

No.W.11033/5/93-TM II
Ministry of Rural Areas & Employment
Government of India
Rajiv Gandhi National Drinking Water Mission

9th floor, Paryavaran Bhavan,
CGO Complex, Lodhi Road
New Delhi - 110003

Date, 20.12 1996.

To,

Dr. J. Venkateswarlu, Chairman of the committee
Former Director, CAZRI, Jodhpur
26, SBI colony, Gandhinagar,
Hyderabad-500080

Sub *Independent evaluation of work done under experimental project -
(WATSAN) with the assistance of UNICEF by an Expert Committee -
Submission of final report.*

Ref Order No.W 11033/5/93-TM.II dated 19th May, 1995

Sir,

I am enclosing a copy of the **Final Report** of the Expert Committee constituted by the Ministry of Rural Areas & Employment (Government of India) vide order under reference. This report was presented to Mission Director on 9.12.1996.

During the period of committee, I enjoyed working with you and Dr.M A. Ghare, member In true sense, I got benefited from your and Dr Ghare's expertise & experiences etc. I am thankful for your guidance during preparation & finalisation of report. I would like to work with you and Dr. Ghare in future also

With warm regards and wishing a very happy & prosperous New Year,

Yours faithfully,

(Dinesh Chand)
Asstt Adviser & Convener
Tel : 4364116

Copy for Information enclosing a copy of the report to.

1. Dr M. A Ghare, (Member of the committee), Chairman ,Action for Agriculture Renewal in Maharashtra Building 2/23-AB, Market yard, Raison Park, Pune-411037.
2. The Secretary, BGVS, West Block II, Wing 6, R K Puram, Sector-1, New Delh110066.
3. Mr Rupert Talbot, Chief Water & Sanitation . UNICEF, Lodhi Estates, New Delhi-110003
4. Ms Anu Dixit, Project Officer (Comm Training) WESS, UNICEF, Lodhi Estate, New Delhi - 110003.
5. Mr Ajay Verma & Dr Sree Kumar Chattopadheya, BGVS Kowsthu Kallampally, Medical College P.O Thiruvananthapuram - 6950011
6. Shri A R. Subbiah, Dy Secretary, R.G.N.D W M , M/O Rural Areas & Employment, Paryavaran Bhavan, New Delhi -110003

(Dinesh Chand)

Asstt Adviser & Convener

Tel 4364116

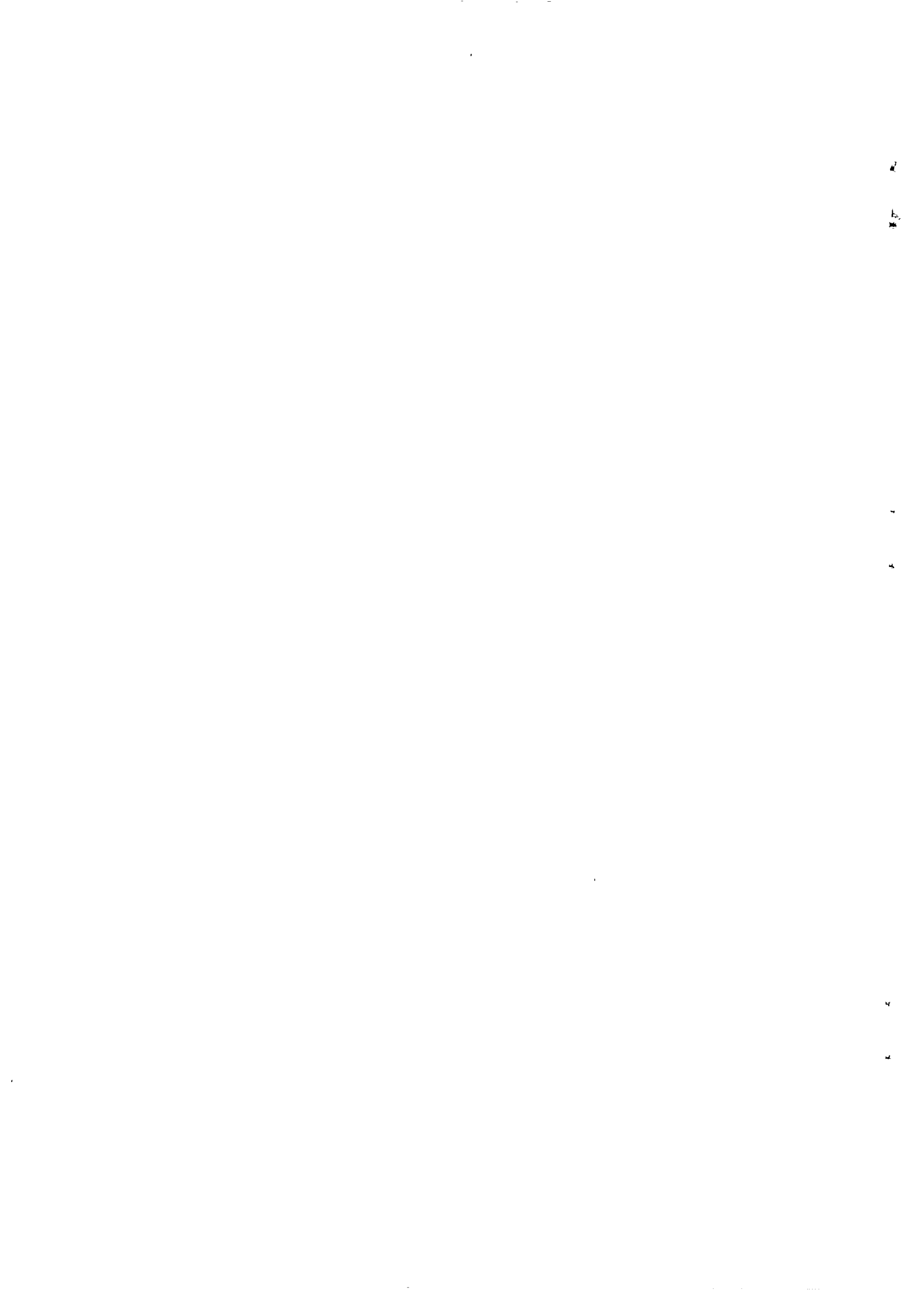
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REPORT ON THE EXPERT COMMITTEE
ON WATSAN EXPERIMENTAL PROJECT ON
PARTICIPATORY DRINKING WATER AND
SANITATION PROGRAMME WITH PEOPLE'S
PARTICIPATION ASSISTED BY UNICEF



RAJIV GANDHI NATIONAL DRINKING WATER MISSION
MINISTRY OF RURAL AREAS & EMPLOYMENT
GOVERNMENT OF INDIA
SEPTEMBER, 1996



ACKNOWLEDGEMENT

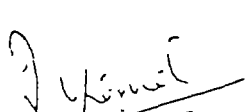
We the members of the Expert Team, are very grateful to Shri P.K. Sivanandan, Joint Secretary & Minister Director (RGNDWM) for giving us this opportunity to be associated with this important project. The participatory approach in the development of rural drinking water facility

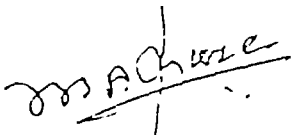
Our team could not have the benefit of the expertise of Dr. Vijay Kochar, former Prof. of Osmania University if he was otherwise occupied. However, for our work in Ganjam and Ramanad districts, the advice of Shri J. Uppal, Consultant (Media) of RGNDWM was available and we thank him for the same.


The team acknowledge the useful role played by the Senior Colleagues in BGVS and PBVM which were monitoring and evaluating their works mainly in selected blocks. We particularly like to thank Dr. Sreekumar Chattopadhyaya of BGVS and Mr. Somnath Bhattacharya, PBVM for our visit to Kashipur (Purulia distt.), Mr. Ajay Verma of BGVS for our visits to Chainpur (Palamau distt.) and Muthukulathur (Ramanathapuram distt.) and Mr. Sudhir Pattnaik, State unit of BGVS for our visit to Bhanjanagar (Ganjam distt.).

We also received excellent cooperation from the district and block officials of the four districts during our visits as well as Rural Water Supply Sanitation Department, Orissa and District Drainage Board officials posted at Chandrapur and Ramanathapuram for their support and courtesy.

We should place on record the services rendered by Personal Assistant, Mr. Lalit Kumar at the headquarters of the RGNDWM in getting this report ready.


(Dinesh Chand)
Member Secretary


(Dr. M.A. Ghare)
Member


(Dr. J. Venkateswara)
Chairman

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ACKNOWLEDGMENT

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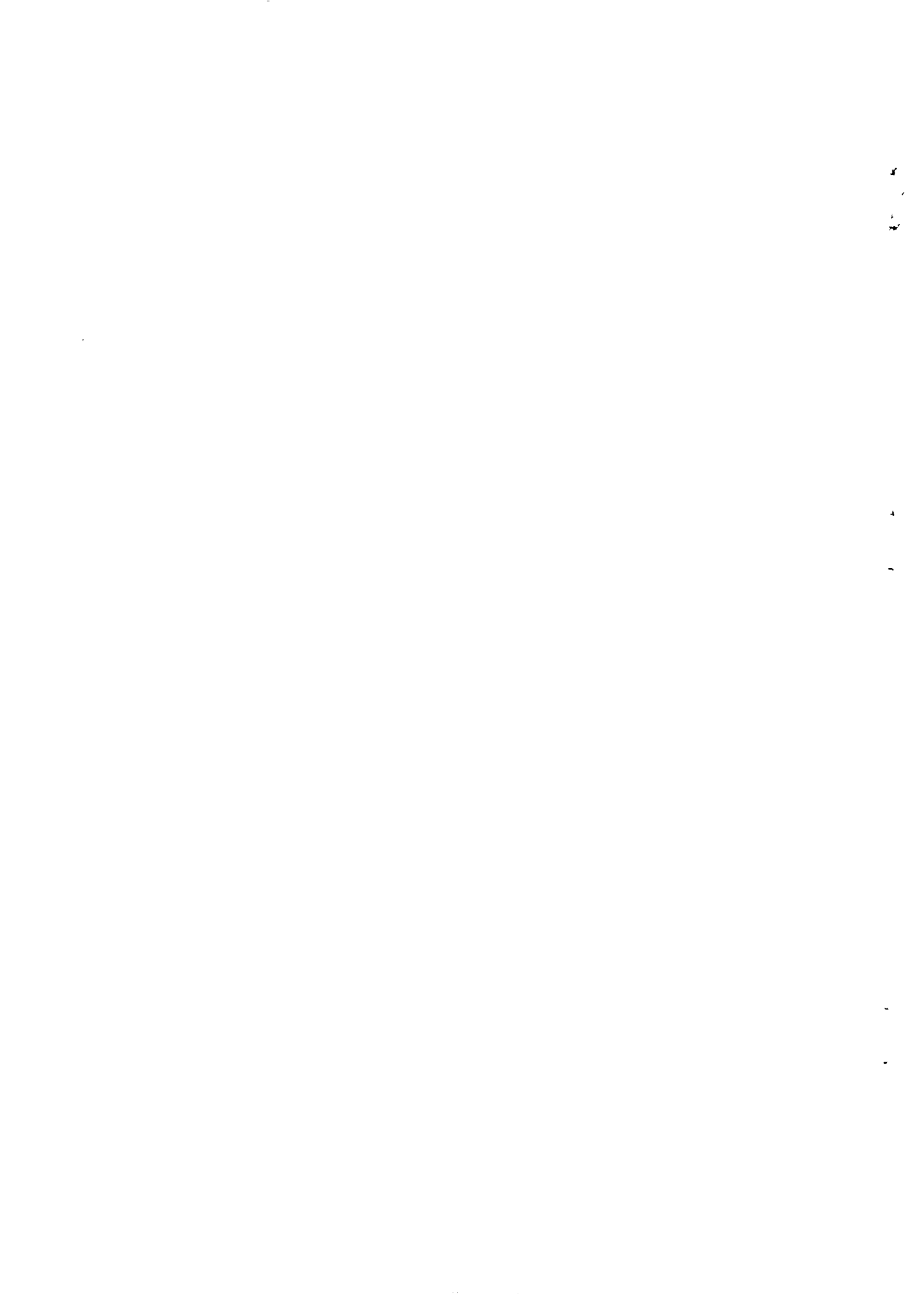
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We should place on record the services rendered by Personal Assistant, Mr. Lallan Manjhi at the headquarters of the RGNDWM in getting this report ready.

Sd/-	Sd/-	Sd/-
(Dinesh Chand)	(Dr.M.A Ghare)	(Dr. J.Venkteswarlu)
Member Secretary	Member	Chairman



MEMBERS OF THE EXPERT COMMITTEE

1. Dr. J. Venkateswarlu Chairman
Former Director, CAZRI, Jodhpur
26, SBI colony, Gandhinagar
Hyderabad - 500080.

2. Dr. M. A. Ghare Member
Chairman
Action for Agriculture Renewal
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3. Shri Dinesh Chand Convener
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EXECUTIVE SUMMARY

Introduction

The Technology Mission on Drinking Water in villages and Related Water Management (renamed as Rajiv Gandhi National Drinking Water Mission (RGNDWM) in 1991) was introduced as a societal Mission in 1986 with the primary objective of providing access to safe drinking water for entire people in the remaining villages "Not Covered" (NC) i.e. not having a single source of safe drinking water in the village within a distance of 1.6 kms. during the VII Plan in the most cost effective manner.

An expert committee was constituted to evaluate the rural water supply programme with special reference to the Mini Mission and Sub Missions in April 1993. The committee has examined the strategies and methodologies and scope for improvement in respect of community participation in Rural water Supply Sector.

In the report of the committee, it was stressed that active participation of the community needs to be differentiated from a passive role which has been there for a long time and genuine participation implies close involvement from the pre-planning stage onwards and is essentially a process of mature dialogue between the community and the professionals leading to consensus decisions.

The areas in which community participation is a must were identified as follows.

- a) Identification of the drinking water problems
- b) Utilisation of indigenous technical knowledge regarding water harvesting
- c) Integration of this knowledge with the technical aspects of the proposed schemes
- d) Site selection to ensure maximum social benefit
- e) Contribution towards both the capital cost of construction and the cost of O&M.
- f) keeping water sources neat and clean
- g) Periodic evaluation of the project.

Bharat Gyan Vigyan Samiti (BGVS) is involved in massive literacy campaigns and has grass-root level network in about 150 districts in the country. Based on the premise that literacy without development is meaningless, BGVS agreed to develop a model of sustainable, self-reliant development in the water supply and sanitation sector which springs from the people. The BGVS evolved a participatory method in resource mapping for the Panchayats. The details of the methodology have been published in "A handbook for land literacy, 1994". Encouraged by the methodology, the Rajiv Gandhi National Drinking Water Mission (RGNDWM) requested them to adopt/adapt this model with the objectives of people's participation in the Rural Water Supply Programme of RGNDWM.

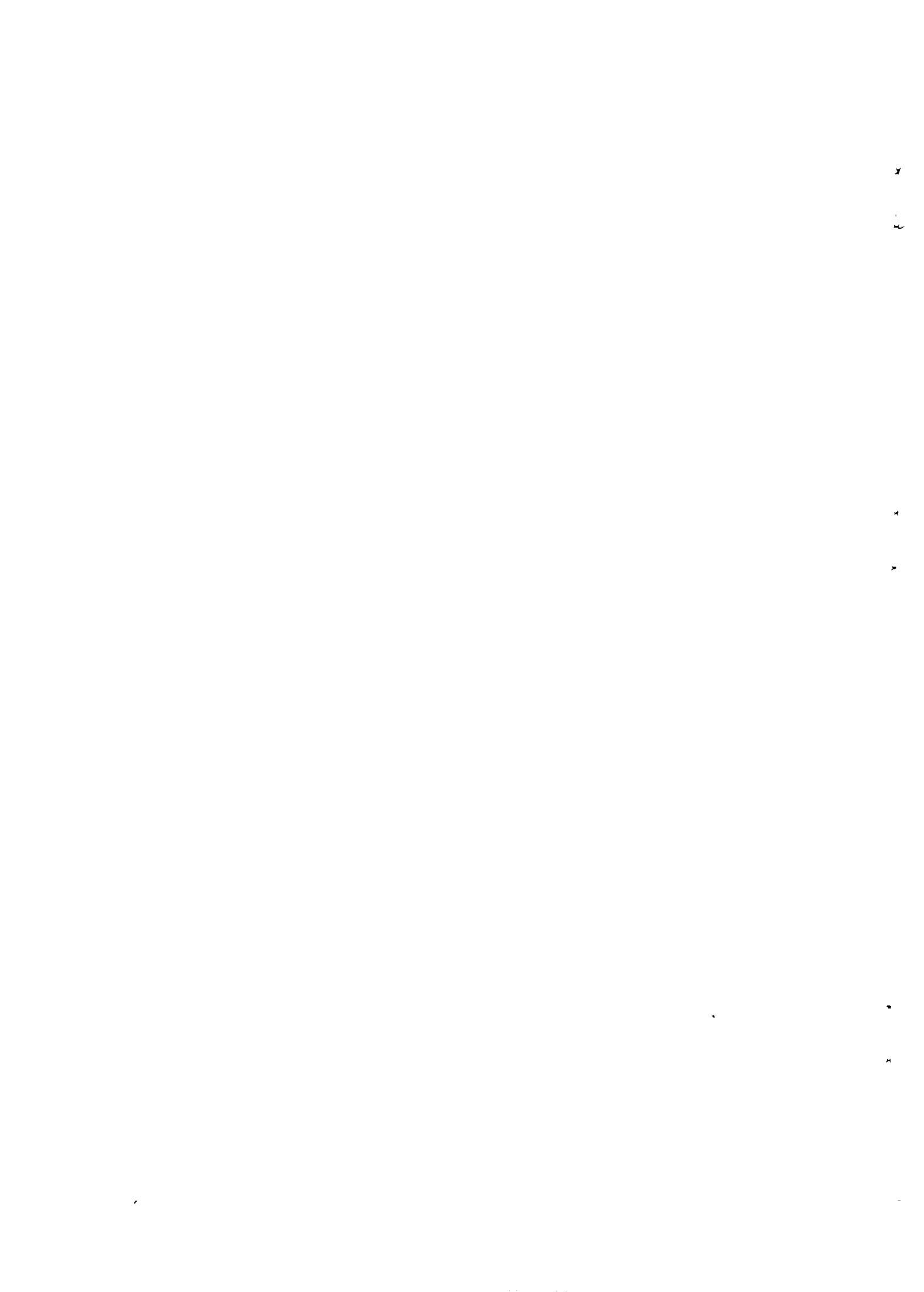


On mutual agreement, it was taken upon a pilot scale project in 4 blocks in 4 districts of 4 different states (West Bengal, Bihar, Orissa and Tamilnadu) in the country for the initial period of one year under the assistance of UNICEF and was extended by one more year.

- An Expert Committee was constituted to conduct a quick and independent evaluation of the work done so far with a view to assess the usefulness in achieving the ultimate objectives of ensuring water supply and sanitation, using proper technology and peoples' effort

SALIENT RECOMMENDATIONS

- 1 The BGVS participatory resource mapping concept was more comprehensive and for the RGNDWM, it needed to be tuned to mainly drinking water taking due care of the norms prescribed for the drinking water purposes by the RGNDWM
2. The state-of-the-art in so far as the present availability, quality, delivery systems and the social fabrics and its idiosyncrasies need be captured through the survey for
 - a) identifying the gaps at the present in terms of (i) quantity, (ii) quality, (iii) non-functional water points, (iv) maintenance, (v) delivery systems, and
 - b) the budgeting water demands now and in the near future.
- 3 Quality testing, monitoring through kits and proper maintenance through a provision of seed money is needed. Volunteers need be trained for this purpose. If needed they may be paid a notional fee. They may be stationed at the G.P. level.
- 4 The action plan for both drinking water and irrigation have been developed and the BGVS assumed that the motivation provided through their intervention during resource mapping and preparation of action plan would carry through these plans and be implemented by the line departments and the people. We feel it may not be that simple. We would like BGVS and its associates to take full responsibility in implementing the action plans as an experiment.
5. Since these action plans involve irrigation as well, we feel that the BGVS may take up both irrigation and drinking water through the programmes on area development on watershed basis and the RGNDWM together as they are under the same Ministry. Thus the programme could be more comprehensive covering among others, resource conservation, water harvesting, efficient land use and drinking water. During the visits, both the people and the BGVS and its agencies were willing to accept this approach



REPORT ON THE EXPERT COMMITTEE ON WATSAN EXPERIMENTAL PROJECT ON PARTICIPATORY DRINKING WATER AND SANITATION PROGRAMME WITH PEOPLE'S PARTICIPATION ASSISTED BY UNICEF

1.0 BACKGROUND

1.1 Rural Water supply and Sanitation Programme

1.1.1 The Technology Mission on Drinking Water in Villages and Related Water Management (renamed as Rajiv Gandhi National Drinking Water Mission (RGNDWM) in 1991) was introduced as a societal Mission in 1986 with the primary objective of providing access to safe drinking water for the remaining 1,61,722 villages which were "Not Covered" (NC) i.e. not having a single source of safe drinking water in the village within a distance of 1.6 kms. before the VII Plan with the drinking water facility in the most cost effective manner. The RGNDWM sought to develop during the Seventh Plan, replicable models for solving area specific rural water supply problems through 55 intensive projects called Mini-Missions and five programmes called Sub-Missions to tackle problems like excess fluoride, iron, brackishness, eradication of guineaworm infestation as well as to promote conservation of water and recharging of aquifers. At the end of the VII plan, almost all villages except 8365 were provided with at least one source of safe drinking water in each village. During the Eighth plan, however, because of re-emergence of no source habitations, emphasis was directed towards imparting sustainability to the systems for completing task by the end of Eighth Plan. Besides work of Mini Missions is drawing to a close and Sub Missions are continuing.

1.1.2 Central Rural Sanitation Programme (CRSP) was launched in 1986 with the objective of improving the quality of life of the rural people and to provide privacy and dignity to the women. This was intended to supplement the efforts of the States. The programme originally provided for 100% subsidy for construction of sanitary latrines for Scheduled Castes (SC), Scheduled Tribes (ST) and landless labourers and subsidy as per the rate prevailing in the States for the general public. In 1991, the criteria and norms were modified to provide 95% subsidy to SC, ST and people below the poverty line and 80-90% for general public. The programme also provided for construction of village complex with bathing facilities, hand pumps, sanitary latrines, drainage facilities, washing platform etc. Provision was also made for the administrative cost, training of masons, awareness and health education.

In 1992, based on the recommendations of the National Seminar on Rural Sanitation in September, 1992, CRSP guidelines were further revised. The programme took an integrated approach to rural sanitation and included generation of felt need, peoples' participation, involvement of voluntary organisations in publicity campaigns and execution of the programme, easy availability of material and technical know how in rural areas through Sanitation Marts and development of minimum of one model village in each State having all



the sanitation facilities, for the Eighth Five Plan, a target of 10% population coverage with sanitary facilities has been set.

2.0 RECOMMENDATIONS OF EXPERT COMMITTEE ON RURAL WATER SUPPLY PROGRAMME HEADED BY DR. B. B. SUNDRESAN

An expert committee was constituted to evaluate the rural water supply programme with special reference to the Mini Mission and Sub Missions in April 1993. The committee has examined the strategies and methodologies and scope for improvement in respect to community participation in Rural water Supply Sector.

The Expert Committee has noticed that the Technology Mission experiment implied active participation of community in rural water supply at all stages, right from planning upto O&M. The need for community participation is well recognised and some of the important benefits of such participation are listed below:

- * a sharper identification of needs
- * local resources mobilisation
- * providing the added input of traditional local knowledge
- * closer supervision of work
- * improved O&M
- * authentic feedback

It was stressed that active participation of the community needs be differentiated from a passive role which has been there for a long time and genuine participation implies close involvement from the pre-planning stage onwards and is essentially a process of mature dialogue between the community and the professionals leading to consensus decisions.

The areas in which community participation is a must are identified as follows:

- a) Identification of the drinking water problems
- b) Utilisation of indigenous technical knowledge regarding water harvesting aspects
- c) Integration of this knowledge with the technical aspects of the proposed schemes
- d) Site selection to ensure maximum social benefit
- e) Contribution towards both the capital cost of construction and the cost of O&M
- f) keeping water sources neat and clean
- g) Periodic evaluation of the project.

The Committee has observed that at best, there have been consultations with the local people or the Gram Panchayat to decide the location of a spot source. But beyond that, the community was not made aware of its entitlements. Even where the Panchayat Raj System is in operation and the Panchayats have been entrusted with the task of running local water supply systems, the involvement of the community is only marginal.



When the handpumps or the taps break down, the village waits for the government mechanic to repair it, and it is not felt necessary to set it right with local initiative. The water supply stem is not perceived as common property by the community. Adequate structural arrangements and procedures for community participation have not been made anywhere. Finally this expert committee has recommended the following to make the people's participation a reality:

- * Community participation should be full participation of the community from the pre-planning stage itself and the community should be actively involved in monitoring as well as O&M: Water Committees are recommended for each spot source or a group of sources
- * participation Orientation training should be given to officials to facilitate community.
- * NGOs should be helped by supporting model integrated projects involving the local community. The mode of selection of the NGO and the scale of assistance should be transparent.
- * Cost sharing with at least 10% of the capital cost and 50% of the O&M cost must be a basic element of people's participation.
- * Each state has to prepare a clear procedure for community involvement and finalise it within six months.
- * IEC cells should be made compulsory in all state PHEDs.
- * At least half a per cent of the investment in rural water supply should be earmarked for approved IEC activities.
- * Social audit should be introduced in rural water supply

2.0 THE PARTICIPATORY PROJECT IMPLEMENTED BY BGVS

2.1 Background of BGVS

Bharat Gyan vigyan Samiti (B.G.V.S) is a voluntary organisation of eminent activists from the literacy movement, formed in the wake of the massive literacy campaign with the full support of the Ministry of Human Resources Development. BGVS has grass-roots level network in about 150 districts in the country. Based on the premise that literacy without development is meaningless, BGVS has agreed to develop a model of sustainable, self-reliant development in the water supply and sanitation sector which springs from the people. The BGVS evolved a participatory method in resource mapping for the Panchayats. The details of the methodology have been published in "A handbook for land literacy, 1994". Encouraged by the methodology, the Rajiv Gandhi National Drinking Water Mission (RGNDWM) requested them to adopt/adapt this model with the objectives of people's participation in the RGNDWM.

On mutual agreement it was taken upon a pilot scale in four blocks in the country as detailed below:



Sl.	State	Distt.	Block	Area (sq.km.)	No. of GPs	No. of RVs	Population (1991)
1.	Tamil Nadu	Ramanatha puram	Muthu-	3.38	46	36	85.329
2.	Orissa	Ganjam	Bhanjanagar	593	20	135	135.925
3.	West Bengal	Purulia	Kashipur	439	13	212	145.254
4.	Bihar	Palamau	Chainpur	639	24	182	134.115
Total				1909	103	567	510.116

GP: Gram Panchayat; RV: Revenue Village

The approved budget was Rs. 2.8 million and taking a 2.0% growth rate population, this works out to about Rs. 5 per head as on 1995.

The Project was launched on July 1, 1993 and it terminated by June 30, 1995. This project is supported by UNICEF.

2.2 Project Purpose

The project was to evolve a sustainable model of water supply and sanitation by combining the holistic knowledge of land and water resources which the community has with the technical knowledge of experts and by integrating various programmes and services of the Government with the voluntary contribution of the people in a clear cut plan of action prepared jointly by the people and development officials with the help of volunteers with scientific background.

The project aims at giving confidence to the rural people to enable them to assess their primary resources and utilise them according to the priorities they deem essential. The emerging final plan would be based on the perceptions and needs of the community. The scientific personnel would only play a supportive and catalytic role.

At the end of the project through field-wise mapping of various local features, the villagers would feel involved and respond constructively to their problems.

The maps would offer a vivid picture of the effect of the development process so far on the local resources, both positive and negative, and suggest the potential for the future. Since the maps would be the product of the cross fertilisation of local knowledge and scientific assessment of resources, they could offer a rational basis for planning for future developments.



2.3 The coverage of activities under the Project

The various activities envisaged and covered by the BGVS and its associates are:

- * National level orientation and training to the key organizers, scientific assistants and connected government officials from the four project areas
- * Intensive environment building campaigns
- * Block level training for resource persons
- * Gram Panchayat (G.P.) / Revenue Village (RV) level training for volunteers
- * Participatory resource mapping and data collection by the volunteers
- * Compilation of thematic resource maps on terrain features, land use and water resource status & community facilities by the volunteers
- * Compilation of G.P./ RV level database by the volunteers
- * Map communication and resource literacy to the community at the hamlet level by the volunteers
- * Formation of community organisations at the hamlet, village, G.P. and Block level
- * Participatory action planning by the community
- * Finalisation of action plans by the local organisations
- * Formation of implementation committees at appropriate levels to implement development programmes

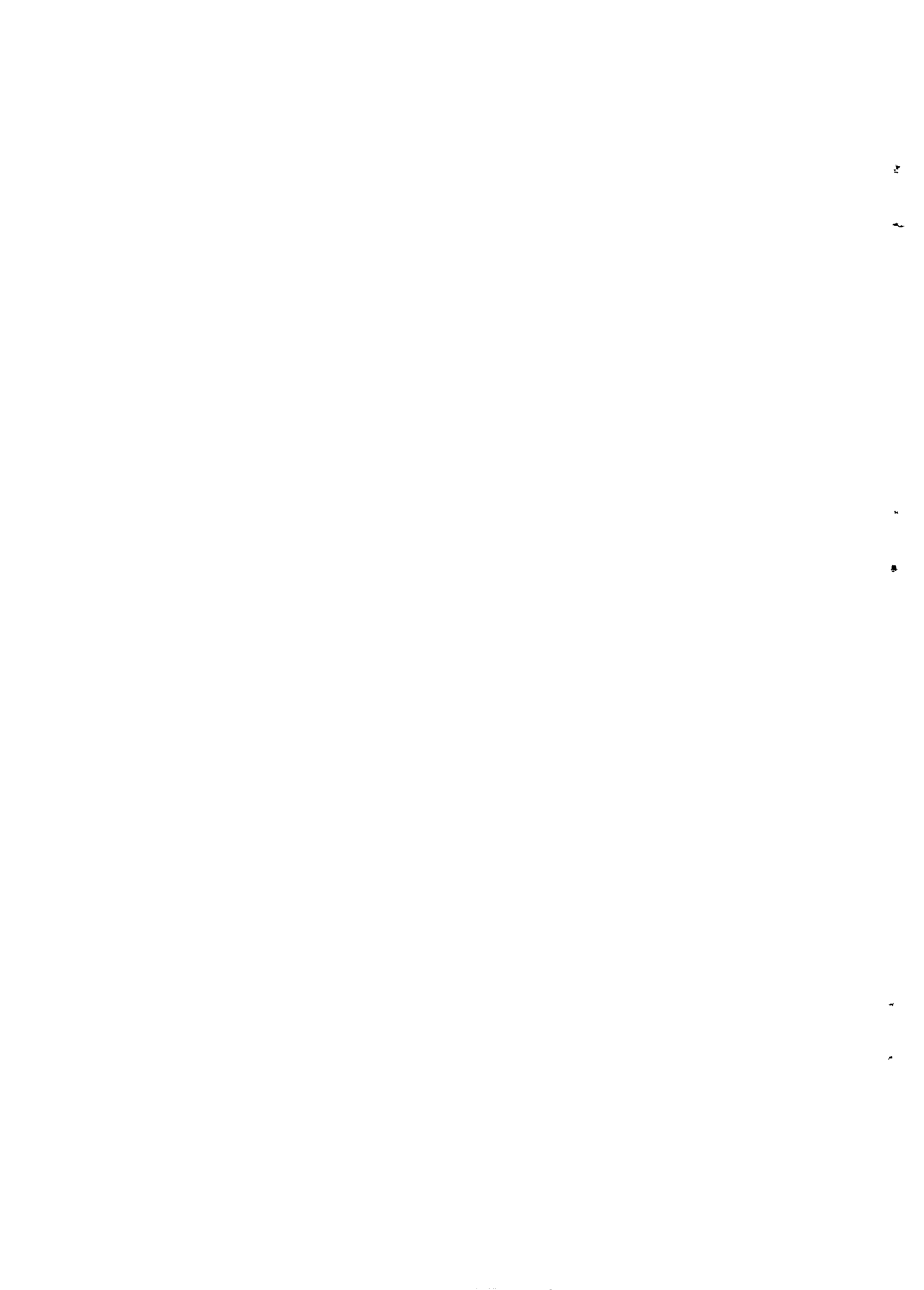
2.4 Summary of Achievements under the project

The BGVS summarized its achievements, in brief, in their final report as follows.

1. Microlevel database in the form of thematic maps and tables, prepared by the local people and viable at their hands are now available at each village where the work is completed.
2. A total scientific appraisal on the land, water and social problems and prospects of each village by the villagers themselves are now available. This has led to an urge for better living environment.
3. The resource literacy on land and water has generated a powerful and highly informed demand for development. This includes specific projects of their choice which they know will be effective and relevant to their needs.

As the main objective of the project was participatory planning for drinking water and sanitation programmes, a number of action plans in that sector were evolved by the villagers for implementation with their participation and maintenance by them.

(As a follow up, drinking water projects are being implemented combined by the local people and the government sectoral department at many villages of Muthukulathur block under support from RGNDWM).



4. The programme has become a very potential link between grassroot level literacy and grassroot level empowerment for development. In addition to the primary objective on developing participatory drinking water programmes, the project has also lead to the following.

- * In Muthukulathur block, the project has promoted acquiring relevant knowledge, skill upgradation and stabilization of literacy.
- * In Bhanjanagar block, it has lead to a proper scientific approach to local level development and an urge for better quality environment and life.
- * In Kashipur block, the project helped to enhance the present level of people's participation and also revealed the immense possibility of enriching the existing decentralised planning approach using the microlevel data generated at each village.
- * In Chainpur block, it has lead to an urge for learning and empowerment. The environment of participation and the information base is now being utilised by the District Administration for implementing its rural development programme.

5. The project has generated considerable demand for this tool especially in the four states where it has been tested out and also in Madhya Pradesh, Himachal Pradesh, Tripura, Rajasthan etc. The replication of the methodology is already being adopted at Tiruvadanai and R.S. Mangalam blocks of Ramanad district, Tamil Nadu, all the blocks of Madhubani district, Bihar, Pudukkottai district of Tamil Nadu and Korba block of Bilaspur district, Madhya Pradesh as a Post Literacy activity to effectively channelise the urge of neo-literates to contribute more for social upliftment

6. Lastly, the BGVS was not able to cover all the Revenue Villages due to lack of the availability of the cadastral maps, inspite of the best efforts. The progress on participatory mapping in the four blocks was as below:-

Sl.	State	Block	No. of RVs	Upto EB	Upto RM	Upto OB	Upto MC	Upto AP
1.	Tamilnadu	Muthukulathur	36	36	28	28	23	23
2.	Orissa	Bhanjanagar	135	82	82	71	74	74
3.	West Bengal	Kashipur	212	204	204	204	204	204
4.	Bihar	Chainpur	182	134	50	34	34	34
		Total	565	456	364	337	335	338

RV - Revenue Village/ EB - Environmental Building/ RM - Resource Mapping
OB - Organisation Building MC - Map Communication AP - Action Planning.



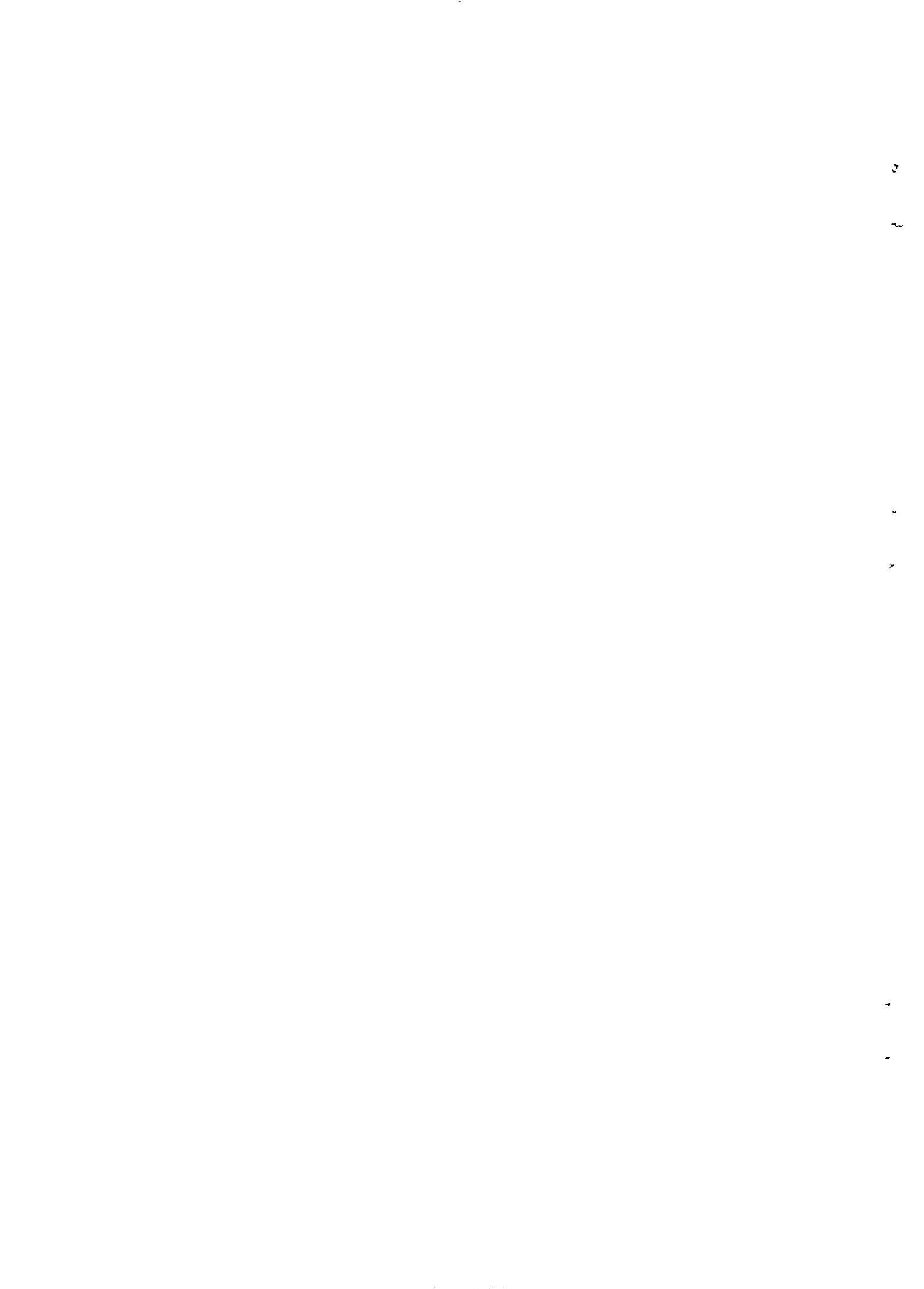
2.5 Assessment of methodologies

The committee looked into the methodologies adopted by the BGVS in detail during the field visits.

2.5.1 Participative approach

The BGVS evolved a 28 steps technology in this Participative approach. They are

1. Decide upon the agency for catalysing the programme and its strength in the area.
2. Identify the area (State Block/Panchayat) in which the programme is to be taken and its focal point.
3. Assess the socio-economic setup in the target area and also the natural setting to decide upon the basic parameters to be adopted for resource evaluation.
4. Hold meetings and discussions with relevant functionaries of all levels of administration to evoke their response.
5. Initiate local level environment building in the target villages to inform the dwellers about the purpose and broad modalities of the programme.
6. Identify resource persons, local Panchayat functionaries and selected officials like District Collector, Block Development Officer etc. explain the programme and draw their support.
7. Select a programme organiser for the Block or selected zone.
8. Appoint scientific assistants from earth sciences and related disciplines on a training stipend basis or select them from the voluntary agency State departments for the programme.
9. Organise a central orientation course for a joint exposure to the programme content and field methodology.
10. Prepare translated course material, data formats sheets and list of features parameters and legends, adopted to local conditions for mapping.
11. Identify at least two lead volunteers from each village, including one woman.
12. Organise a block level orientation camp for lead volunteers, local key functionaries and officials.
13. Take up second level environment building after preparing folk communication forms like kalajathas etc.
14. Identify habitationwise volunteers for mapping, selected (or elected) by the householders.
15. Conduct the two formatised households surveys for socio-economic and health, and drinking water and sanitation aspects through local volunteers.
16. Arrange for cadastral maps and their copies. Also procure stationary and other necessary ancillaries.
17. Organise Panchayat level orientation cum resource mapping camps for the local volunteers to prepare thematic maps and to collect relevant data.
18. Finalise the thematic resource maps and compile the data base.
19. Conduct necessary scientific survey and gather secondary data through scientific assistants.



20. Prepare need based and synoptic derivative map/ maps integrating thematic maps and data and depicting problems and prospects. This will have to be done by trained scientists in tandem with the local volunteers and resource persons.
21. Catalyse the villagers to form users groups, later transformable to registered cooperatives or charitable societies for project implementation and management of created assets.
22. Organise panchayat/ village level map copying camp of volunteers to copy and provide thematic maps, derivative maps, data base and appraisal report to the users group.
23. Organise panchayat/ village, hamlet level camps for the lead volunteers, mapping volunteers and hamlet community for intensive and guided map learning exercise.
24. Conduct hamlet level consultations on resource, health and development literacy.
25. Prepare an area spatial action plan with total community involvement, including dialogue, group discussions, meeting, and fields checks with householders if called for. The plan may be shown either on the derivative, or on a separate map; and be an integrative one.
26. Encourage the formulations of schemes for implementation on the basis of action plan, with the help of a Technical Support Group.
27. Arrange necessary training inputs for the users' group for maintenance, management and administration of projects.
28. Constitute District and Block level committees of Panchayat and development department officials together with the members of the community. These committees shall form the platform for government officials and community to interact, and ensure financial linkages.

2.5.2 Development of the scientific and technical functionaries

The whole programme calls for an extensive involvement of the scientific and technical functionaries. These persons are drawn for the All India Peoples' Science Network (AIPSN) and BGVS.

Their responsibilities have been to :

- * Decide upon mapping parameters, map legends and training material in the local language
- * Procure cadastral maps and arrange their copies.
- * Train and orient local resource persons, lead and mapping volunteers.
- * Help the volunteers in map finalisation.
- * Provide independent terrain analysis in the cadastral mode.
- * Interact with villagers to elicit relevant information on resource use and problems and bring out their perceptions about land and water.
- * Collect available secondary terrain related data about the area from local offices and government agencies.
- * Prepare derivative maps, collate, interpret and analyse data.
- * Associate themselves with all stages of community level discussions and preparation of integrated action plans.
- * Evolve possible remedies for various developmental problems based on inter

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disciplinary cross fertilization of ideas between specialists from sectors like earth and biological sciences, agriculture and irrigation, soil science etc

This group is supported by a 'Technical support Group' with persons drawn from local extension implementing agencies and volunteers with some technical background. They are to :

- * Function integratively at all stages of the programme at the local level.
- * Evolve scientifically and technically viable action plans to evoke response from the local community.
- * Help in design and construction work connected with the implementation of local schemes.
- * Help in updating local skills and developing skilled groups in the community, especially the women.
- * Arrange to provide necessary training inputs for action planning, project preparation, implementation and management.
- * The group shall operate effectively before, during and after the programme to provide necessary inputs whenever needed.

2.6 Review of the work done by the BGVS

2.6.1 Thematic Resource Maps, Formatised data and derived Maps

The cadastral map is used as the base for mapping. The following 3 have been considered useful for the 3 thematic maps:

- i) Terrain features
- ii) Land use status, and
- iii) Water utilisation status & community facilities.

Supportive data are maintained in the designed formats. With the 3 maps a derive map is prepared integrating the data from these 3 maps. In this joint exercise the scientific assistants, volunteers and technical functionaries are involved. This derived map is the basic document for all the future planning exercises. Before finalising the derived map the community at large is consulted and after their tacit approval only this map gets ready.

Evolving Area/ Spatial Action Plans :

This is the final phase wherein intensive consultation and discussions shall be constructed with the community by the scientific and technical cadres wherein a blue print with prioritisation is prepared. Among others, it includes:

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- i) Community water supply
- ii) Sanitation. and
- iii) Land management

The User Groups (UGs) for each of these components will be formed. They implement these programmes along with the development (line) departments. So part funding from RGNDWM and part funding from other agencies like JRY is contemplated.

Post operational maintenance is an important activity involving the local volunteers along with women wherever possible. Considerable emphasis is on environment building and creation of awareness. Various committees have been suggested for the purpose from the district to G.P. and RV level.

2.6.2 Field Verification

The 3 maps on terrain features, land use status and water utilisation status along with the derived maps and ancillary data made available in the villages that were visited by the team were verified and found largely true. However some points were glaringly visible as not adequate. They include:

- i) The surveys' inventerisation is comprehensive and lost focus on the main objectives of drinking water and sanitation.
- ii) The scientific assistants were not even aware of the norms suggested by the RGNDWM for drinking water
- iii) There was no attempt on budgeting the drinking water in terms of demand and supply and the future needs and possibilities.
- iv) The Action Plan largely included the demands of the people in the RV as demanded by them with little moderation. And that is why we find undue increased demand for drinking water. Some wanted water on caste basis.
- v) The action plan did little on sanitation.
- vi) There was a greater demand on irrigation water. Of course enhancing water availability in an area would also enhance the availability of drinking water.
- vii) There cannot be a common approach / plan for drinking water and sanitation in all areas. In north eastern states like Bihar, West Bengal and Orissa, rainfall is high per se drinking water is adequately available. At the most there could be seasonal fluctuations. Also the quality may be poor- biologically as well as chemically. Frequent run-off accumulates debris along with all the associated problems near the water points which are usually at lower elements of a given slope. Another is active iron being a pollutant.

However, in the south rainfall is low. There is a scarcity of water and the typical 'Oorni' and the associated wells are a case in point. No doubt sanitation and quality in terms of salinity are the problems in the south as well.

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- viii) While mentioning the details of existing water points, efforts were on the classes (ponds, stream, open well, bore well, tube well etc.) and their perennial or seasonal nature. The size of the well and the volume of water available were not depicted in the maps.
- ix) The end product in so far as the terrain features showing the drainage lines, land forms, texture of the soil and the slope of the land is concerned, could have been obtained even with the usual participatory exercises of the PRA - model without getting into so great a detail.
- x) The technical support given through paid scientific assistants needs some detailed examination. Attempts were made to have 6-10 personnel with a Master's degree in Geology/ Geography. Where such personnel were not available, engineers with land and water experience were to be recruited. Barring West Bengal and Orissa, it became difficult for the BGVS & its associates to fulfill these requirements. The recruited personnel were not sticking. The salary (fixed) was too meagre to attract the needed personnels. However, those who continued, were the most liked persons in the various GPs that we visited.

2.6.3 Suggestion of the committee

Suggestions for bringing relevance into the integrated approach:

- i) The surveys and inventorisation in the present form are too comprehensive and just not specific for drinking water. Some data are available on this aspect in the Participatory Resource Mapping of the BGVS. Since the RGNDWM is primarily interested in drinking water, there should be a sharp focus on this issue. Some suggestions are made in Annexure IV on the formats for maintaining the much needed focus on the programmes.
- ii) While assessing the existing drinking water bodies, the actual quantity that would be available is more relevant than the number of water bodies. The number do not tell about the quantity. The two other related issues would be :
 - a) the variability in the quantity and availability of drinking water during the year(s) and
 - b) the quality of water
- iii) The distance between the water points and the habitat and the relative beneficiaries (population) that would be utilising a given water point are important. Yet another point is the social fabric and their preferences / idiosyncrasies.
- iv) Only in some instances, the hygiene around the water points is observed. There should be greater awareness on the need for general cleanliness near the water points.

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- v) Water quality varies from water point to water point. It also varies over the months in any given year. Monitoring these changes and/or variations would be useful. It could be possible that certain wells/ bore wells/ handpumps are safe and/or usable for drinking and cooking and some only adequate for other needs. Realigning the tapping of these water points could be accordingly organised.
- vi) One of the aims should be maintenance through involvement of the people. During our visits we have seen several non-functional water points warranting minor repairs in most cases. These can easily be put to operation through empowerment of the local people by providing a small seed money which could be augmented by changing the community differentially as pointed out later.
- vii) For monitoring, we may allow the water quality testing kits at each G.P. level to serve all the RVs in the G.P. A person or two may be trained in the use of the kits
- viii) Thus what appears more relevant is the need for creating awareness to :
 - a) share the usufructs of the created water points equitably,
 - b) maintain the hygiene in and around the water points,
 - c) providing pulleys on all the open wells, and
 - d) differentially charge whenever the water is carried into the village through pipes. charging most for those that the tap is located at the doorstep and recycle the so collected money for the proper maintenance of such delivery systems.

3.0 EPILOGUE

As with many such programmes, this delay in recruitment of personnel, their training and orientation, acquisition of cadastral maps, evaluation of participatory approaches lead to slow progress, particularly in Chainpur Block of Palamau district of Bihar.

It is important for the location for either open well or bore well or hand pump, we use the necessary scientific tools, but not go by the whims and fancies of the "leaders" of the RV or G.P. At least at the G.P. level we should have a small unit comprising of 2-3 persons who can attend to minor repairs of the water points, particularly the handpumps.

Even though the RGNDWM is meant solely for drinking water, at the ground level in the BGVS approach the villagers have equally evinced interest in the irrigation water. In the action plan the funds are desired to be acquired through the programmes. Two issues are important in this direction.

- i) Improving the total water availability in the region would naturally enhance the ground water availability and consequently more and even better quality drinking water.

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- ii) The Ministry of Rural Areas & Employment, under which RGNDWM is operating, a comprehensive area development on watershed basis is taken up. As such the second component of the Action Plan evolved at each RV level could as well be dovetailed with this programme.

Once this philosophy is accepted the attending other components also should be introduced. They include :

- a) proper land use.
- b) efficient soil and water conservation.
- c) water harvesting.
- d) efficient production systems in both arable and non-arable systems. and
- e) people's participation.

Fortunately people's participation is common to both the programmes. The rest can be projectised by the beneficiaries through participatory approach, as enunciated in the guidelines of the Ministry of Rural Areas & Employment.

The resource inventorisation done by the formats put out in the manual on "land literacy" would be very useful as a first step in this endeavour. The action plan that is being evolved by the people in RGNDWM need be expanded and made comprehensive as per the guidelines provided for area development on watershed basis.

Lastly the 'Action Plan' as modified based on the above suggestions need be implemented by BGVS at least in the 4 blocks where they have taken up a comprehensive survey and prepared an action plan partly or in full for various GPs.

4.0 RECOMMENDATIONS

1. The BGVS participatory resource mapping is more comprehensive and for the RGNDWM it need be tuned mainly to drinking water taking due care of the norms prescribed for the drinking water purposes by the RGNDWM.
2. The state-of-the-art in so far as the present availability, quality, delivery systems and the social fabrics and its idiosyncrasies need be captured through the survey for :
 - a) identifying the gaps at the present in terms of (i) quantity: (ii) quality: (iii) non-functional water points: (iv) maintenance: (iv) deliver systems. and
 - b) the budgeting water demands now and in the near future.
3. Quality testing monitoring through kits and proper maintenance through a provision of seed money is needed. Volunteers need be trained for this purpose. If needed they may be paid a notional fees. They may be stationed at the G.P. level.

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4. The action plan for both drinking water and irrigation have been developed and the BGVS assumed that the motivation provided through their intervention during resource mapping and preparation of action plan would carry through these plans and would be implemented by the line departments and the people. We feel it may not be that simple. We would like BGVS and its associates should take full responsibility in implementing the action plans as an experiment.

5 Since these action plans involve irrigation as well, we feel the BGVS may take up both irrigation and drinking water through the programmes on area development on watershed basis and the RGNDWM together as they are under the same Ministry. Thus the programme could be more comprehensive covering among others, resource conservation, water harvesting, efficient land use and drinking water. During the visits, both the people and the BGVS and its agencies were willing to accept this approach.

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ANNEXURE - I

No.W.11033/5/93-TM.II
Govt. of India
Ministry of Rural Areas & Employment
Department of Rural Development
Rajiv Gandhi National Drinking Water Mission

9th floor, Paryavaran Bhavan
B-1 wing, CGO Complex,
Lodhi Road, New Delhi-110003

19th May, 1995.

ORDER

Rajiv Gandhi National Drinking Water Mission in effort to build up models of substantial Rural Water Supply and Sanitation system, entrusted the job to initiate an experimental project, namely participatory Drinking Water and Sanitation Programme (WATSAN) to the BGVS with the assistance of UNICEF.

Although the project was initially sanctioned for one year it has been subsequently extended by one more year, as most of the works envisaged in the project could not be completed as scheduled initially.

Reports have been received that some progress has been made in all the four blocks selected for the experiment. It has become necessary to conduct a quick independent evaluation of the work done so far with a view to assess the usefulness in achieving the ultimate objective of ensuring Water Supply and Sanitation using proper technology and people's effort.

It is, therefore, decided to constitute an expert Committee as follows:

1. Dr. J. Venkateswarlu *Chairman*
Former Director, CAZRI, Jodhpur
26, SBI colony, Gandhinagar
Hyderabad - 500080.
2. Dr. Vijay Kochar *Member*
former Professor of Sociology
Osmania University, 305 Vindhyachal
Apartment, H.No.10-4-35, Masab Tank,
Hyderabad-500028

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3. Dr. M.A. Ghare
Chairman
Action for Agriculture Renewal
in Maharashtra
Building 2/23-AB, Market Yard
Raisoni Park, Pune-411037

Member

4. Shri Dinesh Chand
Asstt. Adviser(PHE)
Rajiv Gandhi National Drinking
Water Mission.
New Delhi-110003.

Convener

The terms of reference are in the Annexure.

The Committee will decide its own methodology of work and submit the report within two months.

Sd/-
(P.K. Sivanandan)
Joint Secretary & Mission Director

Ordered that copies may be sent for information to:

1. All members of the Expert Group
2. Secretary, BGVS, West block II, Wing 6, R.K.Puram, Sector-i, New Delhi-110066 and also C-18, DDA Flats (MIG), Saket, New Delhi-110017.
3. District Collectors of all the four districts - Purulia, Palmau, Ganjam and Ramanathapuram.
4. Secretary, BGVS of the four districts.
5. Secretary, Planning Commission, Yojana Bhavan, New Delhi.
6. Secretary, Deptt. of Expenditure, Ministry of Finance, North Block, New Delhi.
7. Adviser(UD & WS), Planning Commission Yojana Bhavan, New Delhi.
8. Mr. Rupert Talbot, Chief Water & Sanitation UNICEF, New Delhi.
9. PPS to Secy. (RD).
10. PS to Addl. Secy. (RA & E)
11. PS to all Joint Secretaries in the Deptt. of Rural Development.
12. Director (Monitoring) Krishi Bhavan, New Delhi.

Sd/-
(P.K. Sivanandan)
Joint Secretary & Mission Director

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TERMS OF REFERENCE

1. Nature and effectiveness of participation and sustainable achievement of local volunteers, village beneficiaries, local leaders, technical guides leaders, panchayat institution and engineering and development organisations in the development of the model
2. Usefulness and necessity of the various tools/techniques like the mapping, participatory rural appraisal, participatory action plans and the speciality of the approach in comparison to the traditional approaches.
3. The progress so far achieved and the time and effort required to complete the task in each of the four districts,
4. Any other aspects experts deem necessary.

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ANNEXURE - II

FIELD VISIT OF THE COMMITTEE

PROGRAMME SCHEDULE:

Phase-I: Project Blocks in West Bengal and Bihar States:

29.7.95 Visit to villages in Kashipur Block, to Distt. Purulia (West Bengal)
03.8.95

04.8.95 Visit to villages in Chainpur Block to Distt. Palmau (Bihar)
09.8.95

Phase-II Project Blocks in Orissa State:

14.9.95 Visit to villages in Bhanjanagar Block to Distt. Ganjam.
17.9.95

Phase-III Project Blocks in Tamil Nadu State:

13.10.95 Visit to villages in Muthalathur Block to Distt.
Ramanathapuram (Tamilnadu).
17.10.95

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ANNEXURE:III

RURAL DRINKING WATER SUPPLY PROGRAMME

SUGGESTED FORMAT FOR DATA COLLECTION

Village	:	Total population of village:	(Existing)
Taluka	:	of Main village:	(Existing)
District	:	of hamlets:	(Existing)
State	:	Project Population:	(2001)
			: (2001)
			: (2001)

a) Drinking Water requirement (as per Govt. of India Norms):-

	1996	2001	2011	2021
1. @ 40 LPCD				
2. Handpumps (HPs) required @ 1HP/250 Population.				
3. CWS required to cover the population @ 1CW/400 Popn.				
4. PWS schemes required to cover the population @ 1PWS per 2000 population.				

b) Drinking Water Availability (existing sources available in the village)

Drinking water availability during monsoon	Handpumps	Community wells	PWS	Private Wells (used for DW)
post-monsoon				
pre-monsoon				
Total				

Availability in terms of LPCD =

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100

100

c)	Status of RWS:	Requirement of water @ 40 LPCD	Availability of water in LPCD	Difference in LPCD
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Present Status

Additional sources required in case of deficit.	HPs	CWs	PWS
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d) Sanitary conditions of sources

1. Handpumps :

Platform :
 Drain-line :
 Waste Water Disposal System:
 Accessibility -
 in Monsoon :
 in post-monsoon:
 in Pre-monsoon :

Location of HP : if within 15 m of Urinal :
 Latrine :
 Bio-Gas :
 Compost Pit :
 Stagnant Water Body:
 Nala / Stream:
 solid Waste Dump :

2. Community Wells: Platform :
 Drain-line:
 Skirting :
 Parapet :
 Waste Water Disposal System :
 Accessibility :
 in monsoon :
 in post monsoon:
 in pre monsoon :

Location of CW: If within 15m. of Urinal :
 Latrine :
 Bio-gas :
 Compost pit :
 Stagnant Water Body :
 Nala/ stream :
 Solid Waste Dump :

3. PWS: Sanitary Conditions Around:

Sources	Storage	Distribution line
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e) Details of Treatment to drinking water sources

	HPs	CWs	PWS	Any other sources
Filtration				
Sedimentation				
Co-agulation				
Chlorination				
Any other				

f) Household treatment to DW :

	% of households
Filtration	
Sedimentation	
Co-agulation	
Chlorination	
Any other	

g) Maintenance System :

	Preventive	Curative	Responsibility with
Type of System :			
Frequency :			
Effectiveness :			
Mean time between failures :			
people's Role in Maintenance :			

h) Areas of Awareness Input :

Information :	Attitude :
Education :	Practice :
Communication :	Training :
Knowledge :	Promotion :
Motivation :	Participation :

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i) Monsoon Post-monsoon Pre-monsoon

Due to consumption
 Due to contact
 Due to wash
 Water related

j) Sanitation Facilities :

	Used	Not used	Effectiveness
Public latrines			
Private latrines			
soak pits			
Road side drainages			
Bathing platforms			
Washing platforms			
Cattle troughs.			

k) Coping mechanisms in case of drought situation

Government Interventions :

Local mechanisms :

l) Remarks.

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