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CENTRAL GOVERNMENT ACTION TO IMPROVE THE DRINKING WATER AND SANITATION SITUATION IN RURAL INDIA : MISSION (IM)POSSIBLE?

An explorative research on Institutional Development and Public Administration during the International Drinking Water Supply and Sanitation Decade 1981-1990

MA-thesis Ineke van Beelen
Twente University
Enschede, February 1990

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Picture at front page:
From left to right a so-called 'village motivator', the researcher and Aloka Mitra of
Women's Co-ordinating Council, in Santa, a small village in Howrah, West Bengal.
The village motivator, a woman selected by WCC, is responsible for the operation and
maintenance of the handpumps. She is a volunteer, educated in health aspects. When
repairs are needed she takes care the district engineers really come. The system seemed
to function, since the handpumps were already working for about ten years.

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PREFACE

With the research described in this report I hope to finish my studies in Public Administration.

In the first place I would like to thank everybody who helped me in India. But I'm afraid the list would be too long. So in the names I'm going to mention my gratitude towards all the other administrators, engineers, journalists, activists and researchers is translated. I would like to express my deepest gratitude to Mr. Goyal and Mr. Gourisankar Ghosh. Without their hospitality and help not even half of the chances I got in India would have been realized. Next to this Jan Speets and Marijke Otten of the Dutch Embassy provided me with valuable information (and delicious food). Of course I will not forget the hospitality of Mr. Mehta and his wife and Hans Versnel. Furthermore the members of the National Drinking Water Mission, Mrs. Aloka Mitra of Women's Coordinating Council, the Gujarat Water Supply and Sewerage Board, Mr. Eswaran and Mr. Saifullah of the Government of Karnataka must be mentioned here.

In spite of all the Indian help I was very happy to have some Dutch student contacts. I shared experiences with Joost and Marian in New Delhi and in Gujarat, and with the group of the excursion. Furthermore I was happy that two teachers of my 'MA-commission' have seen me 'muddling through' in India (after India I finally know what Lindblom exactly meant) and were able to help me to some extent.
My teachers of the Department of Public Administration and the Technology Development Group supported me with advise and critical remarks back in the Netherlands. It was not always easy, but I have learned a lot of it. Thank you, Mr. Schulte Nordholt (who spent most time with me), Mr. Andre de la Porte and Mr. Bressers. Other persons who gave useful advises to me were Victor and Leo.
Finally, and most of all Wilfred deserves a place in this preface. My next visit to India will be with you.

Thanks everybody.
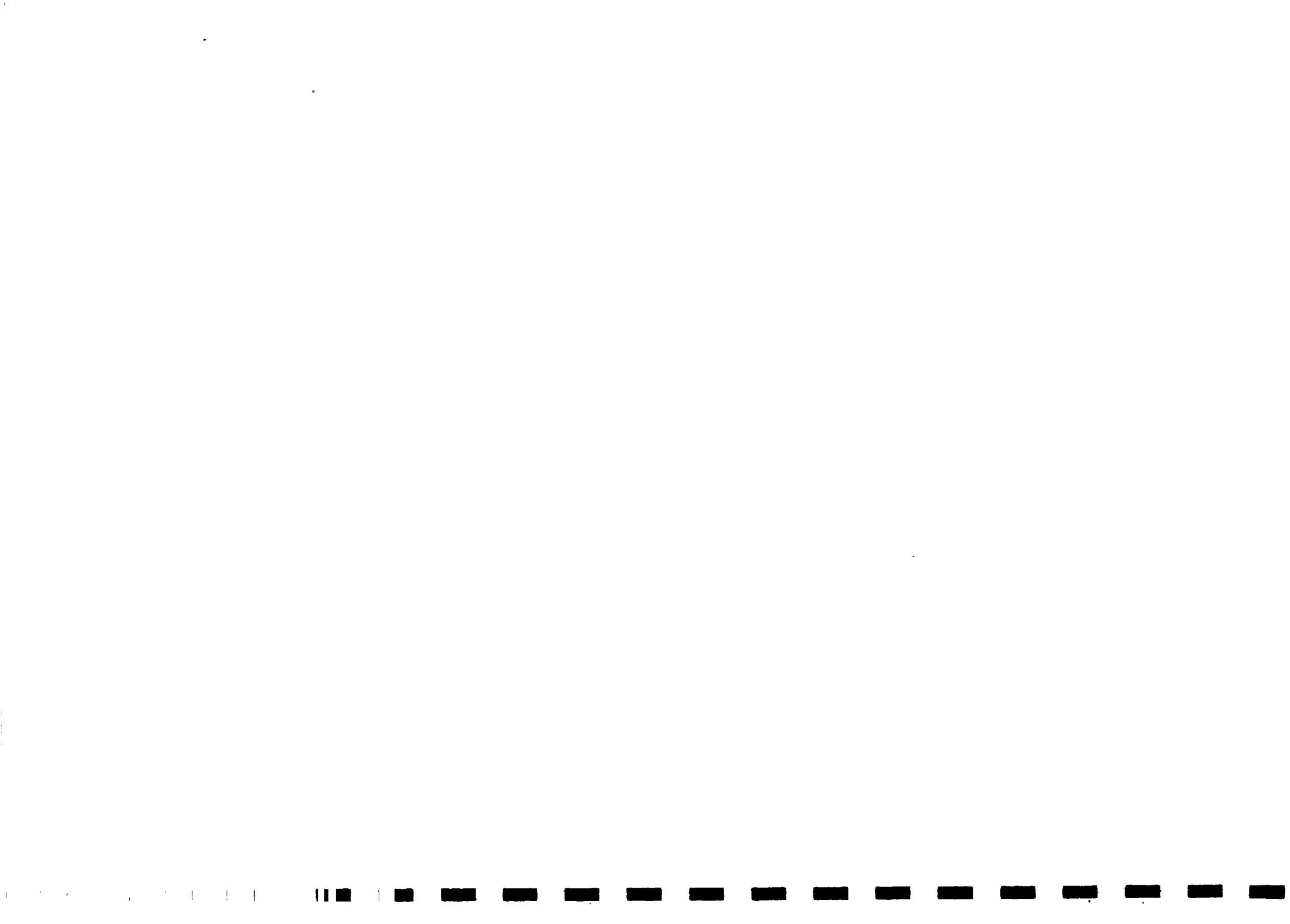
SUMMARY

I   Institutional Development

The research described in this report is the last phase of a study in Public Administration. It was a collaboration of the Department of Public Administration and the Technology and Development Group of the Twente University.

Subject of this research is 'Institutional Development' (ID) of rural drinking water and sanitation in India during the eighties, against the background of the International Drinking Water Supply and Sanitation Decade 1981-1990 of the WHO. The research has an explorative nature.

Recently ID has gained a lot of attention. This is caused by the lack of sustainment of a lot of developmental projects. ID is the process directed towards the consolidation and adaptation a project organization so that her developmental activities make a congruent link with the need and demands of the project environment in order to sustain the activities (and not so mucht the project organization). The strategic management of a project organization should orchestrate the different factors which influence the success of a program, in order to create the framework for ID. In ID three dimensions can be distinguished, mounting up in level of abstraction:

1   The Organizational Dimension: This involves the objectives, the strategies, the structure of the program agency and the processes (to motivate both employees and beneficiaries).
2   The Contextual Dimension:
- Pre-conditions - Necessary but on itself insufficient conditions that have to be fulfilled prior to the program. Examples are political support, funds, manpower and an inspiring personality of the program leader.
- The 'environment' in the broadest sense of the word. An increasing scope, diversity and uncertainty in the political, socio-cultural, economical and/or technical environment of the program enlarge the complexity and makes it more difficult for the strategic management to ensure ID.
3   The Conceptual Dimension: Different actors may have different views and motives. As a result contradictions, inconsistencies and conflicts may arise, which may lead to a discrepancy between the norm (the official objective) and the reality. This discrepancy illuminates the real power structure.

II   Central problem and research questions

The Government of India supported 'the Decade' and the international objective to provide every person with at least 40 litre per day in 1990. In 1986 the National Drinking Water Mission was launched by the federal government. This federal agency had to improve the on-going programs in the field of rural drinking water and to ensure the objectives of the Decade would be reached. Against the background of the Decade, which combines drinking water and sanitation, the central problem in the research is: **What kind of contribution has been given by the National Drinking Water Mission to rural drinking water and sanitation in India?**

1   First of all the organizational dimension of the Mission is described from the point of view of the Mission itself. This is the **first research question.**
2   ID takes place when a new service sustains, roots in the society. Sustainment of rural drinking water and sanitation was operationalized as:
-    Is political support expressed in legislation, in funds and in sufficient skilled manpower?
-    Is the concept of participation translated in the organizational structure?
-    Has a clear, unambiguous monitoring system been set up with regard to implementation and maintenance?

Especially the last two questions illuminate the importance of decentralization. Together this set of questions formed the **second research question,** which was of a general nature.
3   Since drinking water is a state task and a decentralized subject by nature, the Mission was studied in the light of **centre-state relations** in India. Because the federal government controls most funds the question arose whether any difference would exist between states ruled by the same party as the federal government and between other states in the field of rural drinking water and sanitation. Consequently one Congress, or 'identical' state, one 'hostile' state (Marxist) and one 'congenial' non-Congress state (Janata Party) were visited.

Next to the political instrument, the administrative instrument is of importance: The Indian Administrative Service (IAS) is a federal elite korps, and as such an instrument of the central government.
Related with this the Mission was studied in the light of **state-district relations**. The Panchayati Raj institutions are (supposed to be) elected bodies that exist at district, block and village level in rural areas. A state can considered to be more decentralized when regular Panchayati Raj elections are held, and when sufficient responsibilities together with resources are under their authority. Next to this the position of the District Collector (who was the 'king of the district' during the British colonial period) might be less in a decentralized state.
Based on these considerations four hypothesis were formulated:
- The Congress state is more centralized than the other two two states.
- Strong Panchayati Raj ensure a sustainable drinking water and sanitation. Thus sustainment would be worse in the Congress state.
- The Congress state depends more heavily on the central government than the the other two, especially 'the hostile' state.
- The Congress state will be more influenced by the Mission, and will get more federal funds for drinking water.
This was the third research question, which was more specified compared to the second question.
4 Fourth research question was whether contradictions, inconsistencies and conflicts influenced the contribution of the Mission to a sustainable rural drinking water and sanitation.
Relating with this was the sixth research question: Is the Mission suited to its' objectives?

III   Findings, conclusions

1 The objective of the Mission was not quite clear: Just 'improve' the situation, achieve 40 lpcd or give every village at least one source? In practic it was the last. It would have no task in sanitation According to the official statistics indeed 99 % of all villages is 'covered' in 1990. The Mission functions in a network structure. It (especially the Mission Director) has the task of the strategic management and hardly executes works itself directly. The operational management remains the responsibility and the competence of the states. Political commitment was and is relatively high at the federal level. But there the Mission has a lack of manpower and budgets. Especially sociological skills are needed. Consequently monitoring and control of the process is difficult, although a lot of attention is paid to it. Emphasis is on technical aspects, but 'software' is a new phase of the Mission. The personality of the Mission leader seems to have a huge positve influence on the commitment of the Mission members and other actors in the network. The Mission Director stresses the need for an integrated ecological and social approach. States are accused of being too centralized and bureaucratic.

2 No legislation does exist at this moment. Budgets have increased, but it was not found whether this is sufficient. A lack of manpower and ecological conditions seem to play a role as well. In general the maintenance of drinking water installations is bad, for example 30 % of all handpumps are out of order on average.
But without any doubt things are changing. Initiatives with regard to participation and monitoring (the two are related) are undertaken. However, coordination lacks and the projects differ a lot.

3 The Congress state appeared to be the only Congress state with a reasonable well developed Panchayati Raj. But compared to the other two states it was slightly more centralized in general terms. The position of the Collector appeared not to have much relation with the level of decentralization.
Strong Panchayati Raj do not ensure sustainment. The Congress state was the only state that undertook specified measures to maintain drinking water installations. The Janata state seemed to have the best conditions on the long term through an integrated ecological approach, but at this moment still problems exist.
It was indeed found the Congress government depended more heavily on the central government.
It could not be checked whether the Congress state gets relatively more funds for rural drinking water compared to the other two. The information was extremely difficult to compare because of the changing conditions in the states and the districts visited. Although the influence of the Mission seemed to be biggest in the Congress state, this had more to do with personal circumstances (the Mission Director was the previous Director of the Waterboard) than with being a Congress state.

4   To a large extent contradictions, inconsistencies and conflicts have influenced the contribution of the Mission negatively. Most important inconsistency is the fact India is a federal republic. A central agency functioning in a network structure can never be very influential in a state task. Other conflicts spring from interrelated political, administrative and social features. Especially when the objective of 40 lpcd on a sustainable base is taken as the objective of the Mission, than it should have been clear from the beginning that this would never be possible to achieve within two years. There is a lack of funds, people and power. The contradiction between the statistical success and the drought problems of a lot of villages during the summer is highly disturbing. This is not enough admitted by the federal government. Biggest influence of the organization of PHE in a state seems to be the ecological circumstances (not very surprisingly).
Consequently one could say the Mission is not suited to its' objectives. However, a lot of initiatives have been taken the last four years, and the Mission is responsible for a considerable part of those projects. The commitment of the Mission members is high, not in the least place caused by the stimulating personality of the Mission Director.
The Mission Director himself is the first one who stresses much more is needed, especially in the ecological and social field.

IV   Limitations and recommendations
-      Most important limitation is the impossibility to know what the situation would be if the Mission had not exist at all.
-      Furthermore it should be kept in mind that the Mission started only at the end of 1986. At the time of the research they were active for slightly more than two years.
-      Lack of time, especially in the states, combined with inexperience were the main reasons why the design formulated in January could only partially be realized. Information was incomplete and sometimes contradicting. This made it difficult to distinguish the contribution of the Mission from the activities in the states themselves.
-      The dependence on personal contacts, coincidences and practical circumstances made the information less reliable.
-      Moreover, the problem of too many dynamic variables made the analysis more complicated and made it more difficult to draw conclusions.
-      Finally the language problem should not be underestimated.

A next student should take more time for each question, and should limit the scope of the research. The operationalization of 'sustainment' should be more detailed.

Most important recommendation towards India is to combine and co-ordinate more thoroughly the different positive initiatives that have been taken the last four years all over the country. This could be a suited task for a federal agency like the National Drinking Water Mission. But before promoting co-ordination within the states it seems useful to improve the co-ordination at the federal level, especially between technical and social activities.

1 INTRODUCTION

1.1 BACKGROUND OF THIS STUDY

The research described in this report is the last phase of a study in Public Administration. By writing this report the writer hopes to acquire a Masters Degree in Public Administration of the Department of Public Administration at the Twente University.

The research was executed in close collaboration with the Technology and Development Group of the Twente University. This Group was formed in 1979 to introduce a development perspective into the technological and social subjects with which the University is involved, and to examine the problems of implementation of technology in developing countries. One of the activities is to supervise students of the University who want to complete their studies on a subject related to Third World development. The Group in such cases takes co-responsibility with the department concerned. The student is supposed to stay for four to six months in a developing country.

About two years ago a research project on Institutional Development was started by the Technology and Development Group. In this project students in Public Administration are writing their MA-thesis on (aspects of) Institutional Development in different developing countries. The project focusses on the sustainment of newly delivered services like energy, irrigation and drinking water. At this moment India, Indonesia and Tanzania have been visited by students.

This report is about drinking water in India. However, especially in the case of India it's virtually impossible to study in less than four months (the duration of each students' stay) all political and administrative levels in a certain area. Furthermore the nature of a research at the local level differs considerable from a research at higher administrative and political levels. For this reason a division was made between the different administrative levels in India: Federal, State, District, Block and Village. The present research focusses on the center-state and state-district relations. Relations between block and villages are discussed in the report of Marian van de Maten, who studied these relations in the state of Gujarat (1).

1.2 THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE 1981-1990.

In collaboration with the United Nations Development Programme (UNDP) the World Health Organization (WHO) has launched the "International Drinking Water Supply and Sanitation Decade 1981-1990" (IDWSSD). Ever since her foundation in 1947 the WHO has seen clean drinking water and an efficient discharge of waste and waste water as two of the most important instruments to achieve "Health for all in 2000", which is the ultimate goal of the WHO.

The problems connected with drinking water are very complex and much has been written about it. Safe drinking water has quantitative and qualitative aspects, both in the technical and in the socio-economical field. The link between health and drinking water becomes very clear from the fact that **80 % of all diseases in Third World countries are water related** (2). There is close relationship between **water, sanitation and health.** Clean drinking water and a proper use of it constitutes the most important instrument to improve people's health. Diseases often are caused by the use of ponds and open wells. Compared to hand-pumps and taps these so-called 'alternative sources' are not always safe since they are often used at the same time by people and by animals to drink, to wash and to dispose waste water. Other major problems are

- The **technical maintenance** of facilities. Low cost installations, made as much as possible with local material and local manpower (appropriate technology) are easier to maintain than high tech, costly installations. Spot sources are easier to maintain than long pipelines and shallow tubewells are easier to maintain than deep tubewells.
- A knowledge how to **use** drinking water properly after it is tapped. "Water is only as clean as the cupped hand of the person who drinks it" (3), or as the reservoir that stores it.
- The **social access** of all groups of the community to water sources. Linked to this is the problem of house-connections and the choice where to place community taps.
- The importance of **women**, who are the primary users of (drinking) water and the educators of the children. Unfortunately the influence of women on the decisions made with regard to water usually is very limited.
- The influence of **ecological factors** (erosion, agriculture and irrigation, drought and floods) on the amount and the quality of water.
- The existence of enough **money** and **skilled manpower.**

Key factors are **community participation and education, especially from women and political commitment.** Central issue is the fact that **clean drinking water and a proper use of it is the most important instrument to improve health** (4).

At the start of the International Decade 1.2 milliard people in the Third World had no access to safe drinking water. 85 % of those people lived in rural areas. 1.65 milliard people had no sanitary facilities. The objectives of the WHO were highly optimistic. During the next UN-meeting the words "if possible were added". By the end of the eighties most people involved were convinced that the objectives would not be attained (5).

In this research the policies of the Government of India during the Decade will be studied. Therefore the next section gives a short introduction, leading to the central problem.

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1.3 DRINKING WATER AND SANITATION IN INDIA

1.3.1 The Masterplan and the Seventh Five Year Plan 1985-1990

The Government of India supported 'the Decade', as the Seventh Five Year Plan 1985-1990 and the National Masterplan, published in 1983, show.

Goals of the Masterplan were as ambitious as those of the WHO, namely to provide at least 40 litre per capita per day (lpcd) of safe drinking water to the entire population. Furthermore, the majority of the urban population and 25 % of the rural population was to be provided with (low cost) sanitation (6). 40 lpcd seems a lot, but compared to for example the Dutch figure of 140 lpcd for drinking, sanitary and washing purposes it is not that much.

In the Seventh Five Year Plan the Masterplan was not mentioned, but the same objective was given. Priorities were:
- Drinking water before sanitation;
- rural drinking water before urban drinking water;
- to provide the oldest identified problem villages first with drinking water and the other problem villages next;
- when every village is provided with at least one source of water supply, facilities will have to be further expanded. This would mean perhaps enhancing the per capita norm from 40 lpcd to 70 lpcd (7).

A 'problem village' was defined as "having no source within one mile, having endemic diseases like cholera, guineaworm etc and/or an excess of salinity, iron, fluorides and other toxic elements in the water" (8).

1.3.2 The rural setting

Until 1985 the urban Ministry of Works and Housing was the nodal Ministry for urban and rural drinking water at the federal level. In 1985 still only 50 % (300 million) of the rural population officially had access to drinking water, and less than 1% some form of sanitation. Urban numbers were 81% and 33% (9). Assessments of the magnitude of the problem were unclear and based on outdated information.

Differences between villages and cities became more and more clear:
- Firstly, 80 % of the Indian population lives in the 550.000 villages scattered all over the country. This involves over 600 million people living in a huge area in very diverse conditions, from the Himalayas in the north, the rainy Kerala in the south, to the desert of Rajasthan in the west. They reside in quickly developing peri-urban regions or in extremely remote hamlets.
- Secondly, poverty in all its' aspects is more general in the rural areas: Malnutrition, illiteracy, unemployment and health problems are widespread. Needless to say how much difficulties it takes to get valid information from the villages.

The development of the rural areas has been a major task since Independence (1947), leading to several federal schemes. Since the seventies a growing intervention of the Central Government in the field of rural drinking water has taken place, although according to the Constitution "water", just like rural development, is a State subject.

according to the Constitution "water", just like rural development, is a State subject. Urban drinking water and sanitation has stayed under the responsibility of the Municipalities.

In 1986 a reorganization on "All India" level (the level of the federal Government of India) took place. Rural drinking water and sanitation was brought in the hierarchy of the Ministry of Agriculture, Department of Rural Development. Urban drinking water and sanitation became part of the new Department of Urban Development (10).

1.4   CENTRAL PROBLEM: THE NATIONAL DRINKING WATER MISSION

In spite of the shift in responsibilities decade progress was still not satisfying. So in August 1986 Rajiv Gandhi himself took the initiative to found "The Technology Mission on Drinking Water in Villages and related Water Management", after some time renamed as "National Drinking Water Mission" (NDWM). It was one of the six Technology Missions of the Government of India, all meant to speed up the development of India in certain problem areas, like immunization, literacy and telecommunication.

Objective was "To improve the performance and cost effectiveness of the on-going programmes in the field of rural drinking water supply so as to ensure the availability of an adequate quantity of drinking water of acceptable quality and to ensure sustained availability of such water on a long term basis"(11).

The National Drinking Water Mission is the subject of this report. After the above considerations the central problem was:

What kind of contribution has been given by the National Drinking Water Mission to rural drinking water and sanitation in India?

Immediately problems with regard to the operationalizaton rise:
- India is a federal republic. How can the contribution of the National Drinking Water Mission be measured separate from eventual contributions of the states themselves? What actions have been undertaken by the Mission, in which areas and with what result?
- Do the actions undertaken by the National Drinking Water Mission give any information about the sustainment of rural drinking water and sanitation in India? Certain indications to measure 'sustainment' must be formulated in order to allow predictions. These indications should focus on the situation in the states.

In Chapter 3 more specific questions will be formulated.

1.5   SET UP OF THE REPORT AND BROAD DESIGN OF RESEARCH

1.5.1   Main line of the research

In the next chapter a closer look will be taken towards the theoretical background of 'a sustainable improvement'.
Based on chapter 2 and on the first experiences in India, in chapter 3 the research questions will be formulated. Methodological problems and restrictions will be illuminated.

Chapter 4 contains a description of the National Drinking Water Mission, based on official Indian publications and interviews with members. Chapter 5 draws attention to information outside the National Drinking Water Mission. Amongst others information from field research in three states will be discussed.

Next to this the findings in chapter 4 and 5 are analyzed and placed into the general framework. Conclusions and recommendations will complete the report.

Throughout the report references will be made to the appendixes. Especially the chapters 4 and 5 will point very often to the interviews summarized in Appendix VIII. Although the report can be read independently from them, the appendixes will especially provide a layman with a more vivid picture.

1.5.2   Time schedule

The whole research is split up in three major phases:
1   Preparation in the Netherlands: Information was gathered concerning India, the theoretical background and drinking water in general. Broadly speaking the information of chapter 1, chapter 2 was gathered during this phase.
2   Fieldwork in India during four months in 1989:
    - January : Stay in New Delhi during which new information was gathered and the state visits were prepared.
    - February 1st - 25th : A study-tour with a group of students in Public Administration of the University Twente, which provided some background information for the research.
    - Until March 31st: Visits to West Bengal (the Capital Calcutta and the district Howrah), Gujarat (the cities Ahmedabad (Capital) and Gandhinagar (Government Seat) and the district Banaskantha) and Karnataka (the Capital Bangalore and the district Mysore).
    - Until April 21nd: Stay in New Delhi.
    Chapter 4 and 5 are based on information collected in India.
3   Studying of Indian literature and writing of MA-thesis, especially chapter 3, 6 and 7.
The first phase started in March 1988 and the last phase ended in February 1990. The total time consumption was a bit more than a year, since during the first and the third phase no full-time work on the research was undertaken.

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2 THEORETICAL BACKGROUND

2.1 INTRODUCTION

2.1.1 Set up of the chapter

This chapter deals with the theoretical background of Institutional Development (ID). Firstly a few definitions are given. Based on the literature some discussions took place in the research team (the students and the teacher involved in the project). Out of these discussions a general theoretical framework developed. In ID in fact three dimensions can be distinguished, mounting up in level of abstraction: The Organizational, the Contextual and the Conceptual Dimension. The three Dimensions in general, but especially the Conceptual Dimension, bear the influence of Schulte Nordholt. Next to him the influence of Samuel Paul is considerable.

2.1.2 Institutional Development: Definitions

Development projects often are not successful, especially not on the long term. More and more institutional factors are mentioned as being crucial for the sustainment of newly delivered services.

An institution is "a unity of norms, behavior and relations of (a group of) people that's able to exist over a longer period of time because it serves collective values and purposes" (12). An organization is "a collaboration of people following certain, previously defined rules and goals" (13). In contrast to an organization, institutions can exist without formal procedures. Thus we can distinguish:

- Organizations that are not institutionalized,
- institutions that are not organized
- and organized institutions.

A project is a special organization, defined here as a unity of activities executed by several specialized groups in a temporarily collaboration. It aims at clearly specified results to be achieved within a certain period and with certain resources (14).

With the introduction of relatively new services the institutions usually don't exist yet. This is happening often in developing countries. In order to sustain the services 'the institutions' in the receiving society should be 'developed' somehow. Although 'Institutional Development' is not a new orientation in development theories, a balanced theoretical framework has not yet been developed.

Arthuro Israel defines Institutional Development as "the process of improving the ability of institutions to make effective use of the human and financial resources" (15). He sees the development of institutions as one of the factors of a program. According to Samuel Paul ID is the process directed towards the consolidation and adaptation of the project organization so that her developmental activities make a congruent link with the needs and demands of the project environment in order to sustain the activities. The project organization is a temporarily undertaking, but the activities have to continue, to root in the society. Paul argues that the development (initiating and adaptation) of institutions in the society in order to ensure sustainment, is the essence of a development program (and not only 'one of the factors' as

Israel says). **We agree with him in this research. It is the responsibility of the strategic management, which Paul defines as "the interrelated set of top management interventions which create the framework within which operational decisions and actions are taken to accomplish the goals of a development programme"** (16). Due to the temporarily function, strategic management here differs considerably from the way it is understood in organizational theory.

Since especially a developing society is continuously changing, the institutions also constantly change. Consequently the management of the institutionalization of new programs is a dynamic process, requiring a constant "orchestration of all aspects of the program" (17). Although Samuel Paul does not use the term ID, his search for that orchestration, or "synergy" as he calls it, looks very much like ID as interpreted here.

According to Paul five important factors influence the performance of a program: Pre-conditions, Environment, Strategy, Structure and Processes. The strategic management has to identify these factors and subsequently has to try to bring them in tune with each other. Starting point should be an environmental analysis, because this is the least influential factor. Based on the contextual dimension (environment and pre-conditions) the objectives are (or should be) formulated. Next to this (and based on it) the strategy, structure and processes should be determined by the strategic management (18). The performance of a program does not depend solely on each of these factors independently. Only when a policy is internally consistent, when the factors are congruent and working in the same direction, they reinforce each other and "synergy" is created. When no "synergy" is created a policy not necessarily is a complete failure of course, but in such cases not all possibilities are used, which is at least inefficient. In worst cases factors can even undo each other.

The factors of Paul are shortly listed within the framework of ID as developed in this project (Organizational, Contextual and Conceptual Dimension). Based on the framework research questions are developed in chapter 3. Afterwards the level of sustainment and consequently the Institutional Development achieved by the National Drinking Water Mission will be studied.

2.2 ORGANIZATIONAL DIMENSION IN INSTITUTIONAL DEVELOPMENT

This involves objectives, strategies, structure and processes.

2.2.1 Objectives

Objectives usually are set by the government. To satisfy different interest groups governments tend to impose multiple and sometimes conflicting goals, which are seldom spelled out specifically. Goals can be economic or social, sectoral or integrated. The complexity of a program increases as one moves from single economic to multiple social goals. A well-known problem arises when the objectives set by government are not realistic. These are important handicaps for the strategic management of the implementing agency. Sometimes it will make the task even impossible.

Another question is who influences the government when she is formulating the goals. After formulating the goals they have to be implemented which is an "ongoing process of decision making involving a variety of actors" (19). Consequently the effect of a program can differ a lot from the original intentions. Different authors therefore stress the importance of well operationalized (quantified) goals which are easier to control (20).

This recommendation has advantages and dangers. Without any doubt it is extremely important to state goals clear and unambiguously, especially during the implementation. But there's a danger in quantifying software aspects, since it can lead to an excavation of the real goal of a program. Technical terms can overestimate or underestimate the situation (21). This might lead to only symbolic policy and ultimately undermine the legitimacy of the regime. Consequently two things can happen: No control at all is taking place or the outcome of a program is measured only partly, in a technical term (22).

The same problem rises when pilot projects are replicated. This requires much more money, skills and political support. But it can bring in new, political goals like nation building as well. A perfect pilot project thus can turn out to be less successful when (hastily) replicated on a large scale (23).

2.2.2 Strategy

The strategy is "the set of long-term choices about the operating goals, policies and action plans of a programme" (24). It must be based on the objectives and on the contextual dimension (section 2.3) of the program. The more specifically defined the objectives set by the government are, the less flexibility there will be for the strategic management. The more complex a program is, the more important the strategy is. Priorities must be made in such cases. Strategy starts with the choice of operational goals. Two inter- related dimensions are distinguished in strategy formulation:

- One strategy directed at the goals of a program: The Service-Beneficiary-Sequence Strategy (SBS). What (service), for whom (beneficiaries) and when (sequence over time of activities)? Here it is important to elaborate the concept of the service, in order not to minimize the service to a physical product.
- One strategy directed at the tasks and the environment of a program: The Demand-Supply-Resource Strategy (DSR). Here the demand of the beneficiaries, the task of delivering the service (supply) and a mobilization of resources is important.

2.2.3 Structure

According to Paul the structure is "the durable organizational arrangements by which a program accomplishes its tasks" (25).
Paul distinguishes functional, matrix and network structures.
Most developmental programs have a matrix structure due to their multi-disciplinary character. Unfortunately initiating ministries tend to place the leading agency in their functional hierarchy. But where several agencies must collaborate to achieve goals, and where the lead agency cannot exercise direct hierarchical control over the participators, a network structure is better. Sources of influence used to achieve collaboration in a network include

- joint planning and review of activities,
- control over budget (resource allocation) and
- common membership of committees (26).

An important aspect of structure is the concept of the degree of **decentralization** of a program, according to Paul: The delegation of powers and responsibilities to a lower level. Decentralization is especially needed when the beneficiaries of the programme have divers requirements, when speedy information is important, when vital information has to come from the beneficiaries and when responsible participation of field staff and beneficiaries is conducive to good performance. But unfortunately centralized structures tend to be imposed on programs. On the other hand decentralization is not always positive. For example, it can increase complexity of management control (27).

Close related to decentralization is the concept of the extent of **autonomy** enjoyed by the program organization. Ideally speaking the government only interferes with the strategic management (like budget fixing, evaluation and top-appointments) and not with operational decisions. Agencies organized as part of the ministry or department usually enjoy less autonomy (28). However, the formal autonomy might differ a lot from the effective autonomy, as will be illuminated in section 2.4.

Usually structure determines autonomy and (de)centralization.

2.2.4   Processes

Paul defines the processes as "the instruments by which managers influence the behavior of the employees and beneficiaries of a development program" (29). He distinguishes four aspects:
- The concept of **participation,** which is closely related with decentralization and autonomy. A program should enable participation consciously, if else it won't take place. Participation enlarges the knowledge and commitment of beneficiaries and thus the effects of a program, but it has an intrinsic positive value as well. It can take place during different phases: Preparation, implementation, the actual use of a service and its' maintenance. It should be based on the existing culture, even when these common practices seem time consuming (30). The role of Non Governmental Organizations (NGO's) is important here. NGO's are generally more familiar with local people and conditions and are more flexible.
- **Human resource development:** Important here is the autonomy of the management to choose their own staff and to train both staff and beneficiaries.
- **Monitoring and control:** Information is necessary during the implementation and maintenance phase. Without information no management is possible. The information asked for should be specified but easy to provide, goal-oriented and restricted to the necessary (31). Feedback must be given afterwards. A special case of monitoring is evaluation.
- **Motivation** of beneficiaries and staff. When economic incentives do not exist (as is often the case in social programs), other motivators have to be sought. Examples are status, wages and recognition, participation, autonomy and ideological commitment (politicize people). In other words: To what level competitive elements are taken up in the program? (32).

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Unfortunately public authorities tend to forget these things, because they are bureaucratic organized and thus more directed towards procedures than towards results, according to Paul. Civil servants believe in hierarchical authority and expect ordinary citizens to make mistakes. Especially countries with strong, traditional civil services find it difficult to decentralize. Specialists and scientists who have joined the bureaucracy strengthen this belief. This has especially negative consequences for participation.

Finally, the personal aspects of all work need to be mentioned. "Problems of coordination, although based on structural deficiencies are mainly perpetuated through rivalries between the persons involved" (33). Ultimately, individuals do the work and managers never can determine their subordinates and beneficiaries. This will be illuminated in section 2.4.

2.3   THE CONTEXTUAL DIMENSION IN INSTITUTIONAL DEVELOPMENT

A permanent interaction is taking place between the organiza-tional dimension and its' environment or context. An important part of the explanation of the success of the program can be found by examining to what level the contextual dimension is consciously taken into account. When a development program is not designed in relation to the contextual dimension, problems rise during the implementation, not to speak about the sustainment of the project activity (34). Here the formulation of Paul is used, who distinguishes 'pre-conditions' and 'environment'.

2.3.1   Pre-conditions

No matter how excellent the strategic management is, if the following conditions are not fulfilled prior to the program, success will have little chance:
-   **Political support** on different levels. The set-up of a program tells something about the political support: Does a program leader gets a lot of discretion, or is there a strong dichotomy between a detailed policy-determination and a pre-designed policy-implementation? The first shows more political support than the second.
-   The availability of sufficient **money and skilled manpower.** Although politically influenced, this is determined by the general economical and social situation of a country.
-   The **personality of the program leader** plays a huge role, apart from the strategic management as such. A good leader takes initiatives and intermediates between politics and environment on the one hand and program administration on the other hand.

2.3.2 A three dimensional exercise

Samuel Paul distinguishes in his already mentioned factor 'environment' **five strategic areas:**

1 The problem **diagnosis**, especially of the local situation. This is not necessarily identical with a national diagnosis. Mostly ecological and physical problems are mentioned here.
2 The identification of **beneficiaries**. Too often they are treated as one static, homogeneous group. The bigger the extent of change envisioned and the more decision-makers, the more different interests are affected and the more heterogeneous the beneficiaries are likely to be (35).
3 Seldom the question is put whether there is any **demand** at all for the program involved, and what is the magnitude. Sometimes there is no need at all, sometimes a demand is not manifested.
4 The question how to **supply** the service to the beneficiaries. This depends on natural factors and on the collaboration with other organizations like the roads and transport department.
5 Finally so-called **"key-persons"** play an important role. These people, who don't need to be official or even inofficial representatives of the beneficiaries, ought to be involved explicitly or implicitly with the program. This requires a sound understanding of the (local) situation.

Within the same factor 'environment' Paul also distinguishes **three dimensions** (apart from the overall dimensions in this report):

I   **Scope:** The size of a program usually tells something about the 'scope' of its environment (local, regional or national). An increasing scope often increases the complexity more than proportional. Scope is not only geographical determined: A regional project can have a nation-wide scope, for example in developing new rice species or replicating new technics all over the country.
II **Diversity:** The management must realize that the environment seldom is homogeneous. Often beneficiaries have very diverse demands. For example, they use a service for different purposes. Thus differentiated services towards the diverse groups are needed rather than one standardized service.
III **Uncertainty:** An environment is seldom stabile, which means a program has to be flexible. Continuing analyses in all five strategic areas need to take place.

Thirdly, the importance of studying the general institution and regime characteristics when doing research of a certain program is often stressed. **Four environmental segments** are distinguished by Paul: The political (a), the economical (b), the socio-cultural (c) and the technological (d) segment.
Other authors stress historical aspects, especially in former colonies (36).

Especially before pilot projects are replicated it is useful to study each segment in relation to the dimension and the strategic areas. But of course it is impossible to analyze 60 variables in a short research. In chapter 3 the viewpoints from which the environment will be studied in this research are formulated.

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Figure 1 Environmental analysis, a three dimensional exercise, according to Samuel
Paul.
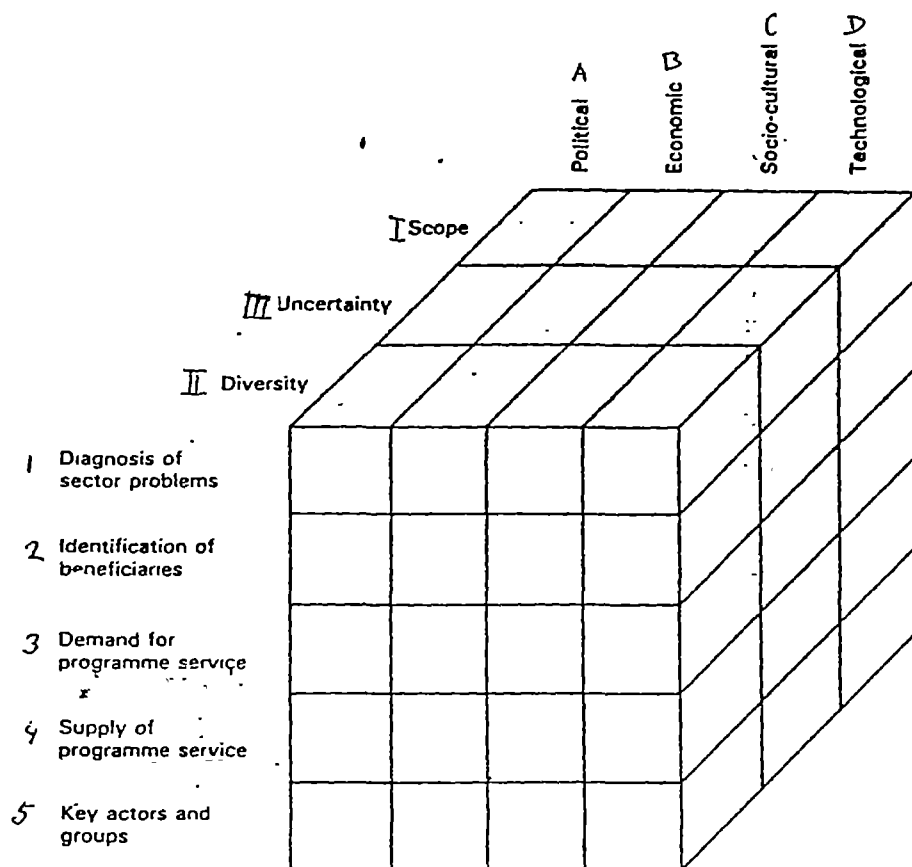
2.4 CONCEPTUAL DIMENSION IN INSTITUTIONAL DEVELOPMENT: CONTRADICTIONS, INCONSISTENCIES AND CONFLICTS

In reality contradictions, inconsistencies and conflicts may exist. Objectives, pre-conditions, strategy, structure, processes and environment may not be congruent. This may lead to a lack of sustainment of the new service.
In this research attention is given to the 'Conceptual Dimension' to explain why a lack of sustainment exists. The Conceptual Dimension contains the 'concepts', or the motives and agendas held by all actors (agencies and individuals) who one way or another have to do with the program. Because of these motives the reality can differ considerable from what is put in legislation and official publications (the norms). For example, official co-ordinative structures may not exist in reality, or persons might be much more powerful than one would expect looking at their function. Moreover, the longer a program takes, the more possibilities exist to deviate. Consequently the official objective (the norm) of the policy will not be materialized, leading to a **discrepancy between norm and reality.** This discrepancy illuminates the real power structure. The lesson to be learned is not to believe the official concepts cover the (whole) reality (37).

Inconsistencies and conflicts can exist in a number of ways:
- The general administrative and political concepts of a country may influence a specific policy. For example, if the structure of a program is not congruent with the structure of the state. Another example is nation building, which can be an overall goal of the government and play a role in all policies (38).
- Conflicting goals can be imposed by the government, without sufficient resources.
- At different levels different concepts can exist (especially in a federal republic). What seems irrational on macro-level, might be completely efficient and rational at micro level where specific groups and short-term goals dominate (39).
- The same concepts can be interpreted in different ways.
- The interpretation of a concept/law can change over time.
- Simultaneously a "modern" and a "traditional" language respectively used by the elite and by the masses, may exist (40). This is meant both cultural and purely linguistic.
- 'Hidden agendas' and motives can play a role. Wade has done interesting case studies in India about black extra earnings which make certain functions more or less attractive (41). According to him there is an internal transfer system with prices one has to pay in order to be transferred to a particular post. "Wet" posts (operation & maintenance, public works, irrigation, subsidies, licenses) are highly profitable and thus very expensive, in contrast to "dry" posts (research). "Revenues" are shared up to the highest hierarchic levels. The system is more thoroughly spread in centralized, vertical departments. Politicians play a crucial role in this market. Obviously the influence of this 'market' is huge. But in specific cases it is very difficult to prove anything.

3.1   INTRODUCTION

Already while stating the central problem in chapter 1, it was evident that operationalization would raise certain problems. From the previous chapter it is clear that the concepts of decentralization and participation play an enormous role in the sustainment of rural drinking water and sanitation. To what level the Mission and to what level the states are decentralized? In this chapter research questions will be developed with the aid of information found in the first month in India.
To operationalize 'decentralization', in section 3.2 the political segment of the Contextual Dimension of the Mission is illuminated. Next to this, and related to it, in section 3.3 the concept 'sustainment of rural drinking water and sanitation' is operationalized. This results in the research questions, as formulated in section 3.4. Subsequently the methodology used to get the information is explained (section 3.5) and the reason why three different groups of respondents are distinguished: Members of the Mission, state civil servants and 'independents'. In section 3.6 the limitations and the explorative nature of the research are illuminated.

3.2   OPERATIONALIZATION OF THE CONCEPT OF DECENTRALIZATION

In accordance with Paul and other literature found in New Delhi (42) the **degree of decentralization** became an important criterion for the sustainment of rural drinking water and sanitation: The conditions mentioned by Samuel Paul are fulfilled: Speedy information is important, vital information has to come from the beneficiaries and a responsive participation of field staff and beneficiaries is conducive to good performance.

As a federal republic India by nature has a decentralized structure. But a balance between the power of the centre and the states has to be found. Therefore a study of the contribution of the National Drinking Water Mission has to be studied in the light of the **centre-state relations.**

In these relations a very important role is played by the **Congress Party,** the party who brought India to Independence. The Congress Party still was ruling at the federal level at the time of this research. But since the end of the sixties the number of non-Congress governments in states is increasing. Often tensions are said to exist between the Congress government at the federal level and non-Congress states. These tensions are caused by the strong powers of the Union, which even have been enormously increased by the Congress Party with its centralized structure dominated by the Gandhi-dynasty (43). Goyal makes a division between 'identical' (Congress), 'congenial' (non-Congress, but more or less the same political direction) and 'hostile' (like marxist) States (44). Identical states are said to get more central funds, have a weak chief minister (and government) and depend heavily on the federal government. (Chief Ministers of) congenial states are said to have an ambivalent, inconsequent

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attitude towards the (Congress) Union: They want to show they're not like the Congress Party, while as regards content and nature they don't differ very much from it. Consequently they are weak. Chief ministers of hostile states behave according their name: Opposed the Congress Party because it is the Congress Party.

Another important aspect of centre-state relations is the role of the **Indian Administrative Service**. The IAS is one of the most important instruments of the federal government to maintain and control the unity of India. It is a centrally recruited and trained elite corps of about 5000 people, who possess all top functions in the centre as well as in the states. The IAS dates from the colonial period. The British Raj was based upon the Indian Civil Service (ICS), of which the District Collectors were the kingpin. They were responsible for revenue, law & order and magistrature in their district. After 1947 the name ICS changed into IAS. But "an integrated, well-knit all-India service to manage important and crucial sectors of administration throughout the country was a 'legacy' of the post and the framers of the Constitution accepted it" (45). The function of the Collector changed considerably: Development now became the main task. Schemes had to be executed in collaboration with a growing number of specialized district officials. In 1959 the Panchayati Raj were introduced. They brought a three-tier system in each district to implement the Five Year Plans and to bring grassroot democracy. Consequently the power of the Collector diminished, although he still is the official representative of the district to the central and state government.

Next to this (and influenced by it) a state is more or less decentralized. The Mission has to be studied as well in the light of the **state-district relations**. At district level exist:
- The District Collector, who is an instrument of the Union.
- The political bodies of the Panchayati Raj, who are supposed to be the elected representatives of the people.
- The district officials, who are in the hierarchical lines of the state departments or under the Zilla Parishad (district tier of Panchayati Raj).

A state can considered to be more decentralized when regular Panchayati Raj elections are held, and when sufficient responsibilities together with resources are under their authority. Indications of this last are funds and state district officials who are placed under the Panchayati Raj. This would enable the Panchayati Raj to ensure the sustainment of services like drinking water and sanitation. Would a stronger Panchayati Raj make the position of the Collector weaker? Since Congress is said to be a centralized party, the question rises whether this would influence the degree of decentralization in a Congress state. Would a centralized state have a negative consequence on the sustainment of drinking water and sanitation?

3.3   OPERATIONALIZATION OF 'SUSTAINMENT'

In three (sets of) questions sustainment for rural drinking water and sanitation is operationalized.

1   **Pre-conditions:**
-    Is political support expressed in legislation with regard to water?
-    Is political support translated into budgets? This is specified as the amount of money allocated; whether the budget has increased more than proportionally since the Mission started; whether it sufficient.
-    Is sufficient skilled manpower and information available in the states?
2   Is the concept of **participation** translated in the organizational structure? This is specified through asking whether 'the' population participates in all phases of the process.
3   Has a clear, unambiguous **monitoring** system been set up with regard to implementation and maintenance? This is specified in asking what system is used, whether evaluations are held and with what speed reparations are (not) made.

The contribution of the Mission to rural drinking water and sanitation would be sustainable if the states continue these activities when the Mission doesn't exist anymore. However, as stated already in the first chapter and as will be clarified in section 3.4 and 3.5, it is very difficult to find out the exact contribution of the Mission to these activities.

3.4   RESEARCH QUESTIONS

Central problem was:

What kind of contribution has been given by the National Drinking Water Mission to rural drinking water and sanitation in India?

The following research questions were formulated:

Organizational Dimension of the National Drinking Water Mission
1a   What were the objectives and strategies of the Mission?
1b   What were the strategies and processes of the Mission?
1c   What were the federal pre-conditions of the Mission?
1d   Have the pre-conditions changed at federal level?
1e   Have the objectives and strategies changed?
1f   To what level the objectives have been achieved according to the Mission?
1g   Have the structures and processes changed?
1h   Do contradictions, inconsistencies and conflicts exist within the Mission?
Chapter 4 will deal with these questions in a description from the viewpoint of the Mission. Only sources of information from the Mission are used. The efforts of the Mission to achieve sustainment will be illuminated as well in this chapter.

Contextual Dimension of the National Drinking Water Mission

2 To what level a sustainable base for rural drinking water and sanitation is existing in the states?
   a Pre-conditions:
      - Is political support expressed in legislation with regard to water
      - Is political support translated into budgets? (How much, increased more than proportionally since the Mission started, sufficient)
      - Is sufficient skilled manpower and information available in the states (e.g. to drill and to find sources)?
   b Is the concept of participation translated in the organizational structure? (Does the population participates in all phases of the process?)
   c Has a clear, unambiguous monitoring system been set up with regard to implementation and maintenance? (system used, are evaluations held, speed of reparations).

3 What is the influence of the political color of the ruling government in a state? Expectations in mind were:
   a The Congress state is more centralized than the non-Congress states in the sense that it will have weaker Panchayati Raj. It is expected as well that the District Collector will have a stronger position in Congress states.
   b Strong Panchayati Raj ensure a sustainable drinking water and sanitation. Thus the sustainment in the Congress state is expected to be worse.
   c The Congress state will in its policies depend heavily on and have a closer relationship with the central government. The congenial state will be more independent, and the hostile state will have the most independent attitude.
   d The Congress state will be more influenced by the Mission and get more funds with regard to drinking water. The congenial state will get less funds, and the hostile state the least.

These questions will be illuminated in chapter 5.

Conceptual Dimension

4 To what extent have contradictions, inconsistencies and conflicts influenced the contribution of the National Drinking Water Mission to a sustainable rural drinking water and sanitation?

5 Is the Mission suited to its' objectives?

Chapter 6 will contain an analysis.

3.5   METHODOLOGY

3.5.1   Choice of locations

In January and April location was at the Indian Institute of Public Administration (IIPA) in New Delhi. It became apparent very soon that reliable information only could be found in the States themselves. Starting point was to find a Congress, a Marxist and another non-Congress state. State visits took place between February 23rd and April 21st.

The Marxist West-Bengal was chosen, since the excursion of the students would end in Calcutta around the 25th of February. Furthermore introductions were made in the office of the National Drinking Water Mission in New Delhi with the Secretary of an important West Bengal women-NGO. As a Congress state Gujarat was chosen, because another student of the project was located there, so things would be more easy to organize. Another reason were the close contacts of the Mission Director with the Gujarat Water Supply and Sewerage Board. Thirdly the southern Karnataka, ruled by the Janata Party, was chosen as a congenial state. Main reason was the possibility to stay part of the time with a Dutch developmental worker, whose insight and home could help.

An important step in studying the contribution of the Mission to rural drinking water and sanitation, is to compare areas where the Mission directly is active to areas where this isn't the case. Consequently in each state a so-called 'Mini-Mission District' and a non-Mini-Mission District were planned to be visited.

3.5.2 Methods and technics of information acquisition

The first way to gather information was through **literature** study in the Netherlands and in India itself: Books, magazines and newspapers, brochures of political parties, reports. The results of the literature study are mostly represented in chapter 1 and 2. Official Government publications are also used in chapter 4.

The second way was through **oral interviews** with three groups of respondents. They differed a lot in length and quality.
1   Members of the National Drinking Water Mission.
2   Inside state governments engineers and secretaries were to be interviewed, at state and district level. Furthermore, the collaboration between the drinking water department and other departments, especially Health, Rural Development, Irrigation and Finance was to be studied.
3   Outside state governments information was to be gathered from journalists, researchers, non-governmental and voluntary organizations. Since women are the primarily users of water, women-NGO's would have to be visited in each state. It was expected that these 'independents' would have a more independent, critical outlook than the other two groups.
The respondents formed a very diverse group and since they were encouraged to speak freely, no fixed questionnaire was used. Of course it depended on the amount of time, position and knowledge of the respondent whether the questions were answered.
The interested reader is referred to Appendix V   . for the lists of respondents.

Regularly references will furthermore be made to Appendix IV, which contains a general essay of Public Administration in India. This report does not contain the empirical material of Appendix VIII. However, Appendix VIII is available with the researcher (write to Twente University), for those interested.

The third way of information acquisition was through **(participating) observation** of people, offices, hand-pumps etcetera. This lasted for 24 hours a day. What was the atmosphere in an office (hectic, sleepy, poor, rich, formal or informal)? How looked the water installations in a village? Small remarks and even the shrugging of

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shoulders can throw new light on a matter. But the invitation to drink a cup of tea with a strange woman also gives an opportunity to watch the way she is dealing with water.

Observation especially might be of help to find out the conceptual dimension. Usually the points of view expressed by respondents give the official norms. Only after some time, when a kind of relationship is build up between the researcher and the respondent more in depth views and background information are expressed, which might illuminate eventual contradictions, conflicts and inconsistencies. Since this possibility not always exists, the researcher often had to 'read between the lines' and closely observe things (46).

Information found with the Mission is used to describe its' Organizational Dimension in chapter 4. Information found outside the Mission gets attention in chapter 5 (Contextual Dimension). This way eventual contradictions, inconsistencies and conflicts will become more clear (chapter 6).

3.6   LIMITATIONS OF THIS RESEARCH

3.6.1   Limitations and circumstances

1   Most important limitation is the impossibility to know what the situation would be if the Mission had not exist at all.

2   Furthermore it should be kept in mind that the Mission started only at the end of 1986. At the time of the research they were active for slightly more than two years. It is therefore difficult to trace their contribution.

3   Lack of time, especially in the states, combined with inexperience were the main reasons why the design formulated in January could only partially be realized. Information not always was available and sometimes contradicting.
Therefore it was not always possible to check the received information. Usually only one visit could be paid, so it was hardly possible to build up a relationship with respondents. It was not possible to visit a Mini-Mission District because they were mostly in remote areas. Only one district per state was visited to get at least an idea of the district level (Howrah in West Bengal, Banaskantha in Gujarat and Mysore in Karnataka). Consequently information could only be gathered more indirectly. This made it difficult to distinguish the contribution of the Mission from the activities in the states themselves.

4   The dependence on personal contacts, coincidences and practical circumstances made the information less reliable. For example: Letters of the Mission itself were sent to state drinking water agencies. This impeded straightforward and honest answers. Knowing the researcher would go back to the Mission Director, no one was eager to make any critical comments. The researcher was depending on information from the central agency in New Delhi, and on the opinions expressed by other people outside the state government. The way the specific states were chosen is another example.

5   Moreover, the problem of **too many dynamic variables** made the analysis more complicated and made it more difficult to draw conclusions. Not all respondents could be interviewed, which made the answers even more dissimilar and comparison more and more complicated. For example: Only one women-NGO could be visited, and relations between departments at whatever level could hardly be studied. Getting an insight in the political situation in each state took much more time than expected.

6   Finally the **language problem** should not be underestimated. English is neither the mother tongue of the researcher nor of the respondents. On lower levels less people speak english.

3.6.2   Nature of the research

Consequently the research is of an **explorative nature** (47):
-   As much and as rich material as possible was collected, in order not to lose interesting information. The information is more of a qualitative than of a quantitative nature.
-   A description is attempted to be given in terms of the theoretical framework.
-   Conclusions with regard to the contribution of the Mission to sustainable rural drinking water and sanitation will be of a tentative, predictive kind.
-   This research is a learning undertaking by an unexperienced student. It will result in a new, improved research design in section 7.4. What has been learned? What would have to be the questions and the set-up of a new research?

4 ORGANIZATIONAL DIMENSION IN INSTITUTIONAL DEVELOPMENT OF THE NATIONAL DRINKING WATER MISSION

4.1 INTRODUCTION

Research questions to be answered in this chapter are:
1a What were the objectives and strategies of the Mission?
1b What were the structure and processes of the Mission?
1c What were the pre-conditions of the Mission at federal level?
1d Have the pre-conditions changed at federal level?
1e Have the objectives and strategies changed?
1f To what level the objectives have been achieved according to the Mission?
1g Have the structures and processes changed?
1h Do contradictions, inconsistencies and conflicts exist within the Mission?
In section 4.2 the situation in 1986 is described (1a-1c). Section 4.3 describes the situation found in 1989 (1d-1g). For a better understanding section 4.3 deals with pre-conditions first. This chapter only deals with the outlook of the National Drinking Water Mission, especially in question 1f and 1h. Question 1h serves as a preliminary conclusion. Through the chapter attempts of the Mission to fulfill the indicators for sustainment are mentioned, especially in questions 1c, 1d, 1f-1h. After a state- ment the number of the interview where the information comes from is stated between brackets, like 1.1, 3.4 or 3.8.

4.2 ORGANIZATIONAL DIMENSION AND PRE-CONDITIONS IN 1986

4.2.1 What were objectives and strategies of the Mission?

According to the 'Project Document', the basic document, Mission's objective was to improve the ongoing programs (section 1.4). In other publications at the beginning of 1987 this was specified as to cover 227.000 residual problem villages in 1990 (48). This again was defined as to provide the entire rural population with 40 lpcd and even 70 lpcd in desert areas, in accordance with the VII Five Year Plan 1985-1990 and the 'Decade'. The Mission had no task in rural sanitation. Income generating elements also had a part (49).
Strategy was based on a scientific, low cost multi-discipline approach in source finding, development of traditional sources (rainwater harvesting, ponds, open wells) and design of material. In 50 Mini-Mission Districts specific, representative problems would be fought. The solutions found here would have to be easily replicable and would simultaneously be applied to the rest of the problem villages in India. Also ecological aspects and community participation were mentioned. But all normal programs would con tinue outside the Mission. The project would last 15 to 30 years.

4.2.2 What were structure and processes of the Mission?

To formalize the concept of drinking water being part of Rural Development, the Mission was brought in the hierarchy of the **Department of Rural Development** as the nodal agency in an extensive **network structure**. This involved responsible and related departments at all administrative levels and Research Institutes (App. VIII). The Mission was to function with the voluntary collaboration of all agencies. The **Mission Director** has the rank of **Joint Secretary**, a senior IAS-function.

An **Empowered Committee** with the Secretaries of the Departments of Rural Development, Expenditure, Water Resources, Environment and Forest, Science and Technology and a member of the Prime Minister's Office, was formed to guide the Mission at federal level and met every two months. Four **Technology Advisory Groups** (TAGs) would assist the Empowered Committee technically. Each TAG would consist of Mission-members and scientists (five persons). The states and the NGO's had a small role in these TAGs.

```
Government of India                          level of Chief
        |                                    Secretary
        |
Ministry of Agriculture                      Secretary-level
        |
Department of Rural Development              Secretary-level
        |
CAPART——————————————|
    |_____|_____|_____|
Integrated  Monitoring  Land      Mission    level of Joint
Rural                   Reforms   Director    Secretary
Development                          |

Technology          2                          level of Deputy
Advisory  —         |                          Secretary
Groups              |
                    2                          level of Under
                    |                          Secretary
            10 Advisors ————————|
Scientific  _  4 Consultants ——————|          Specialists
Institutions   Administrative Servants ——|

    State Public Health Engineering
    Department or Waterboard
            |
    |———————|————————|
Concerned      Voluntary
Departments    Agencies

    District Project Coordination Committee, Collector
            |
    Superintending Engineer
```

The states were supposed to provide the necessary infrastructure for smooth implementation. Relations were to be maintained through the State Secretary Rural Water Supply and a State Advisory Body with Rural Development authorities. In each Mini-Mission District a Superintending Engineer was responsible for implementation. He was to report monthly to the District Collector (head of the District Project Coordination Committee, which again was to collaborate closely with the District Rural Development Agency), the state level and the Mission Director.

The Panchayati Raj had no fixed place in this structure. The Council for Advancement of People's Action & Rural Technology (CAPART) was appointed as the national coordinating agency to identify capable, professional grass root voluntary organizations (50). Rural drinking water is one of their fields of interest. In every Mini-Mission District one NGO would be selected. CAPART is of Secretarial level in the same Department as the Mission.

4.2.3 What were the federal pre-conditions of the Mission?

I   Political Commitment
August 1986 the "Technology Mission on Drinking Water in Villages and Related Water Management" was launched by a Cabinet Decision of the Government of India. Apart from the Project Document no legislation exists. State ministers, secretaries and chief engineers accepted all decisions (51). The strategic management has a relatively high degree of freedom, indicating a high political commitment (although this freedom is necessitated by the scientific activities). States and the Union Government are committed to rural drinking water. The Prime Minister is said to be a big supporter of all Technology Missions (1.1).

II   Resources
Manpower: Most advisors of the Mission came from the Department of Urban Development and are Public Health Engineering (PHE)-specialists. No other information about 1986 was found.

Financial: Initially only rs. 150 crores (one crore is 10 million rupees, one rupee is fl 0.14) was available for Mission activi-ties. It would be equally divided over the federal scheme for rural drinking water and a central general income and employment creating program which was to finance works on harvesting and construction of ponds. Total central funds proposed for rural drinking water and sanitation in the VII Five Year Plan (1985 - 1990) were rs. 1282 crores. This is about 3 % of the total plan outlay (2.24). Only rs. 9 crores was to be spent on rural sanitation. The states planned to spend rs. 2350.00 crores.

III   Leadership
As stated in Chapter 1, six Technology Missions exist, who are coordinated by one overall leader. He came back from the United States on the request of his friend, the Prime Minister.

The leader of the National Drinking Water Mission (the Mission Director) is a geologist who has about fifteen years experience at high level posts in the field of drinking water. No structural link exists between the overall leader and the Mission Director.

4.3 ORGANIZATIONAL DIMENSION AND PRE-CONDITIONS IN 1989

4.3.1 Have the pre-conditions changed at federal level?

I   Political Commitment 1989

Political commitment at federal level is still said to be big. But in the states political support is said to be less, which has to do with "a lack of will to decentralize powers really" (1.1, 1.5 and 1.8). No comment was given on the question whether any difference exists between Congress and non-Congress states (1.5).

II   Resources 1989

Manpower: The workload is (too) heavy amongst the members of the Mission. Especially the Advisors run from meeting to meeting. The total number of people working in New Delhi for the Mission is about 50. Next to quantitative needs, geo-hydrological and sociological skills are still needed (1.1, 1.7).

Finances: At this moment the Mission has come to be fully in charge of all central drinking water funds, although the direct expenses on Technology Mission activities are still small. No official documents about this policy change was found. Compared to the initial Plan outlay since 1985 every year more central and more state funds were budgeted on rural drinking water supply. With the exception of the employment creating program on which only rs. 7 crores were spent the actual expenditures of the centre were according the higher outlays, while State expenditures were slightly less than provisioned.

Total (state and central) funds the Mission required for 1988-89 are very big: Rs. 1430 crores. Only rs. 980 crores were mobilized in October 1988, resulting in a **resources gap** of rs. 450 crores. Central budget for 88-89 is 410 crores ("but we wanted 550", 1.5). The lack of finances was given as a reason that coverage in 1988 was still far from the target (1.1). But at the same time the Mission Director expresses that "finance is not a real constraint. The central point is to work more efficiently through community participation and decentralization" (1.1).

III   Leadership 1989

Thanks to the privileged position of the overall leader the Technology Missions always had a solid base. Now Congress has lost the general elections, this probably has negative consequences for his position (52). It was observed the Mission Director is the driving force of the Mission who 'arranges everything'. He has some contacts with the Prime Minister (which is very special for an 'ordinary Joint Secretary'), but neither his position, nor that of the National Drinking Water Mission is in danger according to himself because of the changing political situation.

4.3.2 Have the objectives and strategies changed?

The activities of the Mission have spread all over India.
Priorities changed from making model-districts to giving at least one source to every village. As a symbol the name changed into 'National Drinking Water Mission' (1.6). As planned 55 Mini-mission districts exist, spread over all States. Five Submissions were launched in 1987 to fight fluorosis, brackishness, iron and guineaworm and to develop scientific source finding. They work mainly in the Mini-Mission Districts where problems are worst. 5000 iron removal plants, 250 desalinization plants and 130

defluorisation pants have been installed in 1989, mostly in Mini-Mission districts. These are high tech, costly plants "but unfortunately there are no cheaper ways" (1.5). No information about the level of service of each plant was found with the Mission. Successes of the Submission on Source Finding are twofold. Firstly the failure rate in drilling has diminished from 60% to 5% all over India according to the Mission Director. However, one Advisor spoke of a decrease from 60 to 20%. Secondly in December 1988 the National Rainwater Harvesting Committee started. This was the first official recognition of the growing awareness of the need to recharge precipitation. Mainly in Rajasthan projects are taken up.

4.3.3   Objectives achieved according to the Mission?

According to official publications an almost complete coverage is achieved. Less than 1% of the villages will spill over to the Eighth Five Year Plan (1990-1995). Mission members therefore are very optimistic.
But "there's a fight going on about the definitions of a problem village" (1.7). Most Mission members say a 100 % coverage means every village has at least has one source of safe drinking water (1.1, 1.2, 1.6). The present-day average lpcd was not known, but most non-problem villages are said to have "two sources" (modern or alternative) (1.7). Measures are undertaken to purify ponds (1.8), but no information was found of the number of people depending on alternative sources. The question how much lpcd 'one safe source' in a village gives in average was not answered. Probably it is less than 40 lpcd since villages can be very spread out with different habitations (1.5); the number of inhabitants varies a lot; problem villages inside and outside so-called Mini-Mission Districts vary (1.7); in the south caste-differences are bigger, so more sources are needed (1.7).

In the irregular appearing publications of the Mission priority lists about methodology, objectives and policy needs are stated. The need for a legislation of drinking water and related ecological areas like the use of groundwater is stated over and over again, just like flexibility for Mission Management and monitoring and control. The need for an interdisciplinary approach of both software (maintenance, awareness, women, health) and hardware (technics and skills) is emphasized as well. States are advised to prepare Masterplans and legislation for water usage. But this "might take another two years. We can only wait" (1.1). It is felt the states cannot cope with the wishes of the Mission (1.1, 1.8). Positive is the National Water Policy, which reserves 10% in all irrigation projects for drinking water and which, just like the Mission, emphasizes rain water structures. "But this is difficult to control" (1.1). The Mission Director is convinced the 'Decade' has to continue and argues too much attention has been given to urban technics and areas (1.1, note 53).

4.3.4 Have the structure and processes changed?

No information was gathered about the Empowered Committee, the TAG nor about Mini-Mission Districts. It seems no changes in the network structure have taken place.

I   Participation of community

Community participation is "a new phase in the work of the Mission" (1.5). Already in the Project Document emphasis was laid on the interests of Scheduled Castes and Scheduled Tribes (SC/ST). But states themselves are responsible for implementation and maintenance and can choose their own organizational structure.

Since January 1989 the before vacant post of sociologist is filled. The sociologist and a deputy secretary are supposed to coordinate Mission activities with CAPART, who on its' turn is to channelize the mass awareness campaigns. According to the sociologist any real involvement of an NGO is a coincidence in Mini-Mission Districts (1.7). Advisors of the Mission have no contact with CAPART (1.8). As one said: "Since you're interested in public administration I won't be able to tell you anything. We are only dealing with technical aspects". Coordination between CAPART and the Mission is said to be not necessary anymore, since CAPART is allowed to subsidize all NGO's inside and outside Mini-Mission Districts (1.5). Consequently no information about the involvement of NGO's was found with the Mission. The sociologist however blamed the lack of coordination between CAPART and the Mission, as well as the absence of coordination within CAPART.

II   Human resource development

Much related with the above is the development of human resources. All Mission Members (both advisors and secretaries) except the sociologist have a technical background. No special training is given to members, although all advisors have followed a year specialization in PHE (1.2, 1.8). Selection of advisors never took place, since all of them came from the Ministry of Urban Development in 1986. They have been working most of their career in the federal Government. Since the start of the Mission hardly any transfers have taken place.

Congresses and seminars are held all over India to spread information about technical and social matters. CAPART has made videos since 1986 to educate both state officials and beneficiaries.

Community participation, human resource development and the maintenance of hand-pumps are narrowly related. An example of this is the community based one-tier system of 'Hand Pump Mistries' (HPM), introduced by CAPART in Rajasthan. A HPM is a semi-literate rural youth, preferably from a low caste and previously unemployed. After three months training in technical and health aspects (on the spot as well as in a training centre) he looks after about 40 hand-pumps in different villages. He gets a salary from the block administration and can be send away by the community if he doesn't do his job well. He only calls the district engineering unit in case of major reparations. The Mission Director was enthusiastic about this system. However, replication is difficult, especially because of unwillingness of departments to give 'their' funds to the block level (1.1).

III   Monitoring and control

It is difficult and costly to control whether installations actually are built by state agencies or contractors, whether they are maintained and whether participation takes place. Still the Mission pays a lot of attention to monitoring (1.6).

Ways used to **control the speed of implementation (coverage)** are:
-   The allocation of budgets. Since a few years all funds work with so-called 'matching grants': States have to spend at least the same amount as the central government is giving. If else, the next year their funds can be cut.
-   A computerized Management Information System, which is almost finalized according to the Mission Director. "Half of the districts and all implementing agencies have computers" (1.1).
-   Through visits of the advisors to the states. Except the sociologist (1.7) advisors did not visit unannounced villages. Different answers are given about the frequency of contacts with state officials (1.6, 1.8): Monthly or quarterly.

Control of **operation & maintenance (O & M)** is (even more) difficult. States are obliged to spend 10 % of all drinking water funds on O & M (54). But according to the Mission they prefer to spend money on pipelines and big schemes, while the Mission prefers spot sources (cheaper and easier to maintain) (1.1). According to the Mission O & M problems exist on a wide scale and are caused by the lack of people participation, centralized structures, lack of money and the general preference of implementing agencies to carry out new works to achieve the targets set instead of maintain the existing systems (1.1).

Until now **no evaluation research** is done according to the Mission. But by coincidence it was found that an independent research team in charge of one of the Institutes the Mission is collaborating with, is evaluating a submissions. This was not known by the Mission (2.2 and chapter 5).

IV   Motivation

Mission publications contain lists of states that have to speed up their activities, to ensure competition between communities. As already stated, state autonomy is considerable. According to the Mission the fact that the Government of India for the first time really pays attention to them, cannot be underestimated. The high objectives set by the Government of India seem to have a positive impact on the Mission members, who are working very hard. But the most important force to motivate all actors seems to be the Mission Director. His authority is the driving force.

4.4   CONCLUSION

Do contradictions, inconsistencies and conflicts exist within the Mission?

Positive points:
The Mission is very positive about its' success: Almost all villages have at least one source of water in 1990. This indeed would be a success, even apart from the question whether this is also 40 lpcd. A lot of work is (being) done in different areas.
The atmosphere is hectic and positive. The power of the Mission has undoubted increased since the start, especially in the financial way, indicating political

commitment at the federal level. Emphasis is on technics, but the importance of 'software' is growing.

Negative points:
- The objective of **40 lpcd** is definitely not achieved. But this is not admitted officially. Objectives have changed from level of service to coverage. It is not clear what 'at least one source' means between Mission members.
- At the federal level a **resource gap** exists. There is a lack of money and of manpower (both qualitative and quantitative).
- It seems the emphasis on **software is more 'lipservice' expressed mainly by the Mission Director** than actually practicized. The good leadership has a negative side: What will happen if the Mission Director would leave? Not all of his workers seem to be as broadminded and as vigorously as he is. Some advisors focus at technical projects in Mini-Mission Districts. An example is the comment of one advisor on the Management Information System (MIS): "We've provided everybody with computers, so I don't see why any problems would exist any longer". Consultants seem to have not much influence (1.4, 1.7). The sociologist feels frustrated. Other examples:
    * The lack of coordination between the Mission and CAPART. One Mission member even calls the director of CAPART "a lousy fellow" (1.3). Another example: Hierarchically CAPART is above the Mission. But when two Mission-members represented India abroad, in the organization scheme CAPART suddenly appeared under the Mission Director (55).
    * The projects with Hand-pump Mystries in Rajasthan emphasizes employment for rural youths and neglects the important role of women. A (married) woman will never be a HPM, because women don't have that freedom. And a young man will never have access to women in a village. But precisely women have to be educated and have to call the HPM when a reparation is needed, as the Mission and CAPART stress at other occasions.
    * How many rural people would be reached by a video?
- With regard to **monitoring and control** there seems to be a **contradiction:** The Mission must strife for a sustained drinking water supply. But the states are free to choose their organization and technics, O & M is their own authority. This makes a good federal monitoring system difficult to achieve.
No information about the (average) present level of service could be given. No information was found about the MIS. The number of people working at the federal level is too small.
Consequently it is difficult for the Mission to know whether there is just a delay in monitoring (and why) or whether the money was not spent at all. A powerful instrument is the withdrawal of budgets. But in practice the Mission shrinks from using it because it might harm centre-state relations (1.5). Besides financial sanctions can punish a state wrongly: In Karnataka the decentralization process caused a monitoring delay. Subsequently central funds were cut, so the state was punished for its' good initiative (next chapter).

5 CONTEXTUAL DIMENSION IN INSTITUTIONAL DEVELOPMENT OF THE NATIONAL DRINKING WATER MISSION

5.1 INTRODUCTION

This chapter illuminates the **Contextual Dimension of the National Drinking Water Mission: The situation in the states.** Chapter 4 already discussed the federal pre-conditions of the Mission.

Section 5.2 deals with question 2:
To what level a sustainable base for rural drinking water and sanitation is existing in the states?
a   Pre-conditions:
    I   Is political support expressed in legislation for water?
    II Is political support translated into budgets?
    III Is sufficient skilled manpower and information available?
b   Is the concept of participation translated in the organizational structure?
c   Has a clear, unambiguous monitoring system been set up for implementation and maintenance? (system, evaluations, speed).
Here information found about the situation in the states and the efforts of the Mission to fulfill the conditions for sustainment are described.

Section 5.3 deals with question 3:
What is the influence of the political color of the ruling government in a state?
The hypotheses developed in chapter 3 are shortly repeated:
a   The Congress state is more centralized than the non-Congress states and the position of the District Collector is stronger.
b   Strong Panchayati Raj ensure a sustainable rural drinking water and sanitation. Thus sustainment in the Congress state is worse.
c   The Congress state will depend heavily on and have a closer relationship with the central government. The congenial state is more independent, and the hostile state most independent.
d   The Congress state will be more influenced by the Mission and get more funds with regard to drinking water. The congenial state will get less funds, and the hostile state the least.

This chapter is based on information found outside the Mission at the federal level and in the states. State respondents came from Gujarat, West Bengal and Karnataka. Thus both questions are partly answered from the same sources. But question 2 draws more information from the federal level and from so-called 'independents' (journalists, NGO's, researchers), while question 3 is more based on information found with state civil servants.
All state civil servants had a professional knowledge in the field of water supply and sanitation, while most 'independents' had a general knowledge. Only a minority of the remarks directly focussed the National Drinking Water Mission. Most respondents expressed a clear opinion about general problems in India and about drinking water and sanitation.

5.2 SUSTAINABLE RURAL DRINKING WATER AND SANITATION ?

5.2.1 Positive remarks about the Mission

At the University of Ahmedabad (2.14) the sincerity of the leader of all Technology Missions was stressed ("Generally the advisors of Gandhi don't make much sense, but Mr. Pitroda is not after power. He really tries to reach the people"). Unicef and the Dutch Embassy say that "so much has been done already in this huge subcontinent" (2.24). A journalist emphasized that the Mission is the first real effort to bring drinking water to the villages, which is an extremely important positive gesture (2.4).

5.2.2 Pre-conditions in the states

I   Political support expressed in legislation for water?
Drinking water means votes (2.17). By launching a Mission "at least the impression is given to voters that something is done" (2.2). Thus political support is there. States are preparing legislation, but it is a time-consuming process.
Some respondents see the Mission as an inadequate (2.12) and too late (2.13) response to the ongoing over-exploitation of water resources. It was found in the states that the last 10 years the groundwater level was falling sometimes even from 10 to 30 meters (Mysore, Howrah). The Mission gives un alibi not to do anything more. "Legislation on water use for any purpose and equitable distribution is something that everyone is afraid of. Though very much necessary, neither the opposition nor the ruling party is going to go through with such laws" (56). The problem is related with the neglect of the traditional water harvesting structures until recently and too much emphasis on pipelines and deep (irrigation) tubewells (57).
But the lobbies of industry and irrigation are very rich and powerful (2.9, 2.11). Most politicians are sponsored by industrialists. Especially the "industrial based representation in the Lok Sabha", which controls all funds (2.19), forgets "the poor farmers" (2.13). Since the awareness and demand are bigger in urban areas and since the industries are vested in cities, drinking water and sanitation in urban areas get more attention than in rural areas. This becomes clear from the newspapers as well (58).

II   Is political support translated into budgets?
In the states a lack of finances does not seem to be the biggest problem compared to ecological and organizational problems. Of course in a "scarcity based economy" there is never "enough" money (2.25). At this moment the budget for rural drinking water depends on annual negotiations, just like other subjects.
In the states visited the budget for rural drinking water has increased considerably the last five years from about 1 % to about 3 % of the plan outlay. Reason seems to be the increasing awareness due to the federal system of matching grants (chapter 4) is an exponent of this. The situation in each state differs so much, that it is not useful to mention any nominal budgets here. Although attention for sanitation is beginning to grow, budgets in this field are still neglectible.

III   Sufficient skilled manpower and information available?
There is definitely enough skilled manpower in India (2.24) in the technical sense of the word. The situation found in the states differed from one place to another. In West Bengal the chief engineer would not know what to do with more money, because there is not enough manpower to execute new schemes. But in Gujarat

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manpower was no major problem compared to the drought. In Karnataka there is a lack of all-round engineers in the 'multi-disciplinary engineering units' at district level (section 5.3.3). The impression was that engineers at lower levels had less social skills and education than high level officials (both specialists and generalists).
Activities of the Mission to enlarge the skills of the staff are focussed towards high level officials and technical skills.

5.2.3 The concept of participation

There is a close relationship between decentralization, parti- cipation and a satisfying system that monitors the implementation as well as maintenance. Centralized structures discourage this. Decentralization and thus participation are necessary to "make people accountable, responsible themselves" (2.2).

State servants usually argued that the Panchayats choose locations and are responsible for maintenance. Panchayats are supposed to call block or district engineers when needed.
In this research no direct observations were made to check this.
Not enough information either was found to check whether the population participates in the phases distinguished in section 2.2.4 (Processes). But from sources outside state governments it appeared that in most phases the concept of participation is not yet fully translated into the organizational structure.
For example: In the preparatory phase the choice of locations, the concept of the service and an assessment of the demand seemed not very thought out. Of the second, implementation phase, stories of corruption were told (2.10). While some projects show that people are able to participate in the actual building (59) this is not structural. In the operating phase not all castes have access, and not much attention is given to health aspects.
Although usually only small reparations are needed, which are easy to teach a villager, maintenance is insufficient.

The Mission Director agrees that a lot of things are still needed. But without any doubt things are beginning to change. Projects are taken up under the influence of the Mission as well as by the states. The scope of the 'software' projects until recently was very small, but evidence was found the magnitude is growing. Unfortunately coordination lacks.

A problem lays in the activities of NGO's who vary a lot in scope, objectives and level of professionalism. Definitely the political and administrative will to involve NGO's is there. In general they are starting to get integrated in the planning structure (2.8).
But severe critics are made towards CAPART: "The left hand doesn't know what the right hand is doing" (1.7, 2.2). Most awareness programs of CAPART are executed in different areas from where the Mission is actually working on the hardware. Since CAPART recently was allowed to fund all NGO's, also outside Mini-Mission districts, in non-problem villages, in software and in hardware, CAPART itself cannot solely be blamed for this.
At the same time CAPART accuses the Mission and state governments of being respectively technocratic and suspicious. According to CAPART the Mission focusses on 'hardware' and wants CAPART to subsidize only NGO's who deal with 'software' of drinking water. Consequently NGO's now also want to build, "because an

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awareness campaign without new hand-pumps is a waste of money" (2.1). CAPART assists NGO's directly, without the authorization of the state. But they do not have enough manpower to control and guide all NGO's. Furthermore this increases the already existing tensions between NGO's and state organizations. NGO's need the technical knowledge of the state organization. At the same time they don't trust state officials because of the widespread corruption. State officials accuse NGO's of being agitative and lacking knowledge.

In contrast to this, sometimes too much confidence is put in NGO's. For example in Banaskanta, where in fact one employee of the Self Employed Women's Association (SEWA) is supposed to evaluate and initiate all activities with regard to the involvement of women (60).
Positive examples also were found. For example, Women's Coordinating Council (WCC) is a women-NGO involved both in software and hardware, which has "excellent" relations with block, district, state and central government (2.8).
The Sanitation Institute in Gujarat is another example of an NGO that is fully accepted by a (state) government, being an official advisor of the Government of Gujarat (2.12).
However, the impression remains that NGO's have to be very careful in their activities (2.15). An example of the same WCC clarifies a lot: The Honorary Secretary of WCC did not want to introduce the researcher with the District Collector of Howrah, because she was afraid to bother him and wanted to avoid even the smallest irritation with the district officials.

Unicef thinks the sometimes existing political **overcommitment** to water has bad consequences for community participation. Politicians want to give water freely, opposed to the VII Five Year Plan. But "when people don't feel it in their wallet, they won't feel responsible" (2.24). Others agree (61).

The involvement of **women** in maintenance amongst others was stressed by Unicef, since they form 90% of all pumpusers (2.24). But in practice only lipservice is paid (2.8). Unicef is financing projects with female family health educators, trained by the PHED in Uttar Pradesh and Rajasthan. Probably no coordination exists between Unicef and the 'Hand Pump Mystry' projects of CAPART (chapter 4), looking at the critical remarks of CAPART towards the three-tier maintenance system designed by Unicef which CAPART finds centralized (62). Experiments in West Bengal show that women are more interested in O & M than men, who like the building (63). But it is very difficult to organize women. Their husbands don't want it. Female organizations are often not taken seriously, not by women themselves nor by (male) officials (2.8).
According to sanitation experts the lack of attention for **sanitation** of the Mission and of state departments, has very bad consequences. Polluted drinking water and the absence of sanitary knowledge undo the effects of malnutrition programs, on which crores of rupees are spent (64). The mere existence of hand-pumps doesn't decrease infant mortality (65). Unfortunately collaboration between PHE and Primary Health Care centres in villages often does not exist (2.24).
In the VIII Five Year Plan more attention will be given to rural low cost sanitation. The Mission will be nodal agency.
But a member of the VIII Plan Working Group (an advisory group) on rural sanitation was "very unhappy with that group. Emphasis is only on latrines, while sanitation involves much more, like hygiene habits and waste disposal" (2.7). According to this

respondent central and state governments as well as NGO's have a narrow-minded view. Others agree (2.8, 2.25).

No evidence was found whether any collaboration is promoted by the Mission or by the states between engineers and Primary Health Care centres, schools or traditional doctors. Experiences of WCC (89) show that successful maintenance by the community is (only) possible when hardware is accompanied by continuing 'software' (like visits of WCC, a health centre, a village woman being responsible for the pump). **Continuing education** is of major importance. "You have to go back to the villagers afterwards, and keep coming. Always come when you've promised" (2.8).

Consequences of a lack of participation and therefore a lack of knowledge about the service needed by the beneficiaries are:
- Men and women never use the same latrines. This leads to latrines not being used at all (1.7).
- As such latrines in public buildings are much better than latrines 'in the middle of nowhere' (2.12). But school latrines are only used as urinals because it is a habit to defecate early in the morning, before school starts (2.8).
- Because of big families the demand for water sometimes does not seem to exist, since there are enough daughters who can easily walk a long distance to the well (2.20).
- Sometimes women enjoy the daily walk to the well much more than a tap in the village, which decreases their freedom. Consequently they may not use the new tap (66).

5.2.4   Monitoring and centre-state relations

In spite of efforts by the Mission and by others **no satisfying monitoring system** seems **to exist in the states**. The Mission has not yet paid a significant contribution in developing such a system. One respondent even called the computerized Management Information System of the Mission "terrible, atrocious" (2.2). This is part of a larger phenomenon that state information is very difficult to find in New Delhi (2.19), and that government statistics are often misleading (2.9).

The Mission is a federal agency. It is said to be **too centralized and too one-sided technical to take care of the heterogeneity** in the field. CAPART even argues drinking water is a state task where no central intervention should be, while the BBC-correspondent thinks "New Delhi is an ivory tower" (2.6). State governments hardly participated in formulating the goal of 40 lpcd (2.1). The decision to discourage the use of **traditional sources** is felt as a dictate by the states as well (2.1). In practice it is impossible to close them because people need them. The Mission admits this and undertakes action to purify alternative sources. So it is discouraged and protected at the same time.

Most respondents had never heard of the 'National Drinking Water Mission' but only of the 'Technology Mission'. Pitroda is seen as one of the American 'whiskids' of Gandhi (2.23). Different respondents argue the Mission uses too much costly high tech solutions. Expensive desalinization plants are placed in Mini-Mission Districts, which serve a limited amount of villages, are difficult to replicate and to maintain. Different sources say the majority of the areas is not taken care of (2.2).

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Connected with centralized structures is a lack of **co-ordination**. For example, guine-aworm is fought through the closing of stepwells (67). But while the Mission closed 3000 stepwells in Rajasthan, famine relief schemes have build 2000 new ones!(68).

Monitoring is in financial terms. It is not controlled whether money actually is spent on hand-pumps, whether the installations are really built in rural areas nor whether they are built in the villages and on the places where they are needed most (2.20). Problems which complicate a monitoring system are:
- 60% of the **roads** is impassible during monsoon. Because of this logistic problem supply of installations and spare parts suffers, even when the material is already bought (2.20).
- Another problem is the role of **contractors**, who often do the actual work. Through a "powerful triangle between politicians, contractors and civil servants" huge amounts of government funds are earned without any physical achievement (2.6, 2.10). No information could be found of specific cases.

Monitoring in the process of **maintenance** is insufficient. The Mission argues states prefer the execution of new schemes to the maintenance of the existing ones (69) and to technical quality "to get a quick political success, nobody who controls it" (2.10). All respondents made remarks about the bad O & M in India in general, and consequently in the field of drinking water supply. 30 to 40% of all hand-pumps is always out of order (2.2, 3.8), although it differs extremely per district. For example, a survey showed a variance between districts from 5 to 81% of hand-pumps being out of order! (70). The speed of reparation varies greatly as well: In Howrah two week to six months (3.8)!
Projects undertaken for caretakers at village level also vary widely all over the country as the Hand Pump Mistry of CAPART in Rajasthan, the linesman of the Waterboard in Gujarat, 'the village' in West Bengal and 'the volunteer-with-three-days-training-preferably-female' in Karnataka show (6.0, section 5.3).

Monitoring of the **'coverage of problem villages'**, or the speed of **implementation** is not sufficient either:
- Formally one pump for 250 people gives 40 lpcd. But experts say it is less (3.3). Moreover, in practice the objective now is 'at least **one safe source** for every villa-ge'. This means in general more than 250 persons have to share one pump in such a covered problem village. They will get even less.
- Statistics giving average information don't say much because of the enormous **heterogeneity** in surface of and number of people living in villages and the heterogeneity between states as well as within them (2.17). For example: Kerala has got 40 lpcd and Rajasthan 10 lpcd (2.1). One of the criteria for a problem village is not having a safe source within one mile. But from what location in the village? This problem is increased by the speed of change, leading to outdated statistics after a few years. "Some villages now are four times as big, some other are completely scattered now" (2.1). This is admitted by the Mission (1.2). Urbanization causes an unclear **dynamic** boundary between rural and urban areas (2.21): The peri-urban areas.
- The access of different **castes** to the same taps is not taken sufficiently into account, neither by states nor by the Mission. Usually separate taps are enough for different castes, but sometime higher and/or the lower castes ask for extra connections at another place. **But states do not want to give official recognition there is a caste problem** (2.2).

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-   Once a hand-pump has been installed the village is definitely removed from the list of problem villages. But **villages can become problematic again** due to a falling watertable during **summer**. This leads to quantitative and qualitative problems. As WCC in West Bengal says: "West Bengal officially has no problem villages. How can they say something like that?! Especially during April, May and June a lot of pumps fall dry and people have to depend solely on alternative sources if available. But how are we gonna make this clear to the Centre when we're not even in the picture? The problem is just neglected, not officially existing".

Consequently every year 'fresh' problem villages are found. CAPART now speaks of a **problem village when at least 100 days a year a tanker is needed** to bring extra water. CAPART says "the direction of the difficulties is known to them, although they don't have all information. But they're not able to control it".

5.3   WEST BENGAL, GUJARAT AND KARNATAKA

5.3.1   Fieldwork: Confusion omnipresent

Water is a political subject and the federal Government controls the resources. This might lead to a different treatment of Congress and non-Congress states (2.17, 2.20). The Congress ruled Gujarat ('identical' with the central government), the Marxist West Bengal ('hostile') and the Janata ruled Karnataka ('congenial') were visited to study this.
Controlled variables were: In each state about 75% of the roughly 40 million people lives in rural areas; each state has about 20 districts with each 11 blocks, and about 20.000 villages; three non-Mini-Mission Districts were visited. But in the states a lot of new variables appeared to influence the level of decentralization and the sustainment of rural drinking water supply.

5.3.2   Hypothesis a: Congress more centralized?

In the three states visited reasonable strong developed Panchayati Raj institutions exist, as one respondent ironically remarked "because it serves their electoral interest" (2.5, 2.3). Four levels are distinguished: Zilla Parishad (district), Panchayat Samiti (block/taluka), Mandal or Gram Panchayat (less than a dozen villages) and the individual village electorate. In Appendix IV a more thorough description is given. Regular elections for the Panchayati Raj are held in all three states.

Respondents agreed that most Congress states have very weak Panchayati Raj where no elections are held since the sixties, because that "goes against the structure of the Congress Party" (2.2). But **Gujarat is about the only Congress state with well developed Panchayati Raj**. This has an historical reason: The old Indian village panchayats were promoted by Mahatma Gandhi, who came from Gujarat. His remembrance is still widespread here, much more than elsewhere in India. However, district units of state departments are not placed under the Zilla Parishad in Gujarat. Hierarchically they fall in the lines of the state department and administratively they are placed under the Collector (2.15). Construction and

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maintenance of water supply and sanitation were at the moment of the research 100% the responsibility of the Gujarat Water Supply and Sewerage Board. A water-board is an autonomous corporation, less submitted to democratic control at the state level. No places are earmarked for IAS's, in contrast to an ordinary department. This might lead to a more centralized and one-sided technocratic viewpoint (1.5). But non-Congress states like the Marxist Kerala have a Waterboard as well. Gujarat seems slightly more centralized than West Bengal and Karnataka.

In West Bengal and Karnataka PHE had a different organizational structure: A traditional Department in West Bengal and the Rural Development and Panchayati Raj (RD & PR) Department in Karnataka.
In West Bengal this had nothing to do with the political situation. Congress states have PHED's as well. To broaden its rural base, the Marxist Government of West Bengal was the first state government in India which held again local elections (1979) (2.11, 2.3). They have succeeded in politicizing the people (2.6). Here just like in Gujarat is an historical base for the present-day political consciousness (80). Now the base of the Marxist Party is widespread, both in inside and outside elected bodies (3.1, 2.11). Polarization between Marxist and non-Marxist politicians even results in political violence (81), although not all respondents agreed on this point (2.11, 2.6). The villages are responsible for O & M of drinking water installation. They are supposed to call the district engineering unit for help. Zilla Parishads get money for this. Zilla Parishad and PHED have their own engineers.

In Karnataka the Janata Party started a decentralization process when she came to power in 1984. A consequence was to bring rural drinking water and sanitation in the RD & PR Department. This Department is led by one secretary. Three chief engineers assist him each in one field: Panchayati Raj, Rural Development and Rural PHE. The same has been done in Andra Pradesh, another non-Congress state. No Congress state has this structure. Compared to Gujarat and West Bengal Karnataka seems to give the best general conditions for a sustained drinking water supply and sanitation. Here, just like in West Bengal, the ruling party has consciously implemented another policy since it came to power.
The Gramsabha or village assembly is the basic body. It must meet at least twice a year. In the other two states there is no such compulsion. With exception of inter-district subjects all tasks on district level fall under the Zilla Parishad. The state level has no direct control anymore over district officials. 'Technical guidance' (inspections and reports) is the only task left for the chief engineers. Budgets are earmarked at state level, but contrary to the other states in Karnataka 10 % can be reallocated by the Zilla Parishad. The elected Chairman of the Zilla Parishad has the rank of Minister of State, to illustrate his important position (in contrast to the other two states). In each district a multi-level engineering unit is responsible for minor irrigation, small roads, buildings and drinking water and sanitation. Maintenance of rural water supply and sanitation is completely the responsibility of the Mandal, who gets funds to call and pay the district unit when needed (82).

The position of the Collector differed in each state and seemed not to be determined by the color of the ruling government: In West Bengal he is in charge of both law & order and development, while in Gujarat and Karnataka only law & order is his primary task. Here a separate IAS-official is full-time 'Chief Executive' of the Zilla Parishad. In Gujarat this person is officially of the same rank as the Collector, and in Karnataka he is "invariably senior in rank", namely equal to a Chief Engineer (83). It

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seems strange that in a Marxist state with a powerful grassroot movement the Collector holds a much more powerful position compared to the other two states. For example, he is chairman of the District Rural Development Agency and the District Planning Commission, two important bodies next to the Zilla Parishad. Since the Mission functions through the DRDA (chapter 4) and the Collector in the original structure of the Mission is head of the District Project Committee, one would expect that the Mission would function good in West Bengal. However, as already stated, this could not be checked in any Mini-Mission District. In this respect West Bengal follows Rajiv Gandhi who is promoting the independence of districts through increasing the position of the Collector (who is an IAS-member). Perhaps it has to do with the level of urbanization in West Bengal: A Zilla Parishad is a rural agency. Howrah, laying next to Calcutta, has a population density of 2000 persons/km and the Collector represents both rural and urban areas. However, information of other districts in West Bengal, who are more rural, was not found.

A difference exists between the official position of the Collector, his status and his direct answers. When directly asked, Collectors and Chief Executives answer they are equal, each with his own responsibilities. But in practice the status of the Collector is still very high: He officially represents the whole district (also urban areas) to governments; people complain and demonstrate to the Collector; he holds office in his 'palace' and doesn't visit the others; he has regulatory powers (5.14).

Most respondents agreed that serious efforts are undertaken in the three states (in contrast to the rest of India). But they emphasized that "vested interests" exercised most power in the 'democratic bodies' (2.3). Some even argued that decentralization gives local corruption a new instrument, slows down processes and diminishes state control. Responsibilities do not go together with sufficient resources (84).

5.3.3 Hypothesis b: Panchayati Raj ensure sustainment?

It was found that a strong legal position of Panchayati Raj as such does not ensure a sustainable drinking water and sanitation. All officials said that drinking water was "top priority" in their state, and that sanitation would come next.

The ecological situation influences the organizational structure and the sustainment of rural drinking water enormously. In this respect the states visited differed. Gujarat suffers from drought and brackishness, West Bengal has a high rainfall and brackishness, and Karnataka is in between. Furthermore the surface of Gujarat and Karnataka was twice as big as West Bengal (190.000 square km against 90.000). Related with this was the population density in West Bengal much bigger than in Gujarat and Karnataka. Even more signing is the heterogeneity within each state: For example, the south of Gujarat has a high rainfall, while in the north (in Banaskantha) it is desertlike.

In spite of the differences, all three districts visited face huge drinking water problems during summer. Tanks are brought to villages, because eventual alternative sources are salinated, dried up or polluted. But in Howrah and in the irrigated areas of Mysore at least alternative sources exist, in contrast to Banaskantha. In Mysore the difference between irrigated and non-irrigated areas was striking. In rainfed areas no alternative sources exist, because the groundwater table is much lower there. In India 70% of the land is rainfed.

Apart from this the watertable is falling more structural during the last decade everywhere in India. In this respect it should be remembered that the district visited are non-Mini-Mission districts, thus supposed to be less problematic.

The ecological circumstances have consequences for the technics used. Pipelines of hundreds of kilometers like in Banaskantha require a strong central agency and a very good monitoring, since a hole in the pipe has consequences for a lot of people. Individual village schemes, most of all spot sources with a hand-pump, are easier to maintain and monitor.

In all three districts problems exist with regard to paying a fee for the service. In Banaskantha people are supposed to pay a small contribution for their service but hardly do so. In Howrah water is given for free as a policy. In Mysore the rich people with house-connections pay in practice for the public services, although the executive engineer opposes house-connections (5.8).

In **Karnataka** a lot of initiatives are being taken, but they need more time to develop. Very positive in Karnataka are the plans for 'watershed development', an integrated ecological plan to develop all rainfed (non-irrigated) areas on a sustainable base. It combines (rain)water harvesting with natural watersheds (which differ in surface). In each district one project is taken up, and the technics (low cost and based on local, natural material) are to be replicated to the rest of the state. The Mandal (next to the Gramsabha the lowest tier of the Panchayati Raj) should be the administrative unit of each watershed.

At this moment still some problems exist in Karnataka (5.9, 5.10, 5.11, 5.13):
- No fundamental attention is given to O & M by the Panchayati Raj or the district engineers. Only recently programs for hand-pump caretakers were started, involving a few days training for a limited number of people. Women caretakers are preferred. In the rest of the villages a deputy engineer is supposed to request a woman to look after a hand-pump. The caretakers will be volunteers, having no official link with Panchayats or with any other local organization.
- In the multi-level engineering units it still depends on the specialization of the engineers to what subject most of the attention is given.
- Uncertainty marks the present-day relations in the district and between districts and the state. There are no clear relations between the district unit, the Zilla Parishad and the chief engineer in Karnataka. The 'technical responsibility' of the chief engineer is not clearly defined.
- The danger in Karnataka is a lack of patience of the state and federal level. Ultimately the state level still is responsible towards the federal level. The Mission deals with the chief engineers and secretaries of departments and not with district officials in non-Mini-Mission Districts. Real decentralization gives more reliable information, but it takes more time. When pressure is put on the state to give certain information in time without considering other conditions, this can have bad consequences for the democratization process. For example: The Mission says Karnataka is not giving up to date information. They probably will get less funds next year. But having a monitoring delay because of starting problems of the Zilla Parishad, doesn't say much about the actual state of the art, nor about the sustainment. Consequently recently funds for drinking water were returned from the Mandals to the district engineering unit. "The Mandals are not yet able to handle the funds effective and efficient, it's only temporary".

- The weakened position of the chief engineer PHE might lead to less powerful defence of the interests of drinking water. Especially when compared with the powerful Department of Public Works, under which Irrigation falls.

About **West Bengal** very little information was gathered. No village level caretakers exist in Howrah. The activities of WCC (2.8) were not known with the Zilla Parishad. According to the state level in West Bengal there is enough water for simple handbore schemes (for which the district itself is responsible, in contrast to piped schemes and rigbore tubewells) working. But civil servants in Howrah and other respondents say salinization and a falling watertable cause problems (2.8, 3.8).

In **Gurajat** the structure of the Waterboard is decentralized down to the village level. The situation here can largely be explained by the drought and brackishness, and not by the fact Gujarat is a Congress state. Small villages up to 500 inhabitants usually get spot sources. Villages used to be responsible for O & M, but this failed. So recently maintenance returned to the board.
The linesman in each village is employed by the GWSSB and doing simple reparations. This way a direct link is created between the board and every village, although the linesman is not linked to the Panchayati Raj. Such a system does not exist in West Bengal or Karnataka. No information could be found about the level of success, nor whether the system exists in the whole of Gujarat. No efforts were made to select lines'women'. In the district Banaskantha in Gujarat, the best solution seems to exist. Banaskantha suffers extremely from drought and brackishness. Under the influence of the **Dutch drinking water project** here, which stresses the socio-economic aspects, 'pani-panchayats' (water committees) are founded in each village. They consist of the linesman, the sarpanch (head of the village), two men and two women. This way an even broader direct link with each village is created. A fundamental attention for O & M together with health aspects is brought into the Waterboard, more than is happening in Karnataka and West Bengal, and in spite of the absence of a link with the Gram Panchayat.
Finally the Waterboard collaborates closely with the Sanitation Institute in Ahmedabad, with several other Gujarati NGO's in a large sanitation project which is starting in 1989, and which is partly financed by Unicef. In the other states no information was found about a collaboration between state officials and NGO's on such a scale. WCC in West Bengal is much smaller.

Conclusion is that the Congress district pays most attention to participation and to maintenance of drinking water and sanitation.

5.3.4 Hypothesis c: Congress state more dependent on and closer to central government?

Most respondents are of the opinion that Congress governments have better contacts with and are more depending on the central government compared to non-Congress states (App. IV and VII).
Some signs of this were found in Gujarat. For example, due to the a cabinet crisis the Chief Minister and his rivals/opponents were continuously travelling between Gandhinagar (where the Government of Gujarat seats) and New Delhi. They had to discuss everything with the central office of the Congress Party (4.1). However, state civil servants denied an eventual dependence.

A journalist admitted that "being Congress doesn't do us any harm, of course" (2.13). But at the same time this journalist argued that Gujarat had very bad politicians, who take hardly care of the interests of Gujarat in New Delhi. They hardly speak english or Hindi and thus cannot make themselves understandable in New Delhi.

Bengoli and Kannada are the languages used in West Bengal and in Karnataka, and here politicians also find it difficult to make themselves understandable in New Delhi.

Furthermore it was found that governmental publications and the public opinion were very 'anti-Congress' here. In fact the impression was that the Chief Minister in Karnataka acted more 'hostile' towards the centre than his Marxist colleague, as his publications show (85). Perhaps this 'profilation' has got something to do with the federal, 'all-India' aspirations of this Ramakrishana Hegde.

5.3.5 Hypothesis d: More central funds and more influence of the Mission in Congress states?

This question can not be answered. Biggest handicap was to get any information about the Mission at state level. Furthermore no Mini-Mission districts could be visited and financial information was incomplete and incomparable.

According to all civil servants differences between Congress and non-Congress states play no role in the field of rural drinking water and sanitation, nor in the activities of the Mission. "They help us, why should we be opposed it?" (4.4).

The influence of the Mission seemed to be biggest in Gujarat, a bit smaller in Karnataka and very small in West Bengal. In Howrah (WB) and Mysore (Karnataka) hardly anybody had heard about them.
The MIS seemed to work in Gujarat: In the computerroom at the
head office a sophisticated presentation was given. Although Gujarat got more extra drought funds, this seemed to be caused by the severe drought, and not by being a Congress state. A chief engineer stated: "Biggest constraint is not organizational, financial or political, but the availability of drinking water sources" (4.3). The severe ecological pressure seemed to create an atmosphere of unity and collaboration in Gujarat.
A very important reason for the closer relation in Gujarat with the the Mission was the fact that the Mission Director was the previous Director of the Waterboard. Everybody still knew him: "You know, he used to say he would throw you out of the window if coverage in your area was not satisfying"(4.5).

5.4   CONCLUSION

Most independent respondents express negative opinions about the (central) government, corruption, Congress Party and O & M. Not much positive remarks are made about the Mission either. The lack of an integrated approach towards sanitation was blamed.
In essence the Mission has a sectoral task with a nationwide scope. But ecological, employment generating and educating aspects enlarge the complexity. Keeping in mind the limitations of this research, the indicators for a sustainable rural drinking water and sanitation seem not to be fulfilled. Moreover, the impression is the Mission did not take into account the social reality in its activities. In the field of sanitation hardly any activity is developed until now. Drinking water gets all priority. States and central government agree in this.

Being a Congress or a non-Congress seems not to have much consequences for the degree of decentralization in rural drinking water and sanitation. But the conditions for a sustainable rural drinking water (and sanitation) seem to have little to do with the position of the Collector and they are not determined by the power of the Panchayati Raj. Most important seems to be a caretaker at village level who is paid and directly responsible. However, no statistics were found to prove this.

Other major variables that appeared to influence the actual situation with regard to drinking water and sanitation are the existence of a **foreign** (drinking water) project in a district, **ecological** and **personal** circumstances. Finally the historical, the demographic (population density) and the geographical (distance of the district to the capital) situation play a role.

The impression was that three different, but largely overlapping divisions exist between states in India:
-    The division Congress and non-Congress states.
-    The division between the northern and the southern states.
-    The division between Hindi and non-Hindi speaking states.
The three most southern states are Kerala, Karnataka and Tamil Nadu. They are non-Congress ruled states and speak Dravidian languages. These languages are older and of a different group than the languages spoken in the North ('the Hindi-belt').
Of the three divisions the language division seems to implicate the biggest differences in general terms. All three states visited were non-Hindi speaking, and in all three states this appeared to be a handicap towards the Hindi-speaking federal government. It would be an interesting question to compare a Hindi and a non-Hindi speaking Congress state.

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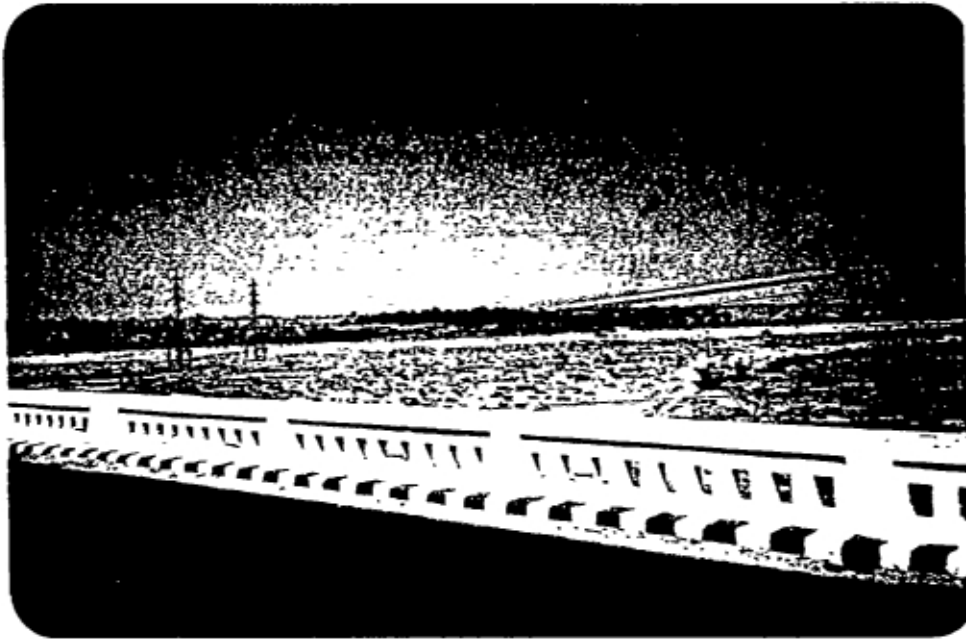
Banaskanthata 'River' in Gujarat, a few months after the rainy period. The picture is taken while standing on the bridge.

Village women in Gujarat, washing and drinking. In the background a water tower can be seen. To the left a small part of the cattle drinking place is visible. It should be mentioned that this village is only 20 kilometers away from Ahmedabad. The situation usually differs enormously in remote villages!

Handpumps in Mysore, a reasonable wealthy district near Bangalore, the capital of
Karnataka. Note the differences in type handpump and platform. Note as well that almost
only children (girls) carry the water. The mud around the upper handpump is a bad sign.
It shows the drainage is insufficient, and it attracts mosquito's: An example of how
water related diseases can be caused.

6   ANALYSIS

6.1   INTRODUCTION

This chapter centers around the Conceptual Dimension.

Section 6.2 deals with question 4:
To what extent contradictions, inconsistencies and conflicts have influenced the contribution of the National Drinking Water Mission to a sustainable rural drinking water and sanitation?

Section 6.3 deals with question 5:
Is the Mission suited to its' objectives?

A lot of contradictions, inconsistencies and conflicts can be mentioned that influence negatively the contribution of a central agency to the sustainment of a state task in India. They are aspects of an incongruence between the Organizational and the Contextual Dimension.
Some elements of the Contextual Dimension are impossible to change or integrate by any program agency. But other elements are easier to deal with.

In section 6.2 some of the contradictions, inconsistencies and conflicts as found in this research are illuminated with the aid of the segments that Samuel Paul distinguishes in section 2.3.2.
However, it was found that the segments he distinguishes do not completely fit with the phenomena found in this research. Therefore here slightly different distinctions are made. The socio-cultural and political segment of Samuel Paul are discussed in a more differentiated way in four subsections. Ecology is treated as a new segment. The economical and technical segment will only be mentioned as part of the other segments.

It should be remembered that all phenomena described here are personal interpretations of a short stay in India (section 3.6).

6.2   CONTRADICTIONS, INCONSISTENCIES AND CONFLICTS

6.2.1   Drinking water as a political subject

Drinking water is a **political subject**. The **objectives of the Government of India** were determined by the target of the International Drinking Water Supply and Sanitation Decade, which was to achieve 40 lpcd in 1990.

Thus the federal political support (pre-condition!) was the reason why the environment was not taken into account when formulating the objectives. The

Government of India did not want to loose its' face before the UN, and formulated as objective to cover all problem villages and (thus) have 40 lpcd in 1990.
The states and the Mission, which was only launched six years later, were not deeply involved.

The objective seemed clear and specified: A clear number of liters and a sharp definition of a problem village (section 1.3). But in reality it lacked the indicators for sustainment as formulated in this research and it had practical disadvantages, as sections 5.2 and 4.3.3 show. The objective was formulated without an integrated policy. For example, in the Irrigation and Agriculture chapters of the VII Five Year Plan 1985-1990, drinking water has no place. The plan chapters about Social Welfare and Health mention drinking water, but without any policy or budget (86). Sanitation was only mentioned in the chapter on Drinking Water.

The Mission was launched when it became clear the objectives would not be achieved the way things were going. The **objectives of the Mission** are not specified very much: "Improving the ongoing programs on a sustainable base" through pilot projects (section 4.2.1). Priorities had to be formulated. Goals were set on 'coverage' and not on level of performance (87). After a short time the objective of the Mission in practice had changed into "at least one source for every village", instead of making perfect Mini-Mission Districts. Consequently the goals were excavated as the 'Decade' continued.

Positive aspect was the relatively strategic freedom of the Mission and the high position, indicating **political support.**
But since there is a lack of money and the states are autonomous, they are at the same time very depending.
However, the Mission itself is convinced of its' success.

6.2.2 Political and social relations

Another consequence of water being a political subject (next to the formulation of high objectives) is that **water means votes.** So politicians want to bring drinking water to their constituencies. A lot of people think water should be free because it comes from heaven, so they refuse or forget to pay for it (section 5.3). Moreover, politicians will try to support them. This tendency is strengthened by the **district voting system:** Politicians will try to bring water to their constituency.
This is in conflict with the VII Five Year Plan 1985-1990, according to which at least a small fee of the beneficiaries is needed and possible (88). Education and income generating activities would be able to deal with this problem. Indeed by the Mission as well as in independent projects initiatives are taken. But an important federal employment creating program is hardly spent until now in connection with drinking water (section 4.3.1).
This social and political mechanism has bad consequences for the maintenance and awareness. It leads to a lack of money and a lack of responsibility of the beneficiaries.

Related with this is another aspect of the heterogeneity of the beneficiaries: The house-connections, as apposed to the generally used public tap points. The VII Five Year Plan does not mention it, but most states disapprove of house-connections in rural areas. However, in reality they do exist legally, constructed by state engineers.

Reason is that owners of official house-connections are able to pay much more than the public tariff, so at least some money is coming in. Furthermore rich people usually have more influence and are able to pay a bribe.

House-connections exist illegally as well, for example when people dig holes in pipelines. The villages at the end of the pipeline hardly get water anymore in such cases (89).

6.2.3 Administrative and social relations.

India is a typical example of what Samuel Paul calls "a country steeped in traditional styles of administration" (90). A number of elements of the **administration and the planning set-up, combined with social features, stimulate inefficiency, enable corruption, and discourage 'a responsive government'** (91).

I   Administration

In the first place, as one one respondent called it "in India an administrator is responsible for nothing", because there is no link between prestation and salary/promotion (2.9). This element is found in a lot of bureaucracies of course, but in a developing country like India it takes more grotesque features.

In the second place, the general planning set up distinguishes very sharply between prestigious plan-outlays (new investments), and so-called non-plan-outlays (wages and maintenance). Non-plan outlays give a department no credit, you can not make a success out of it (2.3 and 2.9).

Thirdly, administrators are frequently transferred. This is done to discourage corruption and to develop civil servants with a more general view. But it turns out to be the opposite. Even apart from abuses like the internal market described by Wade and "the powerful triangle" (2.6), administrators are not able to grow in a function. In less than two years they can not finish a real project. Within that period they are likely to collaborate with different persons on each other function, since the transfers are happening independent of each other. For example, almost all generalists interviewed were stationed maximum six months ago. Most specialists were working for a much longer period at the same place.

Fourthly, most officials (about 95%) who work in New Delhi for the federal government have no experience in the states. For example, most advisors of the Mission have never worked for a state government (1.2). The only exception are the IAS-members, who have been stationed for 15 to 20 years in a state. Indeed they are the most powerful civil servants, who determine the strategy of most programs. But the lower federal officials also have influence in the centre-state relations. It might be more difficult for them to imagine the situation in a state.

Finally, in the Constitution a distinction is made between subjects falling under the responsibility of the states (State List), subjects falling under the responsibility of the federal government (Central List) and a so-called Concurrent List (of which the subjects are the joint responsibility of centre and states). Drinking water as such is not mentioned in the Constitution, but as part of rural development it clearly is a state task. Consequently it is more difficult for the centre to influence it without overruling a state. However, since the centre controls all budgets ultimately, indirectly the central influence can be big (2.1).

II   Social relations

In the first place, the Indian society is very hierarchical (92).

Secondly, rooted in religion, tradition, hierarchy and maintained by vested interests is the **caste system.** This enlarges the heterogeneity of the beneficiaries greatly. As became clear in chapter 5, states do not want to admit they have a caste problem. The caste problem is treated with double standards: In the Constitution it is forbidden, but in reality it is still widespread. A lot of government schemes even ensure the position of Scheduled Castes and Scheduled Tribes (SC/ST) and of untouchables (93). Castism doesn't exist officially but at the same time it is maintained because states get more money for SC/ST. But it is political more attractive to proclaim they have no caste-disturbances, or in the case of water: Say the state is 100 % covered.

Thirdly: Related with the caste system and the hierarchy mentioned before, is the **importance of the group** in India. An individual derives his duties and privileges from the group he is a member of. The joint family still is the basic economic and social unit in the society, especially in the rural areas. Outside this basic unit not much social responsibility is said to exist amongst the Indians. Next to the advantages like stability and safety, this culture has disadvantages as well. A negative consequence is the the tendency to privilege relatives and friends (nepotism) (94).

Furthermore, the negative consequences of the lack of education, in the broadest sense of the word, cannot be underestimated. Illiteracy is high. Although projects show illiterates can learn a lot of things, it takes very good software skills to reach them. Especially it is sometimes forgotten that most 'key-actors' and leaders in rural areas are not able to read either. For example, the sarpanches (village heads) who are supposed to meet regularly to discuss the regional drinking water scheme in Gujarat are mostly illiterate. So they could not understand the written material the Waterboard gave them. Consequently they hardly meet (95).

III   Consequences

The negative consequences of the social and administrative features illuminated above are numerous.

- One consequence of this is the gap which seems to exist between **higher and lower civil servants.** Top bureaucrats express a much broader view on drinking water than those beneath them. They stress software and ecological aspects.
- Partly overlapping is the division between **generalists - specialists** in the Indian administration: Most top-bureaucrats are IAS's who learned to think as generalists. They express a broad view, not limited to only technical aspects (although more and more of them have a technical degree, before joining the IAS). Chief engineers and superintending engineers express a broad view as well. But the civil servants dealing at lower levels with different services and beneficiaries are mostly specialists, educated only in technical aspects. They therefore tend to be more narrow-minded. This was observed within the Mission as well as in the states. The impression was that district units, who exist only of engineers, focus on the technical installations. This is a pity, because precisely the engineers at the grassroot level are the right persons to integrate software and hardware aspects. It must be said however, that the high level bureaucrats are more political educated and speak fluently english. They know what is important and are better able to pay lipservice to a broad view (especially in a short interview) than low engineers.
- The lack of 'social skills' amongst low level engineers might also be caused by a one-sided engineering education (96) and by the traditional gap between men and

women in the Indian society. Almost all engineers are men, while women are the most important users of drinking water and sanitation. Strange men and women will never talk to each other.

An inconsistency partly related with the gap between men and women springs from the **Hand-pump Mistry in Rajasthan.** On itself this is a good initiative. But in practice the Hand-pump Mistries will all be men (section 4.4), which means they will hardly have access to village women. Although the Mission Director and all other specialists in the field stress the important role of women, and although experiments are undertaken, in practice this conviction is not yet consequently executed. State Departments "prefer women" but don't do their best very much to really involve women. But things seem to change.·

- Another aspect of the hierarchical society seems to be the **idea of civil servants that villagers are not capable** to learn certain technical skills and to take responsibility. This is shown by the resistance of PHED in Rajasthan against the Hand-pump Mistry and by newspapers (97).
  Consequently disagreement exists with regard to the role of NGO's: CAPART is of the opinion they should work independent from the government, while others say they should be part of the planning structure (2.1 and 2.8). Within the Mission interpretations also differ in this respect: The Director emphasizes the need for software and for legislation on water, the sociologist argues much more social evaluation is needed, while some advisors have a very technical viewpoint.

6.2.4 New: Ecological pre-conditions

It seems very strange that Samuel Paul did not distinguish separately the ecological segment. Not very surprisingly this plays a huge role in the field of (rural) drinking water (and sanitation).

To distinguish it separately from the other segments seems unnecessary in a public administrative research. But in India several reasons prove the opposite:

1 The ecological situation is extremely heterogeneous, leading to different technologies used and to different administrative solutions.
2 There is a lot of 'concurrence' in the field of ecology, for example between irrigation and drinking water (section 5.3.3).
3 To ensure a sustained drinking water a balanced ecological situation is most important.
4 Ecology is related with sanitation and with caring for the environment in the broadest sense of the word.

The National Drinking Water Mission realizes the importance of a broader ecological approach and stresses it in all publications (98).

6.3   IS THE MISSION SUITED TO ITS' OBJECTIVES?

The answer to the question whether the Mission was or is suited to its' objectives must start with the objectives. The more complex an objective is, the more elaborated strategies and the more resources are needed.

Different objectives can be induced from interviews and from publications:

1. If the objective is interpreted as to improve the ongoing programs (Project Document) than without any doubt the Mission has achieved a positive result until now. The attention for rural drinking water has increased in all aspects of the word, knowledge has increased as well. Thus there is a positive net result.

2. If the objective is interpreted as to provide each village with at least one safe source of water, the success is considerable. As per 1990 almost all village are covered in that sense. But this does not guarantee they will still be 'covered' in the long term (quantitative and qualitative). Furthermore it does not guarantee 40 lpcd.

3. If the objective is interpreted as to achieve a 100 % coverage, specified as 40 lpcd in 1990, than problems will arise. Just like the first two interpretations, to have 40 lpcd in 1990 does not ensure a sustained supply of drinking water. Moreover, in general people get 10 to 25 lpcd when every village has at least one source.

4. If the objective is interpreted as to achieve a sustainable drinking water and sanitation, the situation seems to be more negative. This involves an integrated approach in which software and hardware are connected. Clearly the indicators for sustainment are not yet fulfilled. Attempts are only beginning to start.

In this research indicators for sustainment have been formulated. Therefore the fourth interpretation of objectives will be used here. **It was found in this research that the Mission is not suited to this fourth objective.** They are a federal agency working in a network structure. Drinking water and sanitation still is a state task. As Samuel Paul points out, in a network structure a joint planning, joint review of activities, budget control of the nodal agency and a common membership of committees of different members should exist (section 2.2.3). But these four aspects do not seem to exist sufficiently. Consequently monitoring and coordination are even more difficult than in an well working network structure.

Combined with a lack of resources at the federal level, it was inevitable that priorities had to be made. Thus the Mission choose to provide at least every village with one source. Sanitation and software would be the second phase. States could only be advised in this respects, together with the advise to prepare legislation.

From the beginning on it was clear the Mission had no choice but to act this way. Therefore a lot of the critics expressed are perhaps unfair. Critics should more be expressed to state governments and administrators (irrespective whether Congress or non-Congress) than to the National Drinking Water Mission.
They surely have speeded up the process, and in the technical sense will have covered every village in the country. At the same time they share the critics, and stress in publications and interviews that much more needs to be done.

- For example, although the state ministers, secretaries and chief engineers in 1987 agreed with the Mission's emphasis on a legislated, comprehensive ecological approach, still no legislation is formulated in the states. Coordination between the related departments hardly takes place in the states.
- Another example is the Mission has come to be in charge of all federal funds. But the instrument to withdraw money is not used much, in fear it would hurt the centre-state relation.

7   CONCLUSIONS

7.1   RESEARCH QUESTIONS

7.1.1   The Organizational Dimension in Institutional Development of the National Drinking Water Mission

1a   What were the objectives and strategies of the Mission?
In 1987 the objective was to provide the entire rural population with 40 lpcd of good quality in 1990 "on a sustainable base". The Mission had no task in sanitation. The strategy would be to combine scientific methods with low cost technology. In 15 % of all districts pilot projects would be taken up which would be replicated simultaneously to the rest of the country.

1b   What were the structure and processes of the Mission?
The Mission would function through a network structure and was brought in the federal Department of Rural Development, on the level of Joint Secretary. States would remain responsible for the implementation. CAPART would choose one NGO in each Mini-Mission District. Connections of the Mission with non-Mini-Mission Districts were indirectly.

1c   What were the federal pre-conditions of the Mission?
- Political commitment was relatively high at federal level.
- Knowledge did not exist sufficiently in 1986 and would have to be developed. Manpower came from the Ministry of Urban Development. More information was not found in this research.
- Only a small budget was available for the pilot projects.
- The present day Mission Director and the overall leader of all six Technology Mission were appointed in 1986. It was not found how the search for the Mission Director went.

1d   Have the pre-conditions changed at federal level?
- According to the Mission political commitment at federal level is sufficient, and in the states insufficient.
- The Mission is now in charge of all federal funds in the field, but there is a big financial gap.
- About fifty people work for the Mission. This seems to be insufficient. Sociological skills are needed.
- The overall leadership of the Missions will suffer from the fact Congress has lost the elections. The Mission Director is very strong personally, and will not be political affected, according to himself.
Apart from this, the fact that no one has left the Mission, including the Mission Director, seems a positive sign for the commitment of the Mission members and the political support. At the same time this could also be a negative indication: The Mission is not 'dangerous' to the people in power.

1e Have the objectives and strategies changed?
Mini-Mission districts exist, but priorities changed from making model-districts to providing every village with at least one safe source. This is no official change. The impression was that most findings in Mini-Mission Districts are not replicated to the rest of the country, with the exception of the source finding activities.

1f To what level the objectives have been achieved according to the Mission?
Mission members are very positive of the success of the Mission. They say that almost all problem villages will be covered in 1990. Information about the level of service and about the sustainment of this could not be found with the Mission.
But from publications it becomes clear that still a lot of things are needed according to the Mission: Legislation in states, flexibility for Mission management and monitoring and control.

1g Have the structures and processes changed?
The structure seems not to have changed. Processes have been developed in a number of ways. Community participation is seen as a new phase: A sociologist has been appointed. Critical remarks towards CAPART were expressed. Human resources are developed through congresses and videos. Monitoring is exercised through a computerized Management Information System (almost implemented according to the Mission) and through state visits. But monitoring and control is very difficult because the states are autonomous in a lot of respects.

1h Do inconsistencies, contradictions and conflicts exist within the Mission?
All Mission members highly respect the Mission Director and the overall leader (with whom members have no contact). The impression was the Mission Director creates an atmosphere of unity and gameness. But in contrast to the optimism of the members he expresses his concern on the long term, and emphasizes the Mission is only a start. Some Advisors are very technical oriented. Coordination between CAPART and the Mission, or in states between departments and NGO's, are insufficient. Community participation is only starting now. Some Mission members stress the need for community participation, while others just don't understand why problems still exist after all districts have been provided with a computer.

7.1.2   The Contextual Dimension in Institutional Development of the National Drinking Water Mission

2   To what level a sustainable base for rural drinking water and sanitation is existing in the states?

a   Pre-conditions in the states.
   -   No legislation has yet been set up with regard to water.
   -   Budgets have increased the last five years. Whether this is sufficient was not found. For example, when not enough manpower is sufficient, the money is difficult to spend on drinking water. Educating more people in such cases is difficult, because it takes time and because monitoring by the federal level is done by controlling whether the money is directly spent on drinking water installations (and not indirectly by training engineers or others).

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- There seem to be enough technical knowledge and skills. Sociological skills seem to lack, which has negative consequences for participation and monitoring and consequently for a good maintenance.

b **The concept of participation**

In the states the concept of participation is not thoroughly translated in the organizational structure. The majority of the population does not participate in all phases of the process. In most states the villages are supposed to participate during the preparing phase, in choosing the locations were a new tap has to come. But how this happens (what persons of the village actually decide) was not found in this research. The villages furthermore are supposed in general to call engineers at district or block level when a reparation is needed while the engineers are in general supposed to go around the villages at regular intervals. But also here no information was found. Especially the involvement of women seems to be lip-service. 'Everybody' agrees software and hardware should go together, but in practice this hardly happens.

In the field of (rural) sanitation the activities are even more premature. However, this can be understood from the fact that all respondents agreed drinking water has priority compared to sanitation.

c **Monitoring**

No clear, unambiguous monitoring system is existing, neither with regard to implementation nor with regard to O & M. Scarce projects are starting, which differ widely, and are sometimes contradicting. The speed of reparations differs widely. No information was found about eventual evaluation research held in the states.

3 **What is the influence of the political color of the ruling government in a state?**

a **The first hypothesis was that a Congress state (an identical state) is more centralized than a non-Congress state (congenial and hostile states) in the sense that it will have weaker Panchayati Raj and a stronger Collector.**

This was not really fulfilled. Gujarat appeared to be about the only Congress state that has a well developed Panchayati Raj. But indeed the Panchayati Raj seemed to have less power in Gujarat than in West Bengal and in Karnataka.

The expectation that the District Collector will have a stronger position in a Congress state was not fulfilled. The Collector appeared to have the strongest position in the hostile, Marxist state. Next to this in the Congress state, and his position was lowest in the congenial state.

Karnataka seemed to give the best circumstances for a sustained rural drinking water and sanitation.

b **The second hypothesis was that strong Panchayati Raj ensure a sustainable drinking water and sanitation, and that the sustainment in the Congress state would 'thus' be worse.**

It was found that a strong legal position of Panchayati Raj as such does not ensure a sustainable supply of drinking water and sanitation. The Congress state appeared to give the best conditions for a sustainable drinking water supply, because the PHE organization in Gujarat has a decentralized structure down to the village level (at least in the district visited). Furthermore the ecological circumstances seem to create a sense of unity. But as the answers on the second research

question show, no real, positive information was found about the actual sustainment.

c The third hypothesis was that the Congress state would in its policies depend more heavily on and have a closer relationship with the central government. The congenial state would be more independent, and the hostile state would have the most independent attitude.
It was indeed found in general that the Congress government depended heavily on the central government. The chief ministers of the congenial and the hostile state expressed very critical views on the federal government and the Congress party in particular. It was found as well that the two non-Congress states had implemented policies in the field of rural development as opposed from the wishes of the federal (Congress) government.
In fact the atmosphere in the congenial state seemed to be even more anti-Congress. Reasons for this might be the federal aspiration of the Janata party and the fact that indeed in Karnataka a process of real decentralization seemed to be going on (compared to the other states) which is opposed the direction the Congress government wants.

d The fourth hypothesis was that the Congress state would be more influenced by the Mission and get more funds with regard to drinking water. The congenial state would get less funds, and the hostile state the least.
This expectation could not be checked. It was not possible to compare the financial information in a reliable way. Moreover, respondents within the state departments did not want to give any comments on the National Drinking Water Mission. But the impression was that the fact the influence of the Mission seemed to be biggest in the Congress state had more to do with personal circumstances than with Gujarat being a Congress state.

7.1.3 Conceptual Dimension

5 To what extent have contradictions, inconsistencies and conflicts influenced the contribution of the National Drinking Water Mission to a sustainable rural drinking water and sanitation?
To a large extent they have influenced negatively the contribution of the Mission. Partly this was very difficult to influence by the Mission. But some elements could have easily been improved if the will was available, like the relation of the Mission with CAPART. Very disturbing (and unhealthy) is the conflict between the official statistics and the reality. When officially no problems exist anymore, and no evaluation research is done, it is very difficult to convince government that more money is needed. The problem with drinking water is the enormous influence it has on the health of people: The results of malnutrition programs and of just perfect new hand pumps are neglectible in such cases.
But also positive things can be mentioned: The impression was the personality of the Mission Director has increased the actual influence of the Mission. The impression was that most of the Mission members did all they could and were very committed. This is proved by the fact hardly any transfer took place since the start. Another positive point is the Mission Director is the first to admit that not enough has been done.

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6   **Is the Mission suited to its' objectives?**
Without any doubt the Mission has speeded up the process. If it had not been launched, the situation would be worse. The launching of a Mission on itself is a big step and shows the involvement of the federal government.
But if the objective of '40 lpcd on a sustainable base' is taken as the objective of the Mission, than from the beginning it should have been clear this was impossible to achieve. Main reason is the federal structure of India. Without a change in the Constitution (which is out of the question in the field of rural development, since it would destroy the federal structure definitely) the Mission could only advise the states. There is a lack of money, a lack of skills and not enough power.
Furthermore question marks can be placed after the objective of 40 lpcd. Even if much more money was spent, even when no inconsistencies, conflicts and contradictions would exist, 40 lpcd would probably still be 'too' high in the present-day India.

7.2   CONCLUSION TOWARDS CENTRAL PROBLEM

Central Problem was:

What kind of contribution has been given by the National Drinking Water Mission to rural drinking water and sanitation in India?

Institutional Development (ID) focusses at the sustainment of new services. When the indicators for sustainment, as developed and used in this research, with regard to rural drinking water and sanitation would be fulfilled at this moment, the Mission would have paid a contribution to the Development of Institutions in the field (other things being equal).

From the previous answers it becomes clear the indicators for sustainment are only partly fulfilled. Consequently one would say the Mission did not pay a contribution to the Institutional Development of rural drinking water and sanitation. A project organization has been launched, but the institutions did not yet root in the society.

However, this would not be completely fair. The Mission has speeded up the progress and the attention for rural drinking water. The knowledge developed in the technical sense seems to be sustainable. Moreover, it should be remembered that the Mission only started at the end of 1986. As stated before, it therefore is not realistic to expect sustainment.

Another remark should be made towards the contribution of the launchment of the Decade by the WHO to a sustainable rural drinking water and sanitation. Perhaps the contribution of the international pressure of the Decade was the first cause of the achievements and the problems during the eighties in India.

7.3   RECOMMENDATIONS TOWARDS INDIA

Keeping in mind the limitations of this small research, and at the risk of being arrogant, the following recommendations are formulated towards India:

During the eighties, and especially the last four years, positive actions have been initiated in different fields. These projects and developments should be combined and replicated

-   Much more involvement of NGOs should be developed. The way of working of some NGOs seems very succesful. For example, Women's Coordinating Council trains women in collaboration with primary health care centres and through the local women groups already existing in a village (mahila mandals). Together with software they build latrines and handpumps who afterwards succesfully are maintained by the community and one appointed woman.
-   The pani-panchayats and the linesmen in Gujarat seem to be a good solution. They should be linked with the Panchayati Raj, to ensure a more solid base. Panchayati Raj make people (beneficiaries and civil servants like engineers) more accountable. The same goes for the Handpump Mystries in Rajasthan, when the role of women gets more attention in this project.
-   The watershed-development projects in Karnataka develop more reliable ecological conditions, which have a positive effect
    on drinking water.
-   Without any doubt a central agency in this field is a good initiative to enlarge and ensure attention for rural drinking water and sanitation. More sociologists are needed. However, its' limitations should be kept in mind. A computerised Management Information System does not work in the present-day India. Better would be unannouced visits to villages and state governments, evaluation research based on random samples by an independent agency and continuing coordination with related department at the federal level by the Mission.
-   Perhaps it would be a good initiative when states would be obliged to present an integrated plan in which software and hardware aspects are combined, before they get funds.

7.4   FURTHER RESEARCH

7.4.1   General problems of inexperience and a lack of time

In this section the mistakes and experiences gathered in the research at hand are elaborated. It is hoped by the researcher that some future student is helped by it.

What would have to be the form and the content of a next research on rural drinking water and sanitation in India?

With this question chapter 3 ended, indicating the explorative nature of this research. This research has a lot of limitations, which have partly been illuminated in section 3.6. They result from a lack of experience combined with a lack of time. These two factors are huge handicaps for a western student doing research in a developing country. The lack of experience probably is the biggest handicap. Most of the students have never been in such a country. As becomes clear from antropological literature, experience plays an even more crucial role in research in developing countries than 'back home'. Three notorious examples caused by 'inexperience' have been found in this research: Firstly a general overestimation of the physical condition. Secondly, a general underestimation of the time spent with travelling and arranging simple things (especially travelling by riksja and trying to use the telephone). Thirdly one should search information about the 'busy' periods of the political year: In March the annual budget talks take place in India and as a consequence no one has time for a simple western student. Moreover, 1989 was the year the new Five Year Plan had to be finished....

To discover eventual contradictions, inconsistencies and conflicts (Conceptual Dimension), the researcher needs to build up a relationship with respondents, which is time consuming. Choosing the right persons takes time as well. Therefore a limited number of questions need to be put in the research. The Contextual Dimension of the actual subject of research (both the Organizational and the Conceptual Dimension) is another hindrance for the student. Before a researcher is able to study a specific field, the general features of a society must be studied. Such a study can only partly be executed in the home country of the researcher. During the stay in a strange country general and specific subjects interrelate contineously with each other. The danger is that the student drowns in the wealth of general information about politics and administration, and 'forgets' the actual subject. This risk exists the more in a huge country like India. Another danger is that health, ecological and technical aspects are illuminated at the cost of public administrative aspects.

Reasons for this are threefold.
- It has to do with the necessary politeness of the student towards each respondent (don't interrupt the respondents, who usually is much older) and with the ability and willingness of the average respondent to give general information about India, the goals and successes of the organization the respondent represents, instead of giving detailed information which is likely to be more negative and confidential. Thus everybody agrees there is a widespread corruption in India, but "not in our organization". Thus the relations are "smooth here".
- Another problem (connected with the ability) is that persons like journalists and researchers are indeed more critical as outsiders. But at the same time they know less of specific items. Besides, the researcher (the student) usually does not know what groups, what interest they represent. What does 'independence' mean? Express a more negative opinion about the government or about other people and organizations in general?
  Sometimes even the opoposite happens, when the respondent is not in a position to express critical remarks since it would hurt the relations between different agencies (for example Unicef).

-   A third problem faced in India was the unreliability of statistical information (budgets) and the outdated literature.

Next to these Indian problems some 'contradictions, inconsis- tencies and conflicts' might develop in the Netherlands. They are likely to arise when different scientific conventions and convictions are confronted with each other. A future student should realize that to write an MA-thesis under the guidance of two different faculties, can cause certain time-consuming complications. The Faculty of Public Administration is involved thoroughly in different kinds of evaluation research. The general method is to look whether the objectives of a certain policy are achieved, and subsequently to study why (not). Although this search for causes is widespread, and involves a 'Conceptual Dimension' as well, it is another viewpoint than the more antropological way of doing research that springs from Institutional Development.

7.4.2   A new research proposal

Crucial mistake in the present research was the idea to study the National Drinking Water Mission from four viewpoints:
1   -   Centre-state relations in general.
    -   To compare one Congress and two non-Congress states.
2   -   To study state-district relations in general.
    -   To compare three Mini-Mission and three non-Mini-Mission districts.
Too much general administrative and specific non-administrative subjects were touched this way. Too much dynamic variables which were uncontrollable entered the scene. This appeared to be impossible. The researcher was not able to weigh the value of each piece of information.

Most important lesson learned in this research is the necessity to know the villages in India. When you have not travelled to villages, or only have visited model villages, you don't know what you're talking about at higher levels. Consequently it must be admitted that in essence it is almost impossible for a student to study centre-state relations (in a certain field) in India.

Suggestions for a next research in India about centre-state relations in the field of rural drinking water and sanitation, executed by a student in Public Administration to acquire a Masters Degree are:

I   Form
Time-schedule in India would be: After one month in New Delhi the researcher would not make an intervention for a month. Instead a week of contemplation (in which no interviews would be made) would prepare the visit to only one state (instead of three). The state visit would last about six weeks (instead of twelve days). This way it would be possible to build up a kind of relationship with respondents, by interviewing them at least twice and by accepting eventual invitations. From more personal contacts a lot can be learned (apart from enjoying them).

In the state two districts could be visited (instead of only one). Since the political and administrative situation would be more or less the same, this would enable a more reliable comparison, and a more thorough study of state-district relations. At the state and district level relations between departments could be studied (this was not possible now). Different NGOs could be visited, and the background of so-called 'independents' could be assessed. This way much more possibilities would exist to check the information.

II Content
The above described form would ensure much more variables are controlled (or fixed).

- Next to this, the **operationalization of 'sustainment'** should be more specified. Firstly this should be done by trying to get information about the priority of rural drinking water and of rural sanitation compared to other subjects. What is the relative power of the state PHE-organization compared to other departments? Since statistical information appeared to be unreliable, contradic- ting and difficult to interprete, much less time should be spent on statistical questions. Only total numbers (of handpumps etc.) together with 'total' budgets (in percentages of the plan outlay) would be asked, dating from a view years (e.g. ten years back, five years back and this year).
  Secondly the concept of participation should be worked out more thoroughly: What different views are embraced in different organizations and at different levels about 'the' beneficiaries? Do views of 'the' population change in the different phases during which participation can take place (section 2.2.4)? What specific actions are undertaken towards women? Do PHE-engineers collaborate at all levels with other departments, especially Health and Education? On what scale projects are undertaken, and what is happening in the non-project areas? Of course the involvement of NGOs needs to be examined very consciously.
  Thirdly, and related with participation, the question towards the materialization of the monitoring system should be asked much more specifically. It is not sufficient when an engineers just answers that 'the' villages are responsible for O & M. How much do engineers visit each village? How do they visit a village, to whom do they talk? What percentage of the different drinking water systems used are on average out of order? Very important is the question of a sustainable drinking water supply the whole year through and the existence and use of alternative sources.

- Questionlists to respondents should be much more specified towards the above. When all topics above are not literarily formulated once, the danger exists they are forgotten during an interview. The lists used in this research contained too much 'general' topics about India. One consequence of this was that when the 'general' topics were 'finished', usually not much time was available anymore.

- The questions about (non-)Congress states would be abandoned. Not because no difference could be found, but because only one state would be visited.

Other suggestions for public administrative researches are:
1 Study the differences between Congress and non-Congress states in general. In this respect Hindi and non-Hindi speaking states or northern and southern states could be studied (section 5.4);
2 Study state-district relations in one specific state (to avoid differences in the administrative and political situation), for example in the field of rural development;
3 Make a more detailed study in a district (which was done by Van de Maten) in the field of rural drinking water and sanitation;
4 Compare urban and rural drinking water and sanitation within one state.

APPENDIX I   NOTES

1   Maten, M.v.d., Development for sustainability - ID and the Santalpur regional water supply scheme, University Twente, 1989.
2   For Example Agarwal, B., 1981.
3   Krishna, S., 1985, pp. 2 - 4.
4   Amongst others: Wehrle, K., 1983; Pickford, J., 1988; Kerr, C., 1986; Lumbers, J., 1982; Chandler, C., 1986; Kalbermatten, J.M., 1983. All articles in Waterlines.
5   World Water, 1988, p. 15.
6   National Masterplan Government of India, 1983, p. 5.
7   VII Five Year Plan, 1985, p. 301.
8   VII Five Year Plan, 1985, p. 300.
9   Raghavar, S.T.V., 1985, p.11.
10   Ghosh, G., 1988.
11   Government of India, Project Document, 1986, p. 3.
12   Bakker, N., 1988, p. 1.
13   Bakker, N., 1988, p. 1.
14   Keuning and Eppink, 1986 , p. 239.
15   Israel, N., 1987, p. 6.
16   Paul, S., 1983, p. 137.
17   Paul, S., 1983, p. 109.
18   Paul, S., 1983, p. 38.
19   Grindle, M.S., 1988, p. 5.
20   Israel, N., 1987, p. 1, and Hadden, S.G., 1988, pp 171-196.
21   Not always, see Sommers, H. in Volkskrant, February 2, 1989.
      An interview with L. de Haan about his thesis "Overheid en regionale integratie van de savanne in Togo 1885-1985".
22   Grindle, M.S., 198x; Hoogerwerf, H., 1983, p. 19; Kothari, S., 1969, p. 10.
23   Sussman, G.E., 1988, pp. 104-122. This article is about the Indian decision in the fifties to replicate in a high tempo the excellent slowly-but-surely working prject on integrated rural development. This had very meagre results.
24   Paul, S., 1983, p. 57.
25   Paul, S., 1983, p. 75.
26   Paul, S., 1983, p. 82.
27   Paul, S., 1983, p. 84.
28   Paul, S., 1983, p. 87.
29   Paul, S., 1983, p. 93.
30   Paul gives the example of the Japanese habit of 'extensive consultation' before making a decision (p. 95). It seems time-consuming to consult all people involved, but once a decision is reached, implementation is smooth and fast. This habit also exists in Indian villages.
31   Israel, p. .. (specification) and Paul, p. 102, 103.
32   Israels mentions politicising as a means to increase competitiveness or concurrence amongst beneficiaries. He thinks specification and competitiveness are two of the most important aspects that make a program successful.
33   Chaturvedi, A., 1988, pp. 95-97.
34   Not very surprisingly a lot of authors stress this point: See Grindle, Hoogerwerf 1983, Paul 1983 etc.
35   Grindle, M.S., 198x, p. 8.
36   Riggs, F., 1970, pp. 150-167; Felsbourg, 1989.
37   Schulte Nordholt, N., 1988.
38   Amongst others Kothari, S. p. 10, 1969 and note 23.
39   The authors mentioned already all pay more or less attention to this aspect.
40   Goyal, O.P., 1988.
41   Wade, R., 1985, pp. 467-497. But also Hoogerwerf, H, 1983.
42   Kothari, S., 1969, Paul, S., 1983, Jain, L.C., 1985 and many others.
43   Tully, M., 1989, pp 103-115 and Ali, T., 1985. It should be noted that the official name of the present-day Congress Party is Congress (I), since the (second) split in 1977. 'I' stands for Indira, political leader of Congress between 1964 and 1984. See Appendix III.
44   Goyal, O.P., 1987.
45   Bhambhri, C.P., 1970, p. 322. For reasons of simplicity in this report only the name 'Collector' is used, and not the names District Magistrate and Deputy Commisioner.

46   Robins, E., 1986, pp. 67-76.
47   Swanborn, P.G., 1983, pp 40 - 45.
48   Piyush, 1987, p. 2-4.
49   Ghosh, G., 1988.
50   See note 48.
51   See note 48.
52   In December the Mission Director paid a visit to the Nether-lands, during which it was possible to ask this question.
53   Ghosh, G., 1989 and 1988. See also interview 2.1.
54   VII Five Year Plan, 1985, p. 301-305.
55   Ghosh, G. and Srivastava, G., 1988.
56   Dube, S., in Sunday 1988, p. 75.
57   Thanvi, O., in Itwari Patrika, 1987.
58   A newspaper in Uttar Pradesh wrote about engineers of the state PHE organization who went on strike "to prevent water supply and sewerage systems from going into the hands of non-technical persons". Varanasi, February 1989.
59   Roy, S., 1984 in Waterlines and 1986 in Moving Technology. And Mitra, A., 1986, p. 60-70.
60   Maten, M.v.d., 1989, p...
61   See note 59.
62   See note 59.
63   Mitra, A., 1986, p. 45.
64   GOI in collaboration with WHO, 1986, p. 55-62. See also the Mitra's report.
65   Krishna S., 1985 and many others (note 3 and 4).
66   See note 60.
67   Stepwells are large open wells with steps leading to the water so that a person stands in the water while filling a pitcher.
68   Rai, U., in Times of India, 1989. See also interview 3.5.
69   Ghosh, G., 1988.
79   Unicef, 1985.
80   Ray, R., 1985 and Nehru, J., 1942.
81   A small newspaper article Bomb blasts Howrah, March 5 1989, a few days after my visit (!).
82   Mathew, G., 1986.
83   Government of Karnataka, 1985, p. 6.
84   Schenk, H., 1981. See also interviews 3.10 and 3.13.
85   For example, Hegde, R., 1986, 1988, 1989.
86   VII Five Year Plan 1985-1990, p. 273, 275, 315 and 340.
87   WHO, The International Drinking Water Supply and Sanitation Decade Directory - India in World Water, March 1984.
88   VII Five Year Plan 1985-1990, p. 303.
89   Goede, K.de, 1988, pp 200-208.
90   Paul, S., 1983, p. 97.
91   'A Responsive Government' is the name of the latest version of the Minimum Needs Plan of Rajiv Gandhi. The MNP is a rural development plan consisting of 20 subjects, amongst which are drinking water and health. The states are obliged to implement the MNP, and it is financed on a 50/50 base between the states and the centre. At least two respondents made very negative remarks about the MNP (2.13 and 2.20).
92   Cohn, B.S., 1971, pp. 111-165.
93   SC/ST usually live in remote hamlets. They are not identical with the untouchables, who are complete casteless, and do the lowest work for in the society.
94   Veen, K.v.d., 1976, pp. 287-303.
95   Maten, M.v.d., 1989.
96   Personal observation, see also Maten, M.v.d., 1989.
97   Interview 1.1, the articles of B. Roy and note 58.
98   Ghosh, G., 1989 and 1987.

APPENDIX II   LITERATURE

1   Agarwal, B., Water resource development and rural women, Institute of Economic Growth, New Delhi, 1981.
2   Aziz, A., The planning priorities of the district governments in Karnataka, Institute of Social & Economic Change, Bangalore 1989.
3   Bakker, N., Institutional Development - Checklist, Erasmus University Rotterdam, 1988.
4   Bakker, N., Werkstuk Institutional Development, Erasmus University Rotterdam, 1988.
5   Basu, J., Panchayati Raj Sammelan for Eastern and North Eastern States - Inaugural Adress, Government of West Bengal, Calcutta, April 1989.
6   Chaturvedi, A., District Administration - They dynamics of Discord, Saga Publications, New Delhi, 1988.
7   Chandler, C., Achieving success in community water supply and sanitation projects in Waterlines, Vol.5, No.2, pp.2-6, October 1986.
8   Cohn, B.S., India. The social anthropology of a civilization, 1971, pp. 111-165.
9   Datta, A. (ed.), Selected articles of the Indian Journal of Public Administration: Union - State Relations, Indian Institute of Public Administration, New Delhi, 1987.
10   Dube, S., A thirst for solutions in Sunday, p. 74-75, December 1988.
11   Fasseur, C. and Kolff, D.H.A., Some remarks on the Development of Colonial Bureacracies in India and Indonesia, University of Leiden.
12   Felsbourg, M., Institutional Development-in-Ontwikkelingslanden—Eeen theoretisch kader en vier case studies, Univerity Twente, 1989.
13   Fishlock, T., India File, Rupa & Co, Calcutta, 1984.
14   Ghosh, G., International Drinking Water Supply and Sanitation Decade in India - A case study of the policies and problems, Latin American Seminar, Brazil, October, 1988.
15   Ghosh, G., Water, New Delhi 1987.
16   Ghosh, G., The Decade - An Asian Perspective, Sophia Antipolis, France, November, 1989.
17   Ghosh, G. and Srivastava G., 14th WEDC Conference - Water and urban services in Asia and the Pacific, Kuala Lumpur April 1988.
18   Goede, K.de, Kooijmans, J.L. and Shah, C.C., Rurale drinkwatervoorziening in India, niet techniek alleen, in H2O, Vol.21 No.7, March 1988.
19   Government Of India (All India Institute of Hygiene & Public Health) in collaboration with WHO, Proceedings of workshop on Primary Health Care, Calcutta, 1986.
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APPENDIX III KEY STATISTICS

Geographical and demographical indicators

Total area	3.288.000 square kilometers
Percentage in agricultural use	55 %
Population	800 million (of whom 388 million female)
Annual growth of the population	2 %
Density of the population	244 per square kilometer
Urban population	26 %
Rural population	74 %

Economical indicators

GNP per capita	$ 270 (1985)
Annual growth GNP between 1985-1987	5 %
Percentage part of sectors in GNP:	
- Agriculture	37 %
- Industry	22 %
- Services	41 %
Import as percentage of GNP	7.3 %
Export as percentage of GNP	4.8 %
Investments as percentage of GNP	22 %
Savings as percentage of GNP	19 %
Government budget as % of GNP	31 %

Social indicators

Average length of life	56 years
Infant death rate per 1000	90
Percentage illiterates:	
- Male, general	65 %
- Female, rural	82 %
- Female, urban	42 %
Participation in primary education:	
- Boys	100 %
- Girls	68 %
Percentage of the incomes collected by	
- The highest 20 % of households	50 %
- The lowest 20 % of households	7 %
Female headed households	
- Rural	5-10 %
- Urban	up to 50 %

Source: DGIS, Ministry of Foreign Affairs, The Netherlands.
        Landenbeleidsplan 1989 - 1992.

I   Introduction

In this appendix some salient aspects of the phenomena of the Indian public administration are discussed, additional to what already is written in the core text. Firstly, a short historical overview ending with the concepts and legislation underlying the administration in independent India will be given. Secondly, some general problems which have risen since Independence: questions of decentralization versus centralization.

II   Historical overview and characteristics

During the second half of the 19th century and upto Independence the Indian Civil Service (ICS) functioned as the ancestor of the Indian Administrative Service (IAS). The ICS's numbered about the thousand, administered all the districts and manned the secretariats, rising to the highest government levels. In the beginning the Service was almost entirely British, but after the First World War Indians were admitted into the Service. Traditionally preserving law and order and collecting revenues, mostly in the rural areas, its task gradually extended to development administration to enlarge India's capability for economic growth.

The founders of the Constitution realized that this huge subcontinent with it's divers historical, linguistic and economical backgrounds in different parts of the country, needed a relatively strong central government to prevent centrifugal tendencies. Furthermore, the widespread poverty had to be tackled and the fruits of development had to be equally devided between the rich and the backward areas and between all groups of the society. This resulted in a Constitution giving strong powers to he central government. Examples are the right to intervene in a State when "the unity of the country is threatened" and the appointment by the federal government of the Governor, who is the Constitutional Head of a state.

But in essence the Constitution was a federal one, as the clear division in tasks through the 'State List', the 'Federal List' and the 'Concurrent List' shows. Through direct elections based on the district voting system (independent from the central elections) the independence of the states was thought to be ensured as well. A last minute addition to the Constitution was the article about local democratic institutions: the Panchayati Raj. This article more was a tribute to Mahatma Gandhi than a real thoughtout Constitutional article.

1   To maintain this strong Centre also in practice, Jawaharlal Nehru and his first cabinet realized that the civil service was badly needed for immediate tasks of consolidation in the first roaring years of Independence. They incorporated the ICS as well as other 'All India Services' like the Indian Forest Service and the Indian Police Service into the Union government. In the Constitution you can find their legal base in art. 312, sub 2). Further rules are laid down in the All India Services Act of 1951. After Independence the name of the ICS was changed into Indian Administrative Service (IAS). The IAS are recruited by the Union government through an all India examination held by the Union Public Service Commission. Nowadays about 150.000 academic graduates try their luck in the examinations and after three rounds, finally around 100 à 150 are selected and admitted to the National Academy of Administration. There they receive a two-year training course. Every 100 à 150 entering at the same time form a 'badge'. This common background often forms a solid 'old boys network'. After the training the junior IAS's are allotted to the state governments. This is done to ensure the unity of India in three different ways:

    1 to ensure uniformity in the quality of the .civil ser   vants who men crucial posts in the state governments.

    2 to let officers of one part of the country serve in other parts of the country. The division seems to be 40% IAS's born and stationed in their native state, 60% from other parts of India.

    3 to be able to resist the local political pressures.

There are about 250 IAS's in a state. Working conditions are regulated by the Union Public Service Commission. The IAS's normally stay for a period of 15 à 20 years in a state, roulating over several posts, each for approximately three years (often shorter) and gradually climbing up to higher levels. They start with being Additional District Magistrate, then District Collector or Magistrate in several districts, then all sorts of managerial functions in state public enterprises and finally top functions within the state governments.

2	There is a clear division between 'administrative' posts and 'technical' ones. The technicians give advice to the administrators, the IAS's, in order to make sound policy. This is done to prevent that 'narrow-minded' technicians have too much power. A non-IAS person (= usually an engineer) only very rarely gets the rank of joint secretary, and an even higher function is out of the question.

3	Furthermore, civil servants (both specialists and generalists) are very frequently transferred to keep them flexible and make them less vulnerable to corruption. The idea is that a civil servant who is working for more than three years in one post, is becoming rigid and is identifying him/herself too much with that one place.

### III	General problems.

First of all it should be remembered that every federalistic republic suffers from the build-in difficulties of this States form: How to come to a satisfying division of power and responsibilities between the Central Government and the States?

In spite of the achievements of India, huge problems still exist/have been developed. They are caused by three interrelated 'problems':

- Hierarchy, role patterns, superficial modernization, tradition, absence of economical/social individual freedom.
- Constitution, bureaucracy, planning.
- Congress Party.

General problem in India is a lack of decentralization, both from the Central Government towards the states as from the states towards the districts and villages. r perhaps it's better to say: Decentralization in words and centralization in deeds. Corruption, and attempts to avoid the official rules springs from this.

a	Centre-State relations have been surrounded by problems since 1947. The Central Government has increased it's powers over the States, and as someone puts it, "the States have become beggars to the Centre".

The decay of the Congress Party plays an important role in this process. In 1947 and in the fifties the party of Gandhi and Nehru had almost absolute support throughout the country and the base of their power (or better authority) lay in the States, and the villages played an important role in it. But when the freedom fighters grew old the independent and democratic spirit also passed away. Corruption came along with a rigid centralized party organization. The party lost it's base, both in terms of contacts with the lower party cadres and in electoral terms. Especially since 1967 regional political parties came up and Congress lost it's (absolute) majority in a growing number of States. Examples are Tamil Nadu, West Bengal, Kerala, Assam, Karnataka, Kashmir.

However, in the Lokh Sabha they were still in power around 1970. Together with a prime minister with authoritarion tendencies ("India is Indira" Gandhi) this resulted in even more centralization in the party. Conflicts led to defections in the Party and to desperate efforts to control both the Congress and the Non-Congress States although both in a different way of course. Examples are numerous:
- Most notorious is the State of Emergency from 1974 until 1977.
- In 1947 the ability of the States to raise their own funds was already small, but through a series of Constitutional changes has been brought to a minimum nowadays.
- The Union Government controls the federal resources, and through the Planning Commission the Union also decides about the allocations of all plan expenditures. Cabinet ministers are member of the Planning Commission, and the States are not represented in the Commission.
Another reason why the processes in the Planning Commission are beyond control is the absence of this body in the Constitution. There is just no formal legislation on the Planning Commission.
- The National Development Council (NDC) is the only body where all States simultaneously meet the Central Government, but it doesn't play any significant role.
- The Central Government controls the televizion, which is biased in favour of the Centre and of Congress States.
- In Congress States Chief Ministers are transferred as and when the Congress top thinks this is suitable.
- In non-Congress States the Governor is sometimes an instrument of the Centre to be a spy and to change the State policies in a more Congress-minded way.
- Also it is often said that non-Congress States get less funds, especially for relief.

Governmental and non-governmental commissions have been set on this problems, but their recommendations were very weak or ignored by the federal Government. Latest example is the Sarkarian Report: According to most respondents the Sarkarian Report certainly is not revolutionary. But their proposals (the institution of a Inter State Council, limitations of the federal practice to intervene through the appointment of Governors) and the state of emergency have been ignored by the Union thus far.

b   Unfortunately in the States happens more or less the same with regard to the districts, taluka's (blocks) and villages: There's a centralization of powers in the capital. The Panchayati Raj are not alive, they don't have enough real power. In most States since the sixties no panchayat elections were held anymore, especially not in Congress States. Formally, districts, blocks and villages are responsible for the rural development activities, but not enough real power exists due to a lack of funds and manpower/knowledge. Between the district officers of the State Departments and the zilla parishads (district governments) relations are unclear or even troubled. Exceptions are West Bengal and Karnataka, where respectively the Marxist and the Janata Party have introduced elections and seemingly effective reforms.
Only recently things seem to change: Probably this year the Lok Sabha will pass a law where panchayat elections are made compulsary. Rajiv Gandhi seems to support the decentralization in the States, although there are quite some people who are suspicious about his (or better Congress') good intentions. They say that such a centralized party as Congress never would accept and strive for a real decentralization. They argue even that Gandhi just wants to enlarge his grip on the districts, by making the District Collector (and IAS-member) again the most powerful in a district.

c   Not everybody is happy with the division 'generalists/administrators' and 'technicians/engineers'. Generalists say that technicians are too arrogant, and think they've got all the wisdom. At the same time we often heard that 'technicians always suffer', since they are as specialists in a particular field for the policy making totally dependent of the wishes and whims of the generalists. Because those are the persons who decide which choices in policy will be made. This might cause some frustration in the technical ranks, even lead to severe conflicts between the IAS and the technical advisers within the ministries.
In this respect, some critical remarks about the functioning of the IAS's can be added. Firstly, being pure administrators, mere masters in playing the system, the IAS's sometimes hinder fast implementation of technological changes because they lack the specialist knowledge technicians (should) have. Rajiv Gandhi seems to have appointed more technicians, specialists on selective posts to ensure the right knowledge on the right place.

d   Furthermore, the transfer system seems not to prevent corruption, but to increase it! Lot of case studies show that because civil servants have no roots in the area where they happen to work this time, they are not very motivated. There's a widespread corruption out of which every level gets his share. During the preparation of the excursion the article of Wade learned us a lot: Because the wages are (too) low, everybody tries to earn some extra 'black money', and tries to get transferred to a better place, that means a place where they can earn more black money. Because more people want those jobs, one has to pay an amount of money to be transferred to such a job. In India, everybody agrees that this is happening on a wide scale, but nobody wants to go into detail (mention places, not to speak of persons).
Administrators and politicians are closely related and have an ambivalent attitude towards eachother: On the one hand they work together. On the other hand administrators blame politicians for being corrupt, representing vested interests and slowing down things, while politicians accuse administrators of the same and of being anti-democratic.

For example, the post of resident commissioner (the ambassador or main representative of a State in New Delhi) is not a very senior post. But when an old (in age) IASser occupies it, he's able to excercize much more influence through his badge mates who are having very senior posts, than other, more junior resident commissionares.

Another example of a discrepancy between norm and reality (which might be quite innocent or a severe injustice) is the power of the local politicians is very specific: Though they cannot sack a 'difficult' IAS-officer, they can influence other people to transfer him!
A third example of the influence politicians could have on the functioning of the IAS is the case of the transfer of a District Magistrate to another post in Bihar through the influence of the Chief Minister, because the D.M. 'pushed too hard' on corrupt practices that he threatened major funders in a Member of Parliament's constituency. Another transfer was being arranged for him. This is one of the reasons why the roulation carrousel goes often faster than the normal three years per post.

Reason for this is the fact that the career pattern of the administrators is still more based on the tradition of periodical promotion, not by their contributions to effective and efficient governing. Prof. J.K. Roy of the Center for South- and Southeast Asian Studies of Calcutta University pleaded for tighening promotion with an assessment of the effectivity in policy implementation and of retarding the 'merrygoround' by linking the transfer system to the Five-year plans. This should restore the balance between job-responsibility and the enjoyance of certain privileges.
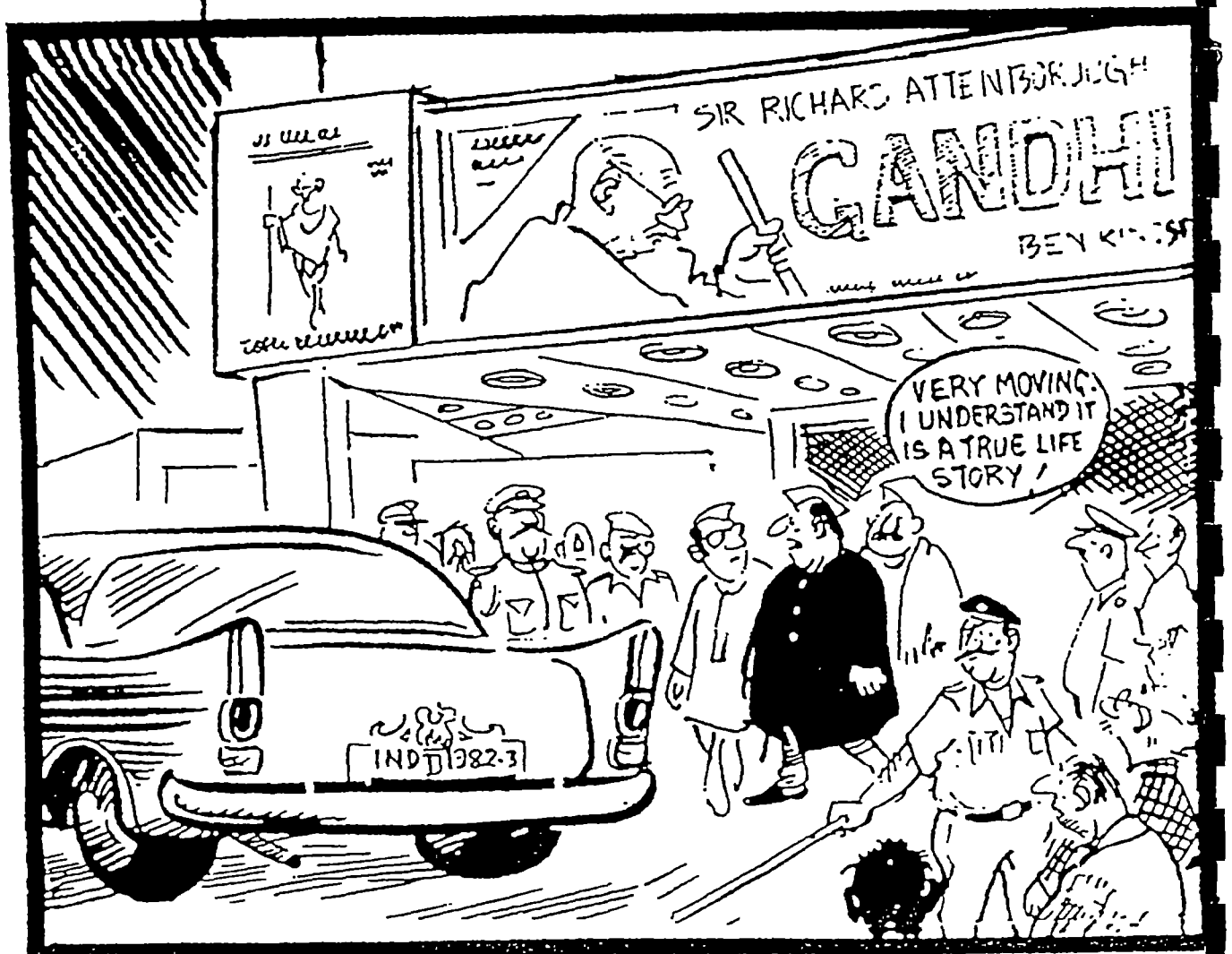
APPENDIX V LIST OF RESPONDENTS

1   MEMBERS NATIONAL DRINKING WATER MISSION, NEW DELHI, JANUARY AND APRIL 1989.

1.1 Joint Secretary and Mission Director of the National Drinking Water Mission.
1.2 Assistant Advisor of the National Drinking Water Mission.
1.3 Junior Assistant of the computerized Management Information System.
1.4 Consultant Science & Technology of the National Drinking Water Mission.
1.5 Deputy Secretary of the National Drinking Water Mission.
1.6 Advisor of the National Drinking Water Mission.
1.7 Consultant Sociology of the National Drinking Water Mission.
1.8 Assistant Advisor of the National Drinking Water Mission.
1.9 Deputy Advisor of the National Drinking Water Mission
1.10 Assistant Advisor of the National Drinking Water Mission (Assistant Advisors are of a slightly higher rank than Deputy Advisors. They are all led by the Advisor (1.6)).

2   JOURNALISTS, REEARCHERS, AND (REPRESENTATIVES OF) NON-GOVERNMENTAL ORGANIZATIONS INTERVIEWED IN NEW DELHI, CALCUTTA, AHMEDABAD AND BANGALORE, JANUARY - APRIL 1989.

2.1 General Director of the Council for Advancement of People's Action and Rural Technology (CAPART), New Delhi.
2.2 Chairman of the Delhi Science Forum, New Delhi.
2.3 Head of the Department of Political Science, Jawaharlal Nehru University (YNU), New Delhi.
2.4 Journalist of the 'Times of India', specialized in drinking water, New Delhi.
2.5 Journalist of the 'Times of India', specialized in Panchayati Raj, New Delhi.
2.6 BBC Correspondent in India, New Delhi.
2.7 Economist of the Institute of Economic Growth, specialized in sanitation and ecology, New Delhi.
2.8 Honory Secretary of the NGO 'Women's Coordinating Council', Calcutta, West Bengal.
2.9 Head of the Department of Political Science, Calcutta University, West Bengal.
2.10 Free-lance journalist, specialized in rural development, Calcutta, West Bengal.
2.11 Chief Bureau of the 'Telegraph Paper', Calcutta, West Bengal.
2.12 Chairman of the NGO 'Safai Vidyalaya' (Sanitation Institute), Ahemedabad, Gujarat.
2.13 Journalist of the 'Gujarat Samaranch', Ahmedabad, Gujarat.
2.14 Head of the Department of Political Science, University of Ahmedabad, Gujarat.
2.15 Head of the NGO 'Organization for Public Interest', Ahemedabad, Gujarat.
2.16 Journalists of the 'Kannada Praba' and 'The Hindu', Bangalore, Karnataka.
2.17 Dutch Specialists in drinking water and sanitation, New Delhi, The Hague and Utrecht.
2.18 A retired Worldbank Advisor, Bangalore, Karnataka.
2.19 Course Members of the Indian Institute of Public Administration (IIPA), New Delhi.
2.20 Transport specialist of the University Madya Pradesh, IIPA, New Delhi.
2.21 Assistant Advisor of the Central Public Health Engineering and Environmental Organization, Ministry of Urban Development, New Delhi.
2.22 Sanitation Expert to Government of India and Worldbank, meeting at IIPA, New Delhi.
2.23 Lecturer IIPA, New Delhi.
2.24 Water Coordinator of Unicef India, New Delhi.
2.25 Head of the Department of Environmental Sanitation and Sanitary Engineering, All Indian Institute of Hygiene and Public Health, Calcutta, West Bengal.

3   WEST BENGAL, FEBRUARY 21 - MARCH 4

3.1 Resident Commissioner of West Bengal, New Delhi.
3.2 Member of Parliament for West Bengal, New Delhi.
3.3 Chief Engineer of the Public Health Engineering Department, Calcutta.
3.4 Secretary of the Public Health Engineering Department, Calcutta.

3.5 District Magistrate of Howrah, Chief Executive of the Howrah Zilla Parishad.
3.6 (Temporarily) Additional District Magistrate of Howrah.
3.7 The Secretary, the Office Superintendent and the elected Chairman of the Howrah Zilla Parishad.
3.8 Chairman of the Standing Committee on Public Health of the Howrah Zilla Parishad.
Interviews 3.1 and 3.2 took place in New Delhi. More information of West Bengal was given in interviews 2.8, 2.9, 2.10 and 2.11.


4 GUJARAT, MARCH 5 - 17

4.1 Resident Commissioner of Gujarat, New Delhi.
4.2 Member of the Legislative Assembly (MLA) from Banaskantha, Gandhinagar.
4.3 Chief Engineer Gujarat Water Supply and Sewerage Board, Gandhinagar.
4.4 Special Secretary of the Government of Gujarat to the Gujarat Water Supply and Sewerage Board, Gandhinagar.
4.5 Executive Engineer of the Radhanpur Division in Banaskantha district, Radhanpur.
4.6 District Collector Banaskantha, Santalpur.
4.7 District Development Officer, Chief Executive of the Banaskantha Zilla Parishad, Santalpur.
Interview 4.1 took place in New Delhi. More information of Gujarat was given in interviews 2.12, 2.13, 2.14 and 2.15.

5 KARNATAKA, MARCH 18 - 30

5.1 Superintending Engineer of Public Health Engineering, Panchayati Raj & Rural Development Department, Bangalore.
5.2 Development Commissioner of the Government of Karnataka, not connected with a Department, Bangalore and New Delhi.
5.3 Director of the State Watershed Cell, Department of Agriculture, Bangalore.
5.4 Chief Secretary, Chief Executive of the Mysore Zilla Parishad.
5.5 Deputy Secretary of the Mysore Zilla Parishad.
5.6 Chief Planning Officer of the Mysore Zilla Parishad.
5.7 Deputy Commissioner (or Collector) of Mysore.
5.8 Executive Engineer and Assistant Executive Engineer of Mysore.
5.9 Advisor Danida, Bangalore.
5.10 Director Danida, Bangalore.
5.11 Director Social Economic Plans (SEP), PR & RD Department, Bangalore.
5.12 The elected Chairman of the district Bangalore Rural.
5.13 Dutch Developmental Worker of the Educational Training Centre, Bangalore.
5.14 Resident Commissioner of Karnataka, New Delhi.
Interview 5.2 and 5.14 (partly) took place in New Delhi.

APPENDIX VI   MAP OF INDIA
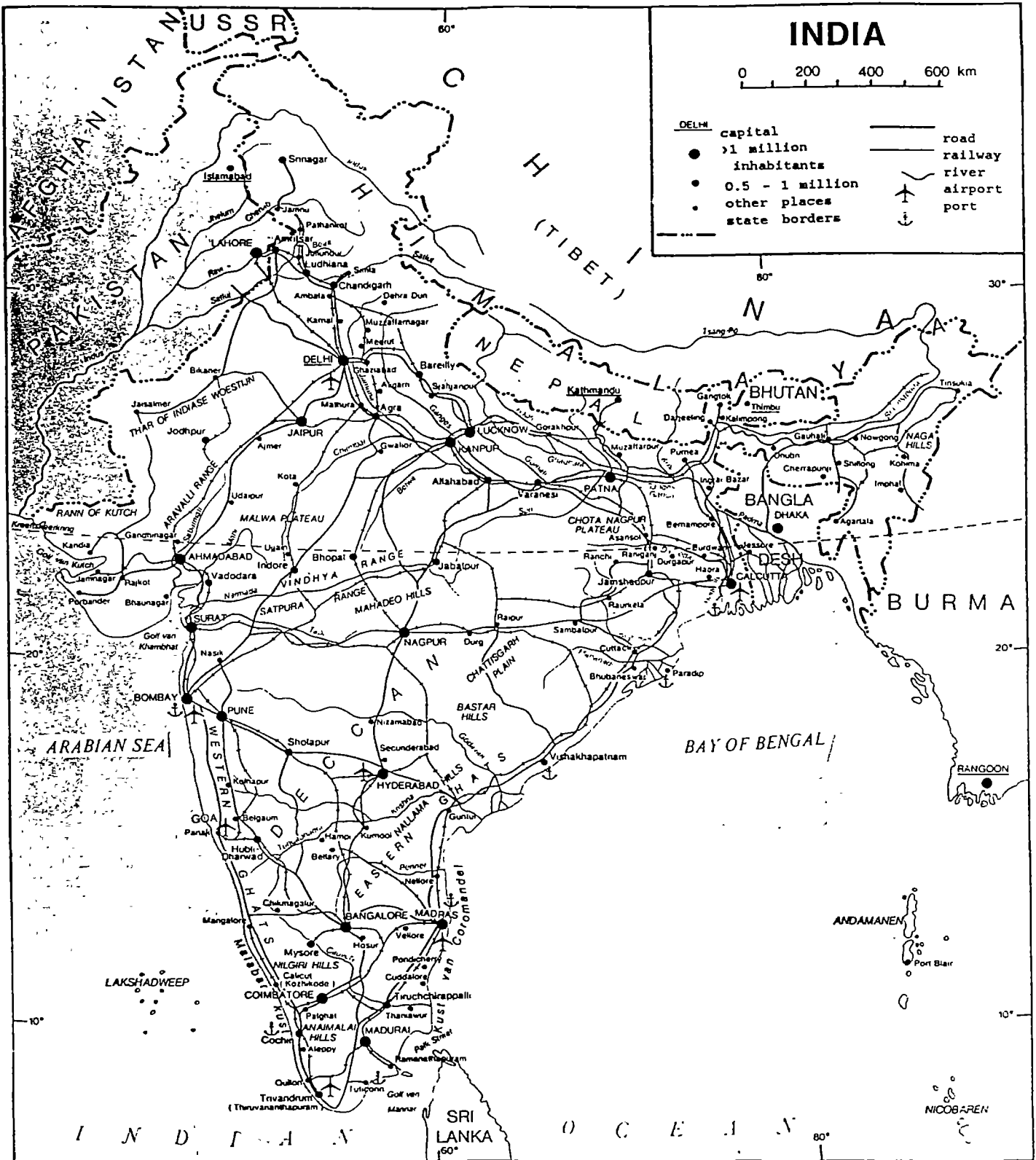
APPENDIX VII   LIST OF ABBREVIATIONS

AIS	All India Services (general name for federal services in India, like the IAS, the Indian Police Service and the Indian Forest Service).
BBC	British Broadcast Corporation.
CAPART	Council for Advancement of People's Action & Rural Technology.
DRDA	District Rural Development Agency.
GWSSB	Gujarat Water Supply and Sewerage Board.
HPM	Hand Pump Mistry.
IAS	Indian Administrative Service.
ICS	Indian Civil Service, predeccessor of the IAS.
ID	Institutional Development.
IDWSSD	International Drinking Water Supply and Sanitation Decade ('the Decade').
IIPA	Indian Institute of Public Administration.
LPCD	Litre Per Capita/Day.
MIS	Management Information System.
NDWM	National Drinking Water Mission ('the Mission').
NGO	Non Governmental Organization (usually (partly) working on a voluntary base).
O & M	Operation & Maintenance.
PR	Panchayati Raj.
PHE	Public Health Engineering (drinking water and sanitation).
PHED	Public Health Engineering Department.
RD	Rural Development.
Rs.	Rupees (fl. 0.14).
SC/ST	Scheduled Castes and Scheduled Tribes.
SEWA	Self Employed Women Association (NGO in Gujarat).
TAG	Technology Advisory Group (of the Mission).
TM	Technology Mission.
WB	West Bengal.
WCC	Women's Coordinating Council (NGO in West Bengal).
WHO	World Health Organization.
UN	United Nations.
UNDP	United Nations Development Program.