and a health specialist, would need consideration.

15.29 The suggestions regarding reorganization of the district Project Cell and assignment of project activities to a single NGO in each district would require that the PPMU has the capacity and professional ability to guide, monitor and supervise the district agencies. Towards this end, the following recommendations are made:-

a) The posts of Social Scientist and Health Specialist which exist at present should be held by professionals who can provide the leadership needed, tender expert advice to the Director, effectively monitor the programme and successfully liaise with other experts, NGOs and concerned institutions. It is suggested that these posts should be filled by tenure appointments, with professionals employed on contract, drawn from the open market, the compensation being attractive enough to obtain the best talent.

b) In addition, a professional who would coordinate and oversee NGO activities would be necessary in the PPMU. The incumbent should be selected on the basis suggested above.

15.30 The appointment of a single consultancy for overseeing the NGOs in the districts may have to be considered [2]. The need for this consultancy would very much depend on the competence of the three specialists referred to above. If these professionals are unable to function in the manner envisaged for any reason, including difficulty in changing the rules of recruitment, then this intermediate consultancy organization between the PPMU and the district NGOs would be necessary for coordination of the NGOs. As stated earlier, the character and responsibilities of this organization would

[2] Chapter VIII, Para 8.8

be different from that of the current CPM Consultant. It would have a more direct role of supervision and monitoring and be more cost effective.

B. Monitoring:

15.31 The responsibilities of the PPMU could be successfully discharged only if an effective system of reporting and monitoring is built up. Establishing such a system is also among its responsibilities. Various forms have been prescribed for obtaining periodic reports from the district cells, from the PHED Cell and from the consultants and NGOs. However, these focus on progress in physical and financial terms and do not provide indicators on qualitative aspects of the programme. For example, the work of NGOs and the CPM consultant involves evoking and ensuring participation of women in the community contact programmes, building in knowledge of sanitation and health in association with the drainage programme and the like. Quality assurance with regard to construction is another aspect that is not reported on except for sporadic inspection notes. It would be useful to develop indicators on the important qualitative aspects so that the PPMU is able to take corrective measures even on these aspects as implementation is in progress. It is understood that an MIS consultant is likely to be appointed soon. Unless an adequate system is in place very soon, its

utility would be little considering the date for completion of the project. It is, therefore, recommended that:-

i) Pending the appointment of the MIS consultant, an internal exercise should be undertaken to develop indicators for qualitative monitoring of the project with regard to activities where physical and financial progress are not important criteria.

ii) The conclusions drawn from current monitoring are not adequately reflected in corrective action. The follow up of the results of monitoring must be institutionalized.

C. Linkages between the PPMU, PHED and the district Project Cells:

15.32 There are three engineering responsibilities assigned to the PPMU and these are:

(i) independently assessing the quality of engineering works, and

(ii) with regard to the works -

a. advising and monitoring the activities of the implementing agencies including the ZP Project Cells,
b. ensuring the completeness of designs of water supply and drainage schemes with regard to adequate mapping, consumer demand analysis and stipulated standards,
c. ensuring acceptable standards of site supervision and construction by actual on-site checking during various stages of construction,
d. keeping all records relating to contracts and payments

(iii) with regard to procurement -

a. advising the implementing agencies on the standards, formats and procedures required for procurement according to stipulated guidelines,
b. ensuring that tender documents, bid evaluations and awarding contracts are in conformity with guidelines,

c. forwarding tender documents, bid evaluations, contract award recommendations and contract agreements to the World Bank for review and approval.

15.33 The engineering personnel in PPMU consists of one Superintending Engineer and two Assistant Engineers. It would seem impractical to assign the task of independent checking of quality of works to them. This responsibility is and should continue to be that of the Engineer - in-Chief, PHED. The PHED has a State wide network of officers, including Superintending Engineers and they can be more realistically assigned this task. However, to assess the work of the consultant for construction supervision and the efficiency of departmental inspections, random works could be got inspected by outside individual experts.

15.34 The engineering responsibilities of the PPMU can, at best, be considered as providing advice and support, prompt processing of PHED proposals with the appropriate levels of government including the Empowered Committee. All other engineering responsibilities should be assigned solely to the Engineer-in-Chief of the PHED and the PHED World Bank Cell. The expertise for discharge of this responsibility is in the PHED and cannot be provided by the small unit in PPMU. The assignment of the functions in (ii) b, c and d and (iii) a and b to the PHED rather than the PPMU would seem appropriate. The PPMU's role of coordinator, channel of

communication and monitoring are in no way reduced by this reassignment of functions nor is its advisory role regarding procedures and guidelines diminished.

15.35 If the suggestions regarding the reconstitution of the district Project Cells are accepted, it would be appropriate to specify that day to day management of these cells lies with the CEO of the ZP who would report to the Director, PPMU for purposes of monitoring. Such an arrangement does not dilute the authority of the PPMU vis-a-vis these cells. Rather, it clearly lays down the chain of command which is currently considerably blurred. It would also clearly declare that the CEO of the ZP is operationally responsible for a vital programme in the district.

15.36 The district Project Cells have responsibilities which could be categorized as engineering, environmental sanitation, community participation and coordination with consultants and NGOs. They are part of the ZP structure coming under the CEO of the ZP but report to two authorities. For all engineering aspects and for processing of designs and inspections they report to the Engineer-in-Chief, PHED. On all other matters, including monitoring, they report to the Director, PPMU. There are certain grey areas in such an arrangement. However, the system is currently functioning well and no major changes seem necessary. It would,

nevertheless, seem appropriate if even the progress reports on the hardware component came to the PPMU through the PHED so that the comments of the latter would be available and this would also serve as a review of the PHED's performance as a major partner in the project.

D. Delegation of powers to the Director, PPMU:

15.37 As mentioned earlier, the PPMU is not a separate department of government nor has the Director, PPMU been delegated the powers of a major head of department. The conversion of the PPMU into a separate department is not recommended because there would be little advantage in doing so. The PPMU is, in effect, the unit in government in charge of the project and the PHED and other agencies work with it and not independently. Its strength lies in being a part of the secretariat. If it were to be converted into a separate department there would be the distinct disadvantage of its being hierarchically on par with the PHED and other departments associated with the project which would result in a need for coordination at government level.

15.38 It would, however, seem necessary to assign to the Director some of the powers of a head of department, which could be done through government orders. Such powers would relate to expenditure on equipment for the office, travel,

leave and the like. Such a delegation would avoid issues of internal management having to go to the Secretary which would be both a saving in time and effort.

15.39 It has been stated earlier that the lack of financial and administrative powers regarding sanctions and approvals cannot be asserted as having inhibited implementation of the project. No special delegation of such powers to PPMU or to any other authority seems necessary.

E. Accounting matters:

15.40 The payments by the PPMU to the NGOs are now released through the Well Boring Division of the PHED. This system was instituted in the initial stages of the project before the current system of accounts for this project was developed. Under the latter, the Cells have bank accounts into which their Letters of Credit are paid and from which they make payments through cheques. This permits an exclusive accounting system for the project facilitating easy computation of expenditure and claiming of funding. However, the Director, PPMU has not been permitted to open such a bank account and, therefore, PPMU's payments to NGOs are made through the Well Boring Division of the PHED. Apart from the delays that occur, this system complicates accounting and assignment of expenditure to the relevant agencies that operate the funds. The payments to NGOs through the PHED

could no doubt be avoided by permitting a bank account to be opened in the name of the Director, PPMU so that such payments could be made directly by the PPMU. However, to vest full responsibility and control with regard to the activities of the NGO in the district, it would be appropriate if the district Project Cell is assigned the task of paying the NGOs. Since the Cell operates on a local bank account delays would be avoided maintaining, at the same time, the strong links that ought to exist between the cell and the NGO in a district. It would, however, be necessary to increase the quantum of the Letter of Credit to the cells as may be required. Such an arrangement must be considered as part of the recommendation made earlier that the contract with the district NGO is awarded by the cell concerned.

V. Delegation of powers vested in the Empowered Committee:

15.41 The Empowered Committee is vested with full powers of government except, as indicated earlier, in cases of purchase of plant and machinery worth more than one crore rupees. It would be desirable to restrict the agenda that this Committee considers to the most important issues.

15.42 More frequent meetings of the Empowered Committee would go a long way to inculcate a sense of urgency in the project agencies at all levels. Its main role should be

dealing with policy issues and ensuring effective coordination between departments.

15.43 To enable the Empowered Committee to perform its role better, the following recommendations are made:-

a) A Management Sub-Committee of the Empowered Committee could be constituted to perform, by delegation by the Empowered Committee, certain functions of the latter. These could include matters which are mostly concerned with operational issues and now included in G.O. RDP 72 PPM 94 of 17 June 1994. These are (i) finalization of villages, (ii) finalization and approval of action plans of villages/districts, and (iii) purchase of vehicles. In general, this Sub-Committee could deal with all matters that do not involve substantive matters of policy.

c) To render monitoring of the project more effective, a Monitoring Sub-Committee of the Empowered Committee could be constituted. This Sub-Committee should have a regular schedule of monitoring of project activities, quantitative and qualitative, and a system of follow up of the results of monitoring.

VI. Consultancies for Design, Construction Supervision and Training:

15.44 The consultancy arrangements relating to design of the water supply systems and for supervision of quality of construction have been reviewed separately and some modifications in the current roles and terms of reference of these two consultants have been suggested.

15.45 In addition to the modifications in the arrangement relating to the consultant for construction supervision and

the better control that these would give to the Project Cell, it would be useful to develop a second level of inspections. While inspections are no doubt carried out by various authorities, these do not take place at regular intervals while a work is in progress nor is there an effective mechanism of follow up. It would be desirable to ensure that inspection of works with particular reference to quality of construction is done regularly and rigorously. It is suggested that a panel consisting of the Circle Superintending Engineer of the PHED, the EE of the Cell and an outside expert be established in each district for this purpose. A system for regular inspections and follow up of observations would have to be developed.

15.46 Among the consultants, the consultancy for Training could be said to have been the most successful. This consultancy would have to be continued even with the structural changes suggested for the PPMU. This is because training has to be imparted to innumerable categories of personnel, skill have to be developed for functionaries at field level and orientation has be provided to elected representatives of the panchayati raj institutions and officials. It would be the responsibility of the social scientist in the PPMU to coordinate the activities of this consultant to ensure that the necessary training programmes are carried out successfully. The training of the staff of

the district NGOs would be one among the functions of this consultant.

VII. Village Water Supply and Sanitation Committee:

15.47 The involvement of the village community in activities relating to water supply and environmental sanitation is a unique feature of this project. The operational mechanism for this purpose is the VWSC. To render this committee more effective, the following measures are recommended:

a) The VWSC should be reconstituted with a maximum of twelve members with at least a third of the members being women and with representatives of the SCs/STs. At least eight of these members must be elected/selected by the Gram Sabha;

b) The Chairman should be from the village and the Gram Panchayat members from the village should be members, subject to a maximum of four, elected/selected by the Gram Sabha;

c) The VWSC should have legal status under the Act. This could be conferred by designating it as a sub-committee of the Gram Panchayat, with specific responsibilities and a defined area jurisdiction limited to the village. This would provide legal authority for levies;

15.48 In fact, the formation of a village development committee, under the Act, would seem desirable with responsibility for all development activity in the village. If such a committee could be established, it would eventually replace the VWSC and also help in activities relating to health, watershed development,etc.

VIII. Creation of an independent project authority:

15.49 The management of the project is now completely vested in government agencies. An institutional arrangement that would take such management out of departmental structures could be envisaged. The rational for such an arrangement would be that an independent authority would (i) not be subject to government procedures or pressures, (ii) be able to consider technical and other issues objectively and with far more independence than is possible within government, (iii) be able to determine its own procedures and make mid-term corrections without protracted consultations, (iv) induct the best expertise without the constraints of predetermined hierarchies, (v) manage staff issues with greater expedition and to the benefit of the organization and (vi) manage finances for optimum returns.

15.50 A possible institution of this nature would be a society registered under the relevant law and vested with all authority for management of the project[3]. However, even such an independent institutional structure would have to have certain features that might tend to restrict its independence. If a society were to be established for a

[3] A similar project in Uttar Pradesh is being funded by the World Bank. A Society has been formed for the implementation of this project. A detailed description of the management structure is available in the Staff Appraisal Report, Uttar Pradesh Rural Water Supply and Environmental Sanitation Project, May 1996, World Bank.

project of this nature funded by the World Bank or other official donor agencies, it would have to have government officers on the board of management because the World Bank and other government-to-government funding agencies would require the State government's guarantee of performance and return of loan funds. The State government cannot be expected to extend such guarantees without management control. In other words, the independence of the institution would not be as total as it would have been had it been a NGO.

15.51 Any institution that is responsible for large scale activities spread over wide spread areas and involving local community participation would have to develop fairly strict hierarchical controls and firm procedures. This would be particularly necessary when the elements of the project are sought to be implemented through a network of NGOs. Such control measures would, in effect, be equivalent to what exists in government. Since official funds are involved, the society would be subject to the rigor of audit and accountability.

15.52 However, such an institutional structure would have a greater degree of flexibility and capacity for innovation than a government agency. Its internal structure would largely determine its efficiency and its ability to perform better than a conventional government agency. A large

organization with district units and units at smaller area levels would have the disadvantage of size with consequent possibilities of dilution of management control. Alternatively, an apex society with district level societies as federated members would cast functional responsibility where it belongs, namely on the district agency. The latter could in turn be a federation of village level organizations. A society for an activity such as water supply or sanitation could more usefully function as an apex body of local groups or societies and serve as a strong forum for their betterment.

15.53 Another alternative structure could be an apex society which implements the programme through a single NGO for each district, the latter being carefully chosen on the basis of its ability to manage all elements of the programme.

15.54 The formation of a society for implementation of such programmes with a suitable structure down to the field level would take considerable time. As an innovative approach it would seem to offer an alternative approach for the follow on project. However, if the suggested management changes suggested earlier in the present system are effected and the experience proves satisfactory, a radical change of approach of this nature may not be necessary.

15.55 It is, therefore, recommended that (i) the suggested changes in management structure of the current system be implemented and continuously evaluated in the next few months and (ii) a detailed evaluation be made of the experiment in Uttar Pradesh for a proper appreciation of the need for such an independent society.

IX. Short Term and Long Term Measures:

15.56 The project is expected to be completed by June 1999. Most of the management changes suggested herein could be in place with minimum delay since they do not involve radical changes in the system. The recommendations could be considered by a Sub - Committee of the Empowered Committee which could also be assigned the responsibility of implementation of the suggested management changes. It need scarcely be emphasized that the project should not get delayed on the ground that these management changes are necessary but would take time - a circular causation of delay.

15.57 The management changes could be built into the follow on project since there is time for the preparation of the latter. As suggested, the need for or desirability of an independent institutional structure would need a separate careful evaluation.

Chapter XVI

FOLLOW ON PROJECT

The Integrated Rural Water Supply and Environmental Sanitation Project under consideration was planned to cover 1200 villages. The need to establish water supply systems in other villages where they do not exist or where they are inadequate would continue to be a priority concern. Recognizing this need, the development of a follow on project similar to the one under implementation is likely. The experience in implementation of the current project would guide the determination of the components of the project, its time span, management structures and other aspects.

16.2 The evaluation of the structure of the current project presented in this report would indicate that, among other matters, the major issues are:-

a) reorganization of the district level management structure

b) reorganization of the management structure of the PPMU

c) reconsideration of the consultancy appointments

d) considerable improvement of the monitoring and follow up procedures

e) delinking of the water supply component from other components

f) delinking of watershed development component

16.3 When the follow on project is designed, it is recommended that the suggestions made earlier with regard to these aspects be adopted while determining the management structure. For convenience, the main recommendations are summarized again.

16.4 The district Project Cell would be reorganized as follows:

a) The structure of the Project Cell should be based on the premise that this is clearly a "district level project".

b) The character of the Cell should be inter-disciplinary.

i) The Cell should be headed by a senior person selected for management skills. A senior officer of the Karnataka Administrative Service could be posted but the post need not necessarily be filled by working officers. A wide choice would be available from the pool of recently retired officers, and the private sector including those who have associated with the larger NGOs. In fact, considering the short tenure of these posts, appointment from the latter categories would be advantageous because terms and conditions could be generous enough to ensure devoted work and the appointment would be on contract.

ii) The post suggested above would be in addition to the current staffing pattern of the cell which would have to continue to provide the engineering skills. This would include the Executive Engineer, an Assistant Executive Engineer, with two to three Assistant Engineers.

iii) In addition to the staff and posts indicated above, the Cell should include staff members with experience in working with NGOs, the community and social issues. Posts of a Social Scientist to liaise with the NGOs and of a Health Education Specialist would have to be included in the Cell. Such specialists would be available in departments such as social

welfare, women and child development, the Health department, the Land Army and the like. In this case too, open market selection would be an advantage for the reasons mentioned earlier.

iv) The Project Cell has currently some supporting staff, including an Accounts Section. These staff and this Section would continue as part of the reorganized cell.

c) The induction of the regular Engineering Divisions of the ZP for purpose of supervision of construction and Environmental Sanitation activities would be desirable. These Divisions have engineering staff down to field level and such monitoring duties would not add to their workload to any significant extent. The coordination between the Project Cell and these Divisions would have to be provided by the CEO.

If this responsibility of monitoring the quality of construction and general progress and keeping the Project Cell informed is assigned to the regular ZP Divisions, marginal additional field staff would be necessary. The latter could consist of AEs and JEs, the number being determined as appropriate in each district depending on the number of project villages and associated criteria.

The advantage of such field staff, placed in the regular Engineering Divisions of the ZP, who would be mainly concerned with works under this project would be that after the project ends expertise for long term maintenance and sustainability would be available.

16.5 <u>One NGO is recommended to be appointed for a district</u>

with the following features:-

a) All activities in a district, excluding engineering elements, should be managed by a single NGO. There would be only one NGO per district.

b) All software components in the district, including HSHE, would be managed by this single NGO. This would permit better supervision and monitoring.

c) The district NGO must be appointed by the CEO so that links are clearly defined. PPMU would assist in selection but direct control must lie in the district.

d) The NGO would have to have sufficient number of staff members formed into teams, the number of teams depending on the number of villages.

e) The NGO would have to employ an engineer per team for better interaction with the community and liaison with the contractors and consultants.

f) The NGO must appoint part-time village level motivators from the village community in each village, preferably women.

16.6 The PPMU would be restructured as follows:-

i) The posts of Social Scientist and Health Specialist would continue but the incumbents would have to be well qualified professionals chosen from a much wider field.

ii) In addition, a professional, with experience in community participation management, would be inducted for coordination and overseeing the district NGOs.

iii) A single consultancy for overseeing all the district NGOs would be necessary, if the professionals suggested in (i) and (ii) above are not available. If such professionals cannot for any reason be appointed, the single consultancy would be necessary.

iv) The staff suggested above would be in addition to the supporting staff that now exist in the PPMU.

16.7 The Consultancy appointments are recommended to be as follows:

a) The Design Consultant would be necessary and should continue till final designs are completed and modified bill of quantities and estimates are prepared.

b) One Construction Supervision consultant would be appointed for a district. Reputable institutions or

highly qualified individuals, provided they have the necessary organization, could be appointed.

c) The HSHE consultant is not necessary, in any case not on a long term basis;

d) The CP Management Consultant is not necessary.

e) The Training Consultant would have to continue. This consultant could induct other consultants or experts for short periods of time, if necessary, for specific activities.

The rationale for these recommendations has been provided earlier.

16.8 Reporting and Monitoring systems would have be improved on the following lines:-

a) The parameters on which information would be obtained for monitoring and the indicators that would be used for this purpose need to be developed well in advance.

b) The system must be established well before project activities acquire momentum.

c) The computerization of essential data, with appropriate soft ware for analysis and monitoring, is essential.

16.9 Delinking of water supply schemes from other components, for the reasons indicated elsewhere in this report, would be desirable in the follow on project too.

16.10 The Watershed Development and recharging of ground water component would have to be excluded from the follow on project in case the criteria for selection of areas, as discussed earlier, continue. If the composite approach that

does not distinguish between arable (and private) land from non-arable (or government) land is adopted, it could be a part of this project. However, the balance of advantage would lie in implementing this activity under a separate project, coordination being established to the extent that emphasis could be on watershed programmes that would benefit project villages.

16.11 The two Sub - Committees of the Empowered Committee suggested earlier, for expeditious decision making, should be established. These are the Management Sub-Committee and the Monitoring Sub-Committee. The Empowered Committee should meet more often to ensure that the emphasis on project activities does not get diluted through routine management practices.

16.12 The change in the character of the VWSC into a development committee should be fostered. This would avoid committees being set up for various specific purposes at the village level and encourage some degree of coordination between inter-related programmes.

16.13 The early commencement of some elements of the project is essential. The current project has suffered seriously due to certain activities being commenced too late. This experience would indicate that, in particular, the following

components should be commenced at least a year or two before the components which result in asset-building are commenced:-

a) Appointment of the district NGO and CP activity, HSHE activities, formation of the VWSC and training of local community leadership;

b) Procurement of equipment for the PHED for improving its infrastructure;

c) Establishing indicators and devising an effective monitoring systems in all concerned offices;

d) Reorganizing the PPMU;

In fact, these should be completed by the time implementation of the other components begins.

16.14 The adequacy of the structural changes suggested or the need for an independent institution for implementation of the follow on project needs careful consideration. If the structural changes suggested herein are adopted, it would seem that the same management structure would suffice for the follow on project too. The issues involved in the establishment of an independent society for implementation of the project have been discussed earlier. At first sight, it would seem doubtful if this would be a better alternative to what would be in place after the structural changes are made. The management of the society would be mostly official and it would be dealing with Bank funds provided through government and, therefore, subject to all the stipulations of government with regard to control over expenditure and the requirements of audit. Since such an institutional structure has recently

been established for a similar project in Uttar Pradesh, it is suggested that it would be useful to evaluate the experience in that State of this management structure before a decision is taken. It is recommended that till this is done, the consideration of the formation of a society for implementing this project should be postponed.

Chapter XVII

SUMMARY OF RECOMMENDATIONS

The recommendations made in the preceding chapters are briefly summarized herein. Reference to the relevant paras is provided. The summary, for convenience, follows the order of the chapters. Chapter XV must, in particular, be referred to for fuller discussion of these recommendations.

1. An analytical study should be made of the system of costing of the water supply works taking into consideration comparative data of works implemented under other such programmes and this project to provide guidance regarding control of costs in future. Paras 5.13 to 5.15

2. A single NGO should be responsible for all software components in a district, including HSHE. This NGO must have the necessary staff and should be appointed by the CEO of the ZP. Paras 8.7, 15.21 to 15.25.

3. The Community Participation Management Consultant on the present terms and conditions must be replaced to provide more effective supervision and guidance to the district NGOs and the necessary administrative support to the PPMU in the management of these NGOs.

i) A professional should be inducted into the PPMU for this purpose. Para 15.29(b)

ii) The assistance of a consultancy organization between the PPMU and the district NGOs would be necessary if the single professional suggested above is not considered sufficient or is unable to carry out these responsibilities fully. Paras 8.8, 15.30

4. The Design Consultant is necessary.

i) The services of this consultant should continue till the commencement of the construction work so that all functions relating to design, including changes that may be found necessary when the work commences, relieving the Consultant for Construction Supervision of the latter responsibilities. Paras 9.9

ii) For the follow on project, the scope of the work of this consultant should be clearly defined to ensure that the process of community participation is not curtailed and to take into account (i) above. Para 9.10

5. The role and character of the Consultant for Construction Supervision need to be redefined.

i) One such consultant should be appointed for each district. Para 10.11

ii) The terms of reference would have to exclude responsibilities for modification of designs or estimates at the time of construction. Para 10.12

iii) Firm conditionalities should be specified regarding the number, qualifications and experience of the staff employed. Para 10.13

6. The component relating to Groundwater Recharge needs reconsideration on methodological and operational issues. Till such time these are sorted out, the

implementation of this component may be kept on hold. Paras 11.3 to 11.11

7. Action to implement the elements under leak detection, water quality monitoring and purchase of equipment for the PHED must be initiated urgently and its completion monitored. Paras 12.2 to 12.12

8. Habitat development and HSHE components must receive urgent attention. The mechanisms for interaction between the district Project Cell, the NGOs and the VWSC are weak and must be improved. Paras 13.2 to 13.8, 15.15(ii), 15.30

9. The HSHE component must be implemented urgently.

   i) The appointment of a long term Consultant for HSHE is unnecessary. Paras 13.9 to 13.14, 15.15(iii)

   ii) The expertise available in the Health Department of Health Education should be fully utilized and the staff of that Department associated with the implementation of this component. Paras 13.13, 15.15(iii)

10. The monitoring system needs improvement.

   i) The qualitative aspects of monitoring must be improved. For this purpose appropriate indicators should be developed. Paras 14.8, 14.12, 14.13, 15.31, 15.36

   ii) The use of the reporting system as a management tool must be improved both in the PHED and in the district Project Cells. Follow up of the conclusions of inspections and monitoring must be built into the system of management. Paras 3.14, 14.10, 14.11

iii) Pending the appointment of the MIS Consultant, as an interim measure, an internal review should be made of the system of reporting and a set of indicators developed for qualitative aspects. Para 14.13

iv) Indicators that would assist in assessing the sustainability of the project would also have to be developed. Para 14.14

11. The component relating to water supply should be delinked from other components and implemented separately. Paras 15.5 to 15.9

12. The district Project Cell must be restructured to make it multi - disciplinary and more effective. The structure should be based on the premise that this is a "district level project". Paras 3.9, 15.3, 15.10 to 15.15, 15.35

i) It should be headed by a senior managerial person, with specialists in social communication and health communication. Para 15.15 (i) and (iii)

ii) The induction of the regular Engineering Divisions of the ZP for purpose of supervision of construction and environmental sanitation activities would be desirable. Paras 15.16 to 15.20

13. The structure of the PPMU needs reconsideration. Paras 15.26 to 15.28

i) The posts of Social Scientist and Health Specialist need to be upgraded in terms of professionalism. In addition a professional who can oversee the district NGOs is necessary. Para 15.29

ii) The responsibilities with regard to engineering aspects that now vest with the PPMU should be assigned to PHED. Paras 15.32 to 15.34

iii) The Director, PPMU should be delegated the powers of a head of department. Paras 4.4, 15.37 to 15.38

iv) If the recommendation made above is accepted, it would be necessary to permit the Director, PPMU to open and maintain a bank account as prescribed in the accounting procedure. Paras 4.4, 15.40

14. Special delegation of financial powers to any of the agencies, departments in charge of the project is not necessary. The powers currently available would seem sufficient. Paras 4.7 to 4.9, 15.39

15. Two functional Sub-Committees of the Empowered Committee should be established. These are the Management Sub-Committee and the Monitoring Sub-Committee. The meetings of the Empowered Committee need to be held more frequently. Paras 3.21, 4.10 to 4.12, 15.41 to 15.43

16. To strengthen the system of inspection of construction, a panel at the district level could be established consisting of the Circle Superintending Engineer of the PHED, the Executive Engineer of the district Project Cell and an independent outside expert. Para 15.45

17. The Training Consultant would be necessary and must be continued. Coordination with the professionals suggested in the PPMU would have to be effective. Paras 3.9, 6.16, 15.46

18. The establishment of an independent society for management of the project would have to be carefully considered. An independent evaluation of this management structure in Uttar Pradesh would be desirable before a view is taken. The measures suggested herein may be implemented and evaluated before a radical institutional structure is adopted. Paras 15.49 to 15.55

19. The VWSC should have a legal status and its composition should provide for women members and SC/ST members. The possibility of having a single village development committee should be explored. Paras 15.47 and 15.48

20. All "software" components must be commenced well in advance of the commencement of the "hardware" components. Paras 6.15, 16.13

21. The short and the long term recommendations made herein could be considered by a Sub-Committee of the Empowered Committee. Paras 15.56, 15.57

22. The Follow on Project - the recommendations made above are valid for the follow on project too. An independent evaluation of the management structure of a similar project in Uttar Pradesh must be made before the formation of an independent society is considered a viable alternative. Paras 16.4 to 16.14

ANNEX I

PROCEEDINGS OF THE GOVERNMENT OF KARNATAKA

Subject: Integrated Rural Water Supply & Environmental Sanitation Project- Constitution of a Panel of Individual Consultants to recommend changes in the Institutional Structure of implementation under the project-reg

PREAMBLE;

Government of Karnataka is implementing an Integrated Rural Water Supply & Environmental Sanitation Project with the financial assistance from the World Bank in 12 districts covering 1200 villages since June 1993. The total cost of the project is Rs.447.20 crores. The project is slated to be completed by June 1999. The basic objective of the project is to improve the health conditions of the rural population. It is proposed to achieve this objective through the Piped Water Supply, Environmental Sanitation, Health Education etc. The expenditure as on today is Rs.57 Crores as against the targetted expenditure of about Rs.220 Crores.

Recently there was Mid-Term Review of the Project by the World Bank Authorities. The Aide Memoire of the Mid-Term Review suggested to review the project institutional structure so as to make it conducive for the implementation of the project before the project closing date of June 1999. Considering the nature of the project, project objectives, the current procedures that are being followed for the implementation of the project and the institutional frame work, it is also the considered view of the Govt of Karnataka the present organisational structure is not enough for effective implementation of the project. Therefore, it has become necessary to modify the implementation structure so as to implement the project as per the project design and scope well within the project completion period of June 1999 itself.

The Government of Karnataka having considered the issue in detail and in keeping in view the nature, objectives, current procedures being followed for implementation of the project has decided to constitute a Panel of Consultants on individual consultancy basis to review the institutional frame work created for the implementation of the project and to suggest proper

institutional structure that may be considered necessary to enable the Government to implement the project within the project period itself and to review the delegation of powers and suggest optimum changes that may be considered necessary for the implementation of the project. Therefore, the following orders are issued.

GOVT ORDER NO RDP 197 PPM 96 DATED 23-11-1996

1. In the above circumstances, the Government of Karnataka are pleased to constitute a Panel of Consultants on Individua Consultancy basis consisting of the following:-

1. Shri. P. Padmanabha, IAS (Retd)
   No. 216, Double Road
   Indira Nagar, II Stage
   Bangalore - 560 038
   Convenor of the Panel

2. Shri. Gulam Ahmad
   Engineer-in-Chief, (Retd)
   No 412, 13th Cross, 7th Main
   II Stage, Indira Nagar
   Bangalore - 560 038

3. Representative of the
   Indian Institute of Management
   Bannerghatta Road
   Bangalore

Each Consultants of the Panel shall be entitled for a payment of a consultation fee of Rs.50,000\- (Rupees Fifty thousand only) actual travelling expenses for travel within the State including local travel and a sitting fee of Rs.250/- per day.

2.The Terms of Reference of the Panel shall be as follows:

(1)To review the Institutional frame work including the District Level Co-ordination Committee created for the implementation of the Karnataka Integrated Rural Water Supply & Environmental Sanitation Project being implemented with the financial assis-

tance from the World Bank and to suggest changes that may be considered necessary to enable the Government of Karnataka to implement the project as per the Project Scope and Objectives well within the Project Period itself;

(2) To review the delegation of powers to the Officers and Institutions and to suggest changes that may be considered conducive for the proper implementation of the project;

(3) To consider other relevant issues as may be considered necessary by the Panel to implement the Karnataka Integrated Rural Water Supply & Environmental Sanitation Project in a effective way.

(4) To consider implementation structure, delegation of powers and other aspects considered necessary by the Panel to implement the likely follow on project pertaining to the Integrated Rural Water Supply & Environmental Sanitation in Karnataka to be taken up with the financial assistance from the World Bank.

The Panel of Individual Consultants shall submit an Interim Report in respect of the Institutional frame work and delegation of powers within one month and the Final Report covering all aspects pertaining to the implementation of the Karnataka Integrated Rural Water Supply & Environmental Sanitation project and on the implementation structure, delegation of powers and other aspects considered necessary by the Panel to implement the likely follow on project pertaining to the Integrated Rural Water Supply &

Environmental Sanitation to be taken up with the financial assistance from the World Bank wihin three months. The Secretarial assistance for the Panel would be provided by the Project Planning and Monitoring Unit.

BY ORDER AND IN THE NAME OF THE
GOVERNOR OF KARNATAKA

(M.R. VIJAYAKUMAR)
Director, PPMU & E/o
Addl. Secretary to Government
Rural Development & Panchayat Raj
Department

To:

1. Accountant General in Karnataka, Bangalore
2. PS to Minister for Rural Dev & Panchayat Raj, Vidhana Soudha, Bangalore
3. PS to Development Commissioner, Vidhana Soudha, Bangalore
4. PS to Principal Secretary to Govt, RD & PR Dept
5. Engineer-in-Chief, PHED, Bangalore
6. PA to Secretary to Govt-II, RD & PR Dept
7. Superintending Engineer, PPMU RD & PR Dept
8. Jt. Controller of Accounts, PPMU, RD & PR Dept
9. Member concerned

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