

REGIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)

**UNITED REPUBLIC OF TANZANIA**

**Phase III  
of  
the Rural Water Supply Programme  
in  
Iringa, Mbeya and Ruvuma Regions.**

**Volume 1:  
Main Report**

Final Report of the Second Annual Joint Tanzanian -  
Danish Review Mission, which took place in Tanzania  
from 24th August to 12th September 1992.

This report contains  
restricted information  
and is for official use only.

Danida Ref.No. 104.Tanz.86

March 1993  
Danida  
Ministry of Foreign Affairs  
Asiatisk Plads 2  
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Denmark.

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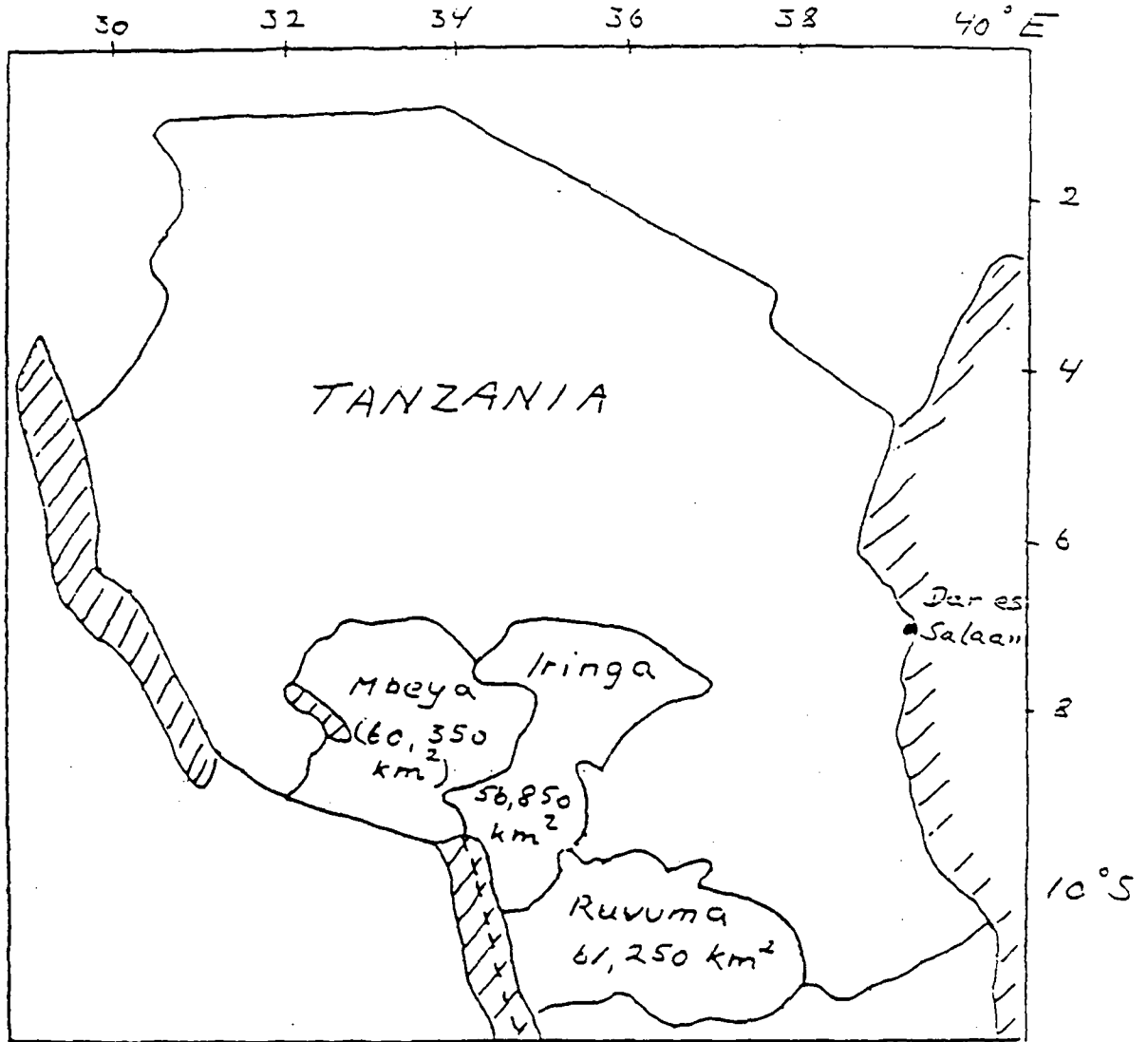
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THE THREE REGIONS OF IRINGA, MBEYA AND RUVUMA,  
IN TANZANIA



List of Abbreviations used:

AFYA	Ministry of Health
BRALUP	Bureau of Resources Assessment & Land Use Planning
BSU	Backstopping Unit
CCKK	A Consultancy Consortium of Carl Bro International A/S - Cowiconsult A/S - Kampsax-Krüger (under Phase I and Phase II)
CD	Community Development
CDA	Community Development Assistant
CDO	Community Development Officer
CDR	Centre for Development Research, Copenhagen
CP	Community Participation
Danida	Danish international Development Assistance (under Danish Ministry of Foreign Affairs)
DC	District Council
DCDO	District Community Development Officer
DED	District Executive Director
DFO	District Forest Officer
DHO	District Health Officer
DKK	Danish Kroner
DMU	District Maintenance Unit
DP	Domestic Point
DPLO	District Planning Officer
DPO	Danida Project Office
DSM	Dar es Salaam
DSU	Danida Steering Unit for Water Project (during Phase I and Phase II)
DWE	District Water Engineer
GI	Galvanised Iron
GOT	Government of Tanzania
GSC	Group Scheme Committee
HA	Handpump Attendant
HIMA	Soil and Water Conservation Project in Iringa Region
HO	Health Officer
HP	Handpump
IRA	Institute of Resources Assessment
IWA	Interregional Workshop Adviser
KILIMO	Ministry of Agriculture
MAENDELEO	Ministry of Community Development, Women Affairs and Children
MAJI	Ministry of Water, Energy and Minerals
MMU	Mobile Maintenance Unit
O&M	Operation & Maintenance
PICU	Project Implementation Coordination Unit
PlanOp	Plan of Operation
PMU	Project Monitoring Unit
POO	Plan of Operation
PROWESS	Promotion of the Role of Women in Water and Environ- mental Sanitation Service
PS	Principal Secretary
PVC	Polyvinyl Chloride
RCDO	Regional Community Development Officer
RDD	Regional Development Director
RFO	Regional Forest Officer
RPA	Regional Project Adviser
RPLO	Regional Planning Officer
RSC	Regional Steering Committee

RTMU	Regional Training & Maintenance Unit
RWE	Regional Water Engineer
SA	Scheme Attendant
SEC	Socio-Economic Cell
SIDO	Small Scale Industrial Development
SSEA	Senior Socio-economic Adviser
TBA	Traditional Birth Attendant
TOR	Terms of Reference
TOT	Training of Trainers
TRDC	Training for Rural Development Centre (Iringa)
TZS	Tanzanian Shillings
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UWT	National Women's Organization (Umoja ya Wanawake wa Tanzania)
VG	Village Government
VIP	Ventilated Improved Pit-Latrine
VIPA	Village Participation Adviser
VLOM	Village Level Operation and Maintenance
VP	Village Participation
VPA	Village Participation Assistant
VPC	Village Participation Coordinator
VWC	Village Water Committee
VWF	Village Water Fund
WID	Women in Development
WMP	Water Master Plan(s)
WRI	Water Resources Institute

#### CURRENCY

Valid during the time of the Review Mission in September 1992:

1 DKK equal to 55 TZS (Tanzanian Shillings)  
1 US\$ equal to 320 TZS (Tanzanian Shillings)



## 1. INTRODUCTION

### 1.1. Background and project history

Since 1979 the Danish Government (Danida) has supported a rural water supply programme in the three regions of Iringa, Mbeya and Ruvuma in the Southern Highlands of Tanzania.

Phase I consisted of preparation of Water Master Plans (WMPs) for the three mentioned regions and of a pilot construction programme in the same regions and was based on a joint appraisal by the Ministry of Water (MAJI) and Danida in October 1978 of a Tanzanian project proposal. It culminated in the signing in December 1979 of an agreement between the two Governments covering Phase I.

The Water Master Plans consisted of two parts: a technical part which was prepared by CCKK (a consortium of four firms of Danish Consulting Engineers: Carl Bro, COWIconsult and Kampsax-Kruger) together with Tanzanian engineers and technicians from MAJI and which involved physical visits to all 1509 registered villages in the three regions as well as hydrological and hydrogeological investigations etc.; and a socio-economic part, which was performed jointly by BRALUP (now IRA), a research institute of the University of Dar es Salaam and Centre for Development Research, CDR, in Copenhagen. The socio-economic part dealt with household surveys and testing of the concept of the participatory involvement of the beneficiaries both in decision making and in physical activities. The coordination of the various activities was undertaken by a Danida Steering Unit for Water Projects (DSU) established in 1980 in Ubungo (Dar es Salaam).

The preparation of the WMPs was carried out from January 1980 to May 1983. Altogether the WMPs documents are in 38 volumes and resulted in recommendations for the implementation of a rural water supply programme for the three regions based on the priority and design criteria contained in the WMPs. Furthermore, during Phase I a pilot construction programme was undertaken and resulted in substantial completion by 31st December 1983 of 11 new gravity schemes supplying water to about 49.000 people (1981 population figures) in 24 villages and 113 wells fitted with handpumps in 23 villages providing water to about 22.600 people. The total costs of the pilot construction programme was about DKK 44 millions.

In September 1983 a second agreement was entered into between the Governments of Tanzania and Denmark. In this agreement covering Phase II (January 1984 - December 1988) the physical targets were to supply water to some 300 out of 633 identified high priority villages in the three regions in accordance with the recommendations of the WMPs. The agreement also covered pilot projects in health education and sanitation as well as consultancy services. The total budget for Phase II was fixed at DKK 249 million (in September 1982-prices) out of which DKK 200 million was for construction. Phase II was later extended



to June 1990 and the total budget was in accordance with Danida index regulations due to inflation and currency fluctuations adjusted to DKK 278 million. During Phase II the programme has been reviewed annually by joint Tanzanian/Danish review missions, while an independent evaluation was carried out in May/June 1987. As of 30th June 1990 water supply schemes have been handed over to the village governments in 208 villages in the three regions, while schemes covering an additional 49 villages were close to completion, but the handing over formalities had not been completed at that time. Thus the cumulative results of Phase I and Phase II are that 257 villages have got water supplies serving a present population of 536.494 persons (1988 census) but the schemes have a design population of about 800.000 persons.

In July 1990 the Governments of Tanzania and Denmark have concluded a new agreement concerning a third Phase of the rural water supply programme in the three regions which will run from July 1990 until June 1995. During this Phase particular emphasis will be placed on developing the village-based operation and maintenance system for water supply schemes, the foundations of which have been laid during the previous phases of the programme. A second objective of Phase III is to supply water to an additional 155 high-priority villages in the three regions. The total budget for Phase III is DKK 199 million (June 1989 prices).

Phase III is implemented by the Ministry of Water, Energy and Minerals (in the following referred to as "MAJI") and the Ministry of Community Development, Women Affairs and Children (hereafter referred to as "MAENDELEO") with advisory assistance from Cowiconsult and Danida employed advisers.

In the Plans of Operation for Phase III it is stipulated that annual joint reviews will be undertaken by Danida and the Government of Tanzania. Emphasis is to be given to specific issues for each review. The first joint review which took place in August/September 1991 had the organizational and institutional issues and the potential need for introduction of a medium-deep borehole programme on the agenda.

The second joint review scheduled for August/September 1992 had the operation and maintenance as the specific issue.

## 1.2. Review Mission

The second annual joint Tanzanian/Danish review of phase III took place in Tanzania during the period from 24 August to 12 September 1992 in accordance with the Terms of Reference (TOR), which can be found in Annex 1.

The Review Mission was composed of the following members:

Nominated by Danida:

- Mr. Erik Sjørslev Jensen, Senior Technical Advisor, Danida Headquarters, Team Leader (water supply engineer)
- Ms. Christine van Wijk-Sijbesma, International Water and Sanitation Centre (IRC), the Hague, External Consultant to Danida (community education and participation and roles of women)
- Mr. Michael Loft, Denconsult, External Consultant to Danida (institutional aspects, budget and financial planning)

Nominated by the Government of Tanzania:

- Mr. C. N. Sayi, Assistant Commissioner (Design, Construction and Materials Testing), MAJI, Dar es Salaam
- Mr. L. G. Msimbe, Ag. Commissioner for Community Development, MAENDELEO, Dar es Salaam.

Resource Persons:

- Ms. Pernille Haubroe, Desk Officer, Danida Regional Office for Southern Africa, S7, Copenhagen.
- Mr. Hans Egerrup, Senior Water Supply Engineer, COWIconult, Copenhagen
- Mr. Jakob Vinding Madsen, Counsellor (Development), Royal Danish Embassy, Dar es Salaam
- Mr. Everest Itumbili, Project Coordinator, PICU, Dar es Salaam
- Mr. Gulam Quraishi, Chief Technical Advisor, PICU, Dar es Salaam.

After introductory meetings in Dar es Salaam with the Commissioner for Water in MAJI and with the Principal Secretary of MAENDELEO as well as resource persons in the Danish Embassy and in PICU, the Review Mission spent two weeks on field visits in the regions of Iringa, Mbeya and Ruvuma. Meetings took place with regional, district and village authorities, MAJI and MAENDELEO staff, project advisers and village participation assistants as well as with members of village governments and water committees and scheme and handpump attendants. During the field programme the Review Mission was accompanied by senior officers at regional and district level as well as by project advisers.

A seminar was arranged in Iringa on 7 September 1992, where the Review Mission discussed its preliminary findings and recommendations with invited representatives from the three regions as well as from Dar es Salaam.

The detailed programme of the Review Mission appears in Annex 2, while in Annex 3 is a selective list of persons met by the Review Mission.

A brief of the findings, conclusions and recommendations of the Review Mission was presented in individual sessions with the Ag. Principal Secretaries of MAJI and MAENDELEO and their senior staff, as well as with HE the Ambassador of Denmark and the Minister Counsellor of the Danish Embassy in Dar es Salaam.

A draft report containing the views of the Review Mission was on 21st September 1992 presented to Danidas Regional Office for Southern Africa, S7, in Copenhagen, which forwarded the said draft report for comments by the relevant Tanzanian authorities (principally MAJI, MAENDELEO, and PICU) and the Danish Embassy in Dar es Salaam.

On 11th November 1992 comments were received from MAJI and MAENDELEO. Some of these comments drafted by the two Tanzanian members of the Review Mission expressed criticism of the wording of part of the Executive Summary (particularly on the budget short fall and when the magnitude of this problem was realized), which had been drafted by the Team Leader after the Review Mission left Dar es Salaam. The Team Leader in a letter of 17th November 1992 requested the two Tanzanian members to reconsider their comments and stated his reasons therefore. However, by the end of February 1993 no replies were received from the two members, whereafter it was necessary to finalize the report.

Comments - in Danish - have also been received from the Danish Embassy in Dar es Salaam and from Danida S7.

No comments were received from PICU.

The Team Leader has incorporated the comments received in this final version of the Review Report to the extent where the comments are considered relevant. The full text of the comments received in English has been reproduced as Annex'es 10 and 11 (respectively) in Volume 2. The Team Leader's letter to the two Tanzanian Members appears as Annex 12.

No updating of the report - except for the received comments - has been attempted.

The financial and administrative recommendations in the final version of the Review Report are subject to approval by the Governments of Tanzania and Denmark.

1.3. Acknowledgements

The joint Tanzanian/Danish Review Mission would like to express its thanks to all officials and individuals met for the kind support and valuable information, which the Mission received during its work, which highly facilitated the task of the Review Mission.

## 2. EXECUTIVE SUMMARY ON FINDINGS AND RECOMMENDATIONS

### FINDINGS

#### 2.1. Status as the result of Phase I and Phase II

The cumulative result of implementation under Phase I and Phase II is that 257 villages have got improved water supply facilities either through gravity piped schemes, or shallow wells equipped with handpumps, or through hydrams. Altogether 536.494 persons (1988 census population) are served in the 257 villages, but the schemes are designed and constructed to service some 800.000 persons in 20 years' time from the design of gravity schemes and in 10 years for handpump schemes.

#### 2.2. Status of physical implementation of Phase III during the time of the Second Review Mission

Schemes covering 6 villages have already been handed over to the village authorities, while schemes covering another 74 villages are under construction, and schemes to serve yet another 26 villages are under design or survey. Thus work has been undertaken in 106 villages out of a target of 155 villages in the 3 regions under Phase III using the same technology choices as under the previous phases; in addition a dug ringwell-programme has been introduced in Phase III. The 106 villages have a total 1988 census population of 217.038 persons, while the schemes are designed to serve altogether 423.691 persons.

Construction or rehabilitation of office and workshop facilities are ungoing in 3 districts and under design or survey in another 11 districts in the 3 regions.

#### 2.3. Implementation capacity

Although the construction of new schemes is impressive, it is nevertheless behind the schedule, as it is formulated in the PlanOps. It is the impression of the Review Mission that the implementation capacity under the all important community participation approach and taking into account the ongoing and planned training activities is only sufficient to complete schemes covering maximum 130 villages before the planned completion of Phase III by mid-1995 against the target of 155 villages. The 130 villages are distributed among the 3 regions (with the original target in brackets) as follows: Iringa, 45 (50), Mbeya 50 (65) and Ruvuma 35 (40).

The 130 villages will furthermore only achieve improved water supply facilities before mid-1995 provided that a solution is found to a number of constraints, which is presently delaying the progress. The major constraints are:

- vacancies in senior staff posts (2 senior CDOs in Mbeya region, which also expects a shortage of project

engineers by early 1993; and 3 project engineers in Ruvuma)

- delays in transfer of funds
- the unknown effect of the planned Government exercise of laying off about 50.000 employees.
- shortfall in budgetted funds. The present allocated funds are hardly sufficient to complete the facilities in the 106 villages so far embarked upon

#### 2.4. Status of progress as compared with the PlanOPs

In relation to the most important objective of securing community based operation and maintenance systems for village water supply schemes, the transfer of Mobile Maintenance Units (MMU) to district level (as described in the PlanOPs) has been suspended in March 1991 in order to evaluate alternative less costly support arrangements, as the planned set-up would not be sustainable. An Inter-Regional Task Force is preparing a proposal for O&M systems, which will be ready not later than by 15th December 1992 (more details provided in para 2.5). It must be assumed that this activity presently is delayed with about 1½ years. An explanation is partly that two O&M advisers were only in place more than one year after the start of phase III.

For reasons explained under para 2.3 the physical implementation of new water supply schemes are presently 4-5 months behind schedule with the result that only 80-85% of the physical goals of reaching 155 new villages during Phase III are likely to be achieved within the project period i.e. before mid-1995.

The training programme has picked-up in 1992 covering both training of Government professional staff and beneficiary training at village level. Institutional development is likewise advancing with the regular Government institutions now being in charge with the expatriate advisors having an advisory role. The transfer of VIPAs plus the VP-cells to RCDOs' offices has been delayed due to lack of office facilities, but will now go ahead. (More details in para 2.6).

Some issues like inter-donor assistance to Kurasini Stores, and the introduction of a staff incentive system are pending further clarification.

#### 2.5. Operation and Maintenance

Considerable experiences in village based operation and maintenance of the handed over water supply facilities have been gained so far under Phase III. A wide variety of approaches i.e. in raising Village Water Funds (VWF) and in salaries to scheme attendants/handpump attendants was reported, partly reflecting variations in local conditions.



This local flexibility should be encouraged. It is the impression of the Review Mission that in general the schemes are well maintained and in operation.

An Inter-regional Task Force to develop a proposal for a village based O&M system was set up in November 1991. After a number of meetings a draft proposal was presented in June 1992.

The Review Mission has prepared some guidelines for the Task Force to complete the O&M proposal. It is envisaged that the final proposal on O&M will be completed not later than by 15th December 1992. The final proposal must be approved by the authorities in GOT as well as by Danida.

#### 2.6. Institutional development

A re-assessment of the appropriateness of the transfer of VIPAs to RCDOs' offices has been carried out as recommended by the first Review Mission in September 1991. It is now re-confirmed that in order to institutionalize the CP activities - so far temporary located in MAJI- permanently in MAENDELEO, the VIPAs plus the VP cells should move to the offices of the RCDOs, once office arrangements have been secured.

The phasing out of a number of advisor posts will continue as stipulated in the PlanOPs. The post of purchasing adviser can, however, be phased out as from December 1992 (1½ years ahead of schedule).

#### 2.7. Sanitation

Sanitation facilities are in Phase III to be constructed at primary schools and at village dispensaries in all project villages to receive improved water supply facilities. Drawings and specifications for latrines have been provided by AFYA. In order to have durable structures with surfaces, which can be cleaned, it is found that the sanitation component has been grossly underestimated.

It is, however, possible to reduce costs - mainly by changing the ratio between pupils and number of toilets, and by proper integrated planning of the implementation of this component with the water component (common use of transport and masons etc.).

#### 2.8. Budget

The Review Mission finds that the accounts system is not been used as an efficient management tool. No analysis of the many collected cost data is taking place in a systematic way in order to compare actual costs with estimated costs during design. Cost increases have been reported by PICU but in an unsystematic way and without correlation between reported incurred expenditures and physical progress. No trends were identified. The result is that only by mid-1992 did the

magnitude of the problem surface, as it became clear that even taking into account the introduced cost-savings campaign, and the normal administrative indexing of allocations due to inflation and currency fluctuations, there seems to be a serious shortfall in budget allocations. Different main scenarios have been prepared to deal with this serious situation.

Scenario 1 deals with the situation that no additional funds will be made available. The results is that as a maximum the already embarked upon schemes covering 106 villages may be completed, while investments in O&M support systems will be reduced as much as possible. In this case it is likely that Phase III will run out of funds sometime during the later part of 1994.

Scenario 2 covers the situation where it is decided to continue with the available implementation capacity within the original time frame for Phase III. It is anticipated that schemes covering 125-130 villages can be completed. While keeping the original budget for O&M systems intact, it will be necessary to provide additional funds in the magnitude of 39-45 mill. DKK.

Scenario 3 describes the situation where the original goals of O&M systems plus the implementation of schemes covering 155 villages are maintained. It looks like this will require an extension of the project period with 1 to 1½ year plus additional funds in the magnitude of 100 mill. DKK.

## 2.9. Recommendations

The major recommendations of the Review Mission are:

- that a decision about which scenario (in relation to the stipulated budget deficit) to adapt is taken before the end of 1992 in order to achieve a proper planning exercise for the remaining part of Phase III. (Danida S7 has, however, declined to make this decision before the draft report of the proposed Project Management and Auditing Mission will be available in March 1993).
- that PICU immediately suspends further activities on new schemes over and above the 106 villages under construction, design or survey at the present time (Danida S7 has issued an instruction on 2nd October 1992 to that effect).

- that a Consultancy (later named "Project Management and Auding Mission") is undertaken with three objectives:
  - (i) to review the existing budgetting and accounting system in order to assess its future potential as a management, monitoring and forecasting tool
  - (ii) to prepare proposals for an improved project reporting procedure and format, including identification and definition of ultimate and intermediate performance criteria
  - (iii) to prepare up-dated budgets for all village schemes and other project components under Phase III taking into account the time element caused by the participatory approach and the ongoing and planned training programme.

(The Project Management and Auditing Mission has been undertaken during the period 10th January to 10th February 1993 and the draft report is awaited by 12th March 1993).

- that the institutionalisation of community participation activities is permanently located in MAENDELEO through the transfer of VIPAs plus the VP cells to the offices of the RCDOs, once office arrangements have been secured, and after written assurances that MAENDELEO is willing to have the new staff in the regional offices of RCDOs.
- that GOT takes urgent action to fill the vacancies in senior staff posts (2 senior CDOs in Mbeya region plus some project engineers in Ruvuma region and shortly also in Mbeya region)
- that the post as Senior Socio-economic Adviser in PICU is maintained, after the contract of the current adviser expires, in order to support MAENDELEO and the VIPAs under the new institutional set-up; to coordinate village participation activities in the three regions; to assist in the development of sustainable O&M systems in the villages and at support levels; and to develop a gender strategy for the project
- that the institutional sanitation programme is continued provided that costs are reduced wherever possible, but maintaining the present durability of the facilities incl. of their interior finishes (easy to keep clean)
- that the newly appointed Project Training Coordinator in PICU carries out a stock-taking of training experience in the project to date as an input to a prioritization of the training plan and to the selection process of participants

- that GOT tries to speed up the transfer of funds from Danida to the regions through the application of a number of recommendations contained in para 8.2
- that the present procedures for approving design reports for village water schemes are streamlined as indicated in para 5.2 to specify the roles of the various actors and to avoid duplication
- that the draft Project Implementation Handbook is reviewed with special attention to avoidance of the collection of too many data; including a better gender orientation; and developing a similar document for handpump schemes
- that the project should develop a gender strategy as detailed in para 6.2
- that cooperation between the Water Project and the HIMA project in three districts of Iringa region is maintained especially through sharing of experiences with regard to community participation and women's involvement; and through coordination of construction plans for office facilities in Makete district and at Iringa regional complex in order to reduce costs
- that a strategy for participatory techniques (PROWESS) is developed as detailed in para 6.4
- that the service level of the handed-over schemes should be maintained especially through advise on how the VWCs can extend the schemes under their own financing
- that a study is undertaken into the scope, consequences and financing approaches to private connections
- that the project examines the feasibility of using Kurasini stores
- that the PlanOPs are updated in accordance with the procedures outlined in para 5.7.

### 3. STATUS OF PROGRAMME PROGRESS

#### 3.1. Status of Implementation of Phase I + II

As recorded by the 1991 Review Mission the combined results of phase I and phase II were that the following number of villages (with their 1988 population and their design population) have got improved water supply facilities:

<u>Region</u>	<u>No. of villages</u>	<u>1988 Pop.</u>	<u>Design Pop.</u>
Iringa	74	136.908	209.650
Mbeya	122	253.648	357.781
Ruvuma	61	145.938	232.167
-----			
<b>Total</b>	<b>257</b>	<b>536.494</b>	<b>799.598</b>

#### 3.2. Status of physical implementation of Phase III as per 7th September 1992

Based on information in the progress reports for the 2nd quarter of 1992 and verified during discussions with project staff, the results are as follows:

##### Schemes Handed Over:

<u>Region</u>	<u>No. of Villages</u>	<u>1988 Pop.</u>	<u>Design Pop.</u>
Iringa	2	2210	2900
Mbeya	0	0	0
Ruvuma	4	7614	12137
-----			
<b>Total</b>	<b>6</b>	<b>9824</b>	<b>15037</b>

##### Schemes Under Construction.

<u>Region</u>	<u>No. of Villages</u>	<u>1988 Pop.</u>	<u>Design Pop.</u>
Iringa	23	41.680	88.530
Mbeya	39	85,099	162,806
Ruvuma	12	24.726	43.244
-----			
<b>Total</b>	<b>74</b>	<b>151.505</b>	<b>294.580</b>

Schemes Under Design

<u>Region</u>	<u>No. of Villages</u>	<u>1988 Pop.</u>	<u>Design Pop.</u>
Iringa	5	7.030	11.960
Mbeya	7	18.088	46.630
Ruvuma	14	30.591	55.484
-----			
<b>Total</b>	<b>26</b>	<b>55.709</b>	<b>114.074</b>

3.3. Status of strengthening MAJI and MAENDELEO facilities

Under Construction:

RCDO's offices in Ruvuma region.

DWEs' offices, stores and workshops are under construction as follows, while minor rehabilitation of DCDOs' facilities is also ongoing:

<u>Region</u>	<u>No. of Districts with facilities under construction</u>
Iringa	0
Mbeya	2
Ruvuma	1
-----	
<b>Total</b>	<b>3</b>

The following DWE and DCDO facilities are under design or survey:

<u>Region</u>	<u>No. of Districts with facilities under design or survey</u>
Iringa	5
Mbeya	4
Ruvuma	2
-----	
<b>Total</b>	<b>11</b>

3.4. Status of Phase III as compared with PlanOps.

3.4.1. General

Plans of Operation for each region and for project activities at national level were prepared in 1989 introducing the

concept of the Logical Framework Approach as instrument for the planning exercise. In accordance with Article 3 of the Government to Government Agreement the PlanOps have the status of annexures to this Agreement.

The first PlanOps were revised with 6 months due to the late start of phase III.

Implementation status as per 15th August 1992 measured against the PlanOps have been presented to the Review Team for the National level as well as for the 3 regions. These can be found in Annexes 4, 5, 6 and 7.

In the following the highlights of the implementation status have been described.

#### 3.4.2. National PlanOp/PICU

The major activities are more or less in accordance with the PlanOp. During the last twelve months the training plan has been approved and considerable training activities have been embarked upon covering all types of Government staff involved in project activities as well as beneficiary training at village level. A revised Project Implementation Handbook (in draft) was completed in June 1992. Improved shallow well design and construction methods inclusive use of safety equipment at construction sites have also been introduced.

For the first time in phase III by June 1992 all 14 advisor posts have been filled.

Decentralization of stores to the regions has started. Routing of funds to sector involved regional institutions is in place in MAJI, while temporary arrangements to MAENDELEO, AFYA and Natural Resources are through the DPO in each region. These temporary arrangements are not sustainable beyond the project period.

Except for preliminary discussions no progress is reported on the inter-donor assistance to Kurasini stores, or on investigations into local production/procurement of equipment and materials from neighbouring countries. A visit is planned to such countries in the later part of 1992.

The introduction of a staff incentive system for all project staff is pending further discussions between the Danish Embassy in Dar es Salaam and senior GOT officials due to the implications on other Danida financed projects in Tanzania as well as to the sustainability in the GOT system.

Construction of further PICU office facilities in Ubungu has been shelved due to budgetary constraints.

### 3.4.3. Regional level

Over the last 12 months impressive implementations have taken place in all three regions with respect to construction of new schemes; training of professional staffs and beneficiary training; catchment area protection; water quality monitoring and monitoring of low flows at selected surface water sources; as well as introduction of institutional latrines at schools and dispensaries in project villages.

Implementation of new schemes is nevertheless behind schedule, and it appears as if the implementation capacity under the community participation approach and taking into account necessary training activities is only sufficient to complete the following number of village schemes in each region (original targets in brackets): Iringa 45 (50), Mbeya 50 (65) and Ruvuma 35 (40).

Also implementation funds are insufficient even to secure implementation of the reduced number of village schemes (for more details please refer to chapter 8). It should also be taken into consideration that the final completion of 49 phase II villages during phase III have utilized some resources of the project, particularly technical and community development staff who have been actively engaged with work in the mentioned phase II villages during phase III. All expenses for the completion of the mentioned phase II villages have, however, been covered by phase II funds.

Improvement of office facilities for RCDOs is near completion in Ruvuma but pending in the two other regions.

Improvements/construction of workshop and office facilities for DWEs and DCDOs are in progress but seriously delayed in most districts.

The transfer of VIPAs to RCDO's office has been suspended awaiting further scrutiny of the appropriateness of the proposed transfer (for more details please refer to para 6.1).

The setting up of an O&M system based on mobile maintenance units at district level plus logistic support to DWEs and DCDOs has been suspended, while an Inter-regional Task Force is preparing different O&M set-ups less costly for the District Councils as regards the recurrent expenditures.

The development support communication component has been delayed. However, all three regions have started to produce their own communication materials. (Listed in Annex 8).

Mbeya region has two vacancies for senior CDO's: one head of VP cell and one CDO (O&M) and expects a shortage of project engineers shortly. In Ruvuma three project engineers have been transferred to other regions without replacements. Unless all these vacancies are urgently filled this will cause serious delays.



#### 4. OPERATION AND MAINTENANCE

##### 4.1. Present operation and maintenance activities

In the 263 scheme villages where water supply facilities have been handed over to the villages, the responsibility for Operation and Maintenance is with the respective Village Water Committees (VWC) under the Village Government (VG), assisted by Scheme Attendants/Handpump Attendants and supported where required by technical and managerial expertise from District level or the private sector.

It is reported that villagers in general are aware of their obligations in O&M and have a positive attitude towards participation and fund raising for the Village Water Fund (VWF). It is noted that villages have different approaches in raising VWFs: by household, by able bodied person, by village shamba, tax collection from pombe shops, etc. Also the amounts payable and the frequency in payment vary considerably. All VWCs have opened bank accounts, some with TAS 50-100,000. Some villages prefer to contribute to their VWF, when a crisis arises. Local flexibility should be encouraged - as long as sufficient means will be available to secure proper O&M.

Beneficiary training of members of VGs and VWCs in their roles and responsibilities has a high priority. It is particularly noted that training of treasurers - many of whom are female - has been carried out with assistance from the Department of Cooperatives. SA/HA are trained partly on the job during construction and partly through workshops. A wide variety in salaries of SAs/HAs was reported, which partly reflects variations in local conditions. In some cases, complaints were made about irregular or no payments.

In the Tanzanian administrative hierarchy monitoring of the performance of the village water facilities and of the VWC is through Ward CDAs. Each CDA covers on average 10-15 villages and sends monthly reports to District level. Water is only one out of a larger number of subjects reported on. The emphasis is on implementation, not on functioning of facilities. District authorities (DWEs and DCDOs) scrutinise the reports and take actions on some issues, while others are left for solving at Ward CDA level.

Project monitoring at Regional level is presently carried out in each region by one Project Monitoring Unit (PMU) and one Backstopping Unit (BSU), both project financed. The PMU visits the handed over water facilities on a routine basis at least once a year and fills out questionnaires and checklists (in Kiswahili) dealing with technical and managerial matters, VWF and administration of funds, source protection measures and general awareness raising. A very large amount of data is collected, but is not so far being analyzed in a systematic manner with the purpose of e.g. indicating trends in facilities

in use, or level of costs of spares per year for an average scheme.

The BSU, besides attending to repairs which are beyond the capability of the SA/HA to deal with, is very much involved in training seminars.

There is thus considerable experience available on O&M over several years. Some activities have been experimental - but altogether with a richness of flexibility suitable for community-based, sustainable O&M systems.

#### 4.2. Inter-regional Task Force on operation and maintenance

In the PlanOps prepared in 1989 it was envisaged that a number of districts would be provided with a mobile maintenance unit (MMU) for the purpose of providing technical, organizational and training support to VWCs and SAs/HAs with regard to maintenance. This was under the assumption that the district council would include the recurrent costs for operation of the MMU in its annual budget, e.g salaries for three full-time staff members, fuel, repairs, depreciation etc. It was, however, found that the annual recurrent costs for such a support arrangement would be far beyond the ability of most District Councils to meet, which would mean that the arrangement would not be sustainable.

In March 1991 PICU consequently suspended the introduction of MMU at District level in order to evaluate different set-ups less costly for the District Councils as regards the recurrent expenditures. The First Review Mission of September 1991 strongly supported this decision and suggested that alternative solutions should be evaluated from the point of view of what the VWCs and SAs/HAs see as their felt need for support from outside the village.

In November 1991 PICU prepared the TORs for an Inter-regional O&M Task Force to develop and propose a village based O&M system. The Task Force consisted of all O&M Engineers and O&M Advisers from the three regions, one member from the CP Section in each Region plus one member from PICU and one representative from the O&M Directorate at MAJI HQ. The Task Force has been meeting once every two months and in June 1992 presented a Draft proposal.

The draft proposal was considered a first draft which was circulated to the Task Force members to verify the content. Copies have also been distributed to all DEDs, DWEs and DCDOs in the three regions for comments. Similarly the draft version was given to the Review Mission for information and constructive comments.

#### 4.3. Guidelines for the Task Force to complete the O & M proposal

The Review Mission acknowledges that the First Draft Proposal comprises many useful components and principles, and recognizes that it is a first version which may have to be revised several times before a final document will materialize.

Furthermore the Review Mission agrees with the Task Force that the O & M support systems to be developed should be available to all village water schemes in an area, whether these have been supported by external donors or not. However, the fact that the latter have been constructed without village participation will then have to be taken into account.

The Review Mission finds that the Task Force maybe has been too ambitious trying to define one uniform system to support the villages in their operation and maintenance. The richness in flexibility and variety in the present experiences of O&M seems thus to have disappeared and a more bureaucratic uniform system to have crept into the proposal.

Based on open and rich discussions in the three regions the Review Mission recommends a number of steps for the Task Force to modify the proposed framework for sustainable village managed O&M system.

The Task Force could first make a description of which operation, maintenance and management activities should/can in their experience be carried out by the villages, making a distinction for single village schemes, small group schemes, large group schemes and handpump schemes. Schemes with special problems, such as Ismani and Tanangozi-Kalenga, could be seen as a separate category, requiring more complex action.

Based on their experience, the Task Force could then make an overview of the various ways in which the villages are now meeting these requirements, and what seems to work best under what conditions. The result could be an overview of the range of options by which communities organize the solving of technical issues in the various types of schemes, e.g cleaning the intake and checking the mains in various types of group schemes, and by which they organize local financing. Institutional development should be based on management at the lowest appropriate level, i.e. an issue which can be solved at village level should not be referred to district level.

An overview of financing approaches adopted by the villages could be broken down into its various components, such as making budgets, raising funds, setting tariffs, collecting funds/tariffs, depositing and accounting systems, including local adaptations to the bookkeeping systems promoted during training, and various forms of accountability within the village (to VG, users).

Strength and weaknesses of each solution could be identified, taking into account that village and technology conditions differ and that what may be a weakness in one village can be a strength in another.

Once it has been defined what villages seem to be able to do by themselves, if necessary with further adapted training, the various support options available to them could be identified, (a) for technical issues and (b) for managerial issues.

Technical issues requiring external support opportunities would typically involve procurement of spares, availability of technical expertise for repairs and expansion and training.

Technical support opportunities identified could cover a wide range, including the private market, SIDO, local technical schools, DWE, projects assisting with other technologies (e.g. for expanding service levels). Providing information on available options could be an important part of the project's role to prepare the communities for maximal self-reliance.

Resources for managerial support would include the CDA and other extension workers, such as the cooperative officer. It seems that the training of the CDAs needs especially to be strengthened for their task of providing on-the-job training and guidance to VGs and VWCs on budgeting, financing options, very simple forms of bookkeeping that can be done by a VWC treasurer and are transparent for other villagers, and easily applicable and generally understandable forms of accountability, both to the VG and the users. Institutional training courses for water treasurers/village accountants may also have to be adapted to usual village conditions (see in para 5.4).

The project could then look into the requirements of a minimum support system, taking into account that in some areas conditions (e.g. regarding spares) are more difficult than in others. Emphasis would in all cases be on ensuring the maximal independence of the village from others.

From the regions' information and village visits it would seem that the greatest support requirements will lie in management (including financial management) and in information. This would involve especially the CDAs. Their roles, as well as the roles of other resource persons/institutions for the villages could be defined more closely.

A considerable number of items covered in the draft proposal could be included in the above overview of systems of community-managed maintenance.

In order to preserve maximal transparency, especially for those with little time or lower education, a rather simple summary could be developed once the details have been worked out, and catalogues of options, tables, definitions, etc. added as annexes.

The overviews (catalogues) of options for organizing maintenance and for financing could serve as the basis for training modules.

For the working methods it is recommended that the Task Force may wish to co-opt views from resource persons on selected issues instead of enlarging the Task Force. It may also wish to call for working papers from individual members instead of having plenary meetings with all members present. It may also wish to nominate a moderator/facilitator with wide knowledge of O&M under a community approach.

On the issue of support facilities (e.g transport) in the individual cases an inventory should be made of what is already available at district level, and if recommendations are to supplement such available means it should be financially sustainable by the District Council. This may involve issuing some Ward CDAs with bicycles in some areas.

It is envisaged that the Inter-Region Task Force will complete a final proposal on O&M as soon as possible and no later than 15 December 1992. (This has been achieved, and it was included in the TOR for the Project Management and Auditing Mission to comment on this proposal).

As sustainable village-based O&M systems are the main objective of Phase III it is necessary that the final proposal is presented for approval by the authorities in GOT as well as by Danida.

#### 4.4. Procurement of materials for O&M

Materials for construction, operation and maintenance of water supply schemes have traditionally been supplied to the regions and districts through the MAJI central store at Kurasini in Dar-es-Salaam. Trade liberalisation in Tanzania has made it possible to get some of the materials in local shops. Kurasini stores is still the major supplier of very specialized materials. However, the project has so far not made use of it.

In the PlanOps for Phase III it was proposed that the project would prepare a plan for interdonor support to Kurasini stores, while relying on private sector support in the regions. Preliminary discussions have now been held with regard to the possible use of the Kurasini stores by the project. Consideration of the use of this facility is still relevant, since in the long run the project cannot pursue the role of importing and distributing the more specialized spares to the villages.

As Kurasini stores is not decentralized to the regions, it is also important to create supply centres closer to the villagers. This could be achieved using the private sector.

It is recommended that the project goes ahead with plans to use Kurasini stores whenever this is economical. The project should further encourage local hardware shops to store water sector related equipment and materials for selling to the village water schemes.

## 5. ORGANIZATIONAL ASPECTS

### 5.1. Review of arrangements for cooperation between MAJI and MAENDELEO at national, regional and district level

Needs for increased or better cooperation between MAJI and MAENDELEO were mentioned by the First Review Mission in September 1991. The present communication channels for such cooperation are reviewed below:

At District level the work of the DWE and the DCDO is formally coordinated by the District Planning Officer (DPLO). The lateral channels of formal communication are the District Management or Social Service Committee's monthly meetings. In addition the proximity of their offices lends itself to effective informal communication.

At the Regional level the work of the RWE and the RCDO is formally coordinated by the Regional Planning Officer (RPLO). For project purposes their effective coordination seems to be fulfilled by temporary project fora. These fora are first of all the Regional Steering Committee, meeting bi-annually, and the project's general Monthly Progress Meeting which convenes the RWE, DWES, VIPA, RFO, RPA, OMA and the RCDO. In Mbeya there is in addition for maintenance activities a special Monthly Progress Meeting for the DCDOs which is chaired by the OMA from MAJI and attended by the RCDO when necessary. The experience with the function of this committee should be discussed with a view to possible replication for the remaining period in the other regions.

At the National level a supervisory committee with members from MAJI, MAENDELEO, PICU and DANIDA has been established since the last mission to review project implementation and discuss problems which require intervention at the National level. The background for this informal ad hoc committee is that the formal channels of government does not sufficiently allow for speedy and detailed lateral communication. It has so far met twice.

The problem of coordination between MAJI and MAENDELEO is thus not one of lack of channels for communication, rather it is one of evolving roles in the project of the two Ministries. At the time of project design MAENDELEO had hardly re-established itself on the ground. Furthermore, national policy with regards to the future organization of community development activities had not crystallised. There was still discussion about whether it would be the exclusive domain of MAENDELEO, or whether relevant line ministries would have their own community development cells.

Accordingly, the project's organizational set-up has been designed to make MAJI largely autonomous in terms of community development personnel with regards to activities leading to the construction of water schemes. This was achieved partly through the secondment of senior Community Development

Officers (CDOs) to head the MAJI Village Participation cells (VPs), and partly through the recruitment and training of Village Participation Assistants (VPAs). In the same vein the VIPAs, who were supposed to advise MAJI as well as MAENDELEO, were physically situated in MAJI offices. Thus for the purposes of scheme construction the project design has not entailed any great need for coordination between MAJI and MAENDELEO.

The consequences of this set-up for project activities aiming at institutionalizing the **Operation and Maintenance** of the established schemes were more problematic, and the division of responsibilities diffuse.

On the one hand the project intention (and actual implementation) was to train its VPAs to qualify as CDAs/CDOs. In these capacities they are eventually supposed to take up assignments at the district and ward levels under the auspices of MAENDELEO. Here the intention was to task them with activities required for the establishment of an O & M system. Congruent with this the project intention was to transfer its Village Participation Advisers (VIPAs) to the Regional Community Development Office under MAENDELEO.

On the other hand, the intention was also to retain the remaining VP cells in MAJI for the purpose of training (a) VWCs and VG leaders, (b) user groups, and (c) scheme attendants and technicians. This seems incongruent with the afore mentioned intentions of transferring VPAs and VIPAs to be under MAENDELEO's umbrella.

At the visit of the Second Review Mission a number of long and short term trends have come to fruition. MAENDELEO has long since established its presence at the ward level, and is now only third to AFYA and KILIMO in having its field staff at the grassroot level. The significance of O & M activities in the project is naturally growing exponentially over time compared to that of the construction activities. As the end of the third phase comes within sight the need for institutionalization of the O & M activities asserts itself ever stronger. In the project's self-perception the VIPAs plus the VP cells are now finally set to make their move to the office of the RCDOs, once office arrangements have been secured.

The Review Mission wholeheartedly agrees with this development. While the Mission is of the conviction that the original location of project CP activities within MAJI was necessary and appropriate, it is also of the opinion that such activities can not effectively be institutionalized there. The necessary career structure and professional environment is lacking. It is also not likely to be cost-effective to employ permanent CDAs in MAJI. However, a prerequisite for a final definition of MAJI and MAENDELEO's respective roles and future interactions is the working out of the specific CP activities required for the future solution of the schemes' operation and



maintenance problems. Once the ultimate O & M proposal identifies the need for the continuation of present project CP activities and/or the initiation of new ones beyond the termination of DANIDA support, then the project should act resolutely to institutionalize all such activities within MAENDELEO.

MAJI has given the following comments:

MAJI is in agreement with the above recommendations which is based on the perceived need and importance of developing sustainable management systems for rural water supplies. MAJI would, however, like to draw the attention to the practical implication connected with the implementation of the above recommendation.

- i) MAENDELEO at regional level might not be in favour of having VIPA and VP cell in its offices. It is therefore imperative that before making the physical transfer of VIPA and VP cell to MAENDELEO it is important to get assurance (written) from MAENDELEO that it is willing to have the new staff in its offices.
- ii) The recommendation to transfer VIPA and VP cell to MAENDELEO is based partly on the assumption that eventually the personnel in the VP cell would be employees of MAENDELEO and partly on the desire to build a sustainable operation and maintenance system. The assumption that MAENDELEO can in the foreseeable future employ all the staff in the present VP cells in the three regions is untenable bearing in mind that the Tanzanian Government is currently in the process of reducing its employees by about 50,000. Transfer of VP cell will only be feasible if the Project will continue paying the VP staff who were employed by the project and are at present still being paid by it.
- iii) If the VP cell has to be transferred to RCDOs office there is a need of providing the RCDO with more than the 20 square metres of office space which were originally allocated in the PlanOp when it was only the VIPA who was expected to move from the Regional Water Engineer's office to the RCDO's office.
- iv) Because of the physical separation of RWE and RCDO staff engaged in the project planning and co-ordination of activities and transfer of funds to RCDO from DPO which is in the RWE's office will demand very careful planning.

It is recommended that the above mentioned views are taken into consideration when the institutionalization of the VIPAs and the VP cells is to be implemented.

## 5.2. Procedures for approving design reports for village water schemes

The Project has developed its own design manual for use in preparing design reports.

The reports prepared are the Preliminary Design Reports and the Detailed Design Reports. In practice the Project Engineers prepare the reports which are cross-checked by other Project Engineers before submission to the Regional Project Advisor for checking. After a report is checked by the Regional Project Advisor it is submitted to the Regional Water Engineer who after approval forwards it to PICU. These reports have not so far been submitted to the Design Section of MAJI for checking and record keeping as PICU has been acting on behalf of MAJI.

In the absence of the Senior Technical Adviser the Senior Water Engineer has been checking and commenting on some of the reports depending on the time available.

Both the MAJI Design Manual and the MAJI/DANIDA Water Project Design Manual recommend that the design should be approved by MAJI.

The capacity of the Design section at MAJI Headquarters to approve the designs without causing delays is insufficient. The Zonal Engineer is responsible for all water projects in the three regions except the DANIDA-supported Water Project for which the Project Coordinator in PICU is responsible.

It has been observed by PICU that requirements of the design manuals are not followed in all respects. This has necessitated asking the regions for supplementary information and clarification. In general the designs have been satisfactory.

It is the opinion of the Review Mission that the regions have acquired design experiences over the years the project has been implemented and that they are in a position to design project of the kind implemented in the three regions to satisfaction. It is however important that MAJI/PICU spot-checks the designs, especially of the more complicated schemes.

It is therefore recommended that MAJI/PICU should evaluate the capacity in the regions and if necessary propose training aiming at building capacity and further decentralization of activities. Project Design Reports should in all cases be submitted to MAJI and PICU for spot-checks and record-keeping and should conform to the guidelines and recommendation of the Project Design Manual.

### 5.3. Adviser staffing level

In the Plan of Operation, Phase III it was envisaged that the number of advisory staff will be reduced as and when the capacity of the local institutions is developed. The PlanOp provided a total of 15 advisers at PICU and the three regions.

At National Level (PICU) the following positions were provided:

- Chief Technical Adviser,
- Senior Technical Adviser,
- Senior Socio-economic Adviser,
- Accounts Adviser,
- Procurement Adviser.

At Regional level the following position were provided for each region:

- Regional Project Adviser,
- O&M Adviser,
- Village Participation Adviser.

In Iringa a position of Interregional Workshop Adviser was also provided.

However there were difficulties in filling certain vacancies in the beginning of the project when only ten posts were filled on the average. By September 1992 14 advisers are in post.

The role of DANIDA employed expatriate and local staff has changed from implementation to advisory. The amount and type of work to be done by the advisers has decreased and will continue to decrease as integration continues.

Local engineers and other project staff have gained experience over the years of implementation and necessary training is in progress.

Decentralization of accounts to the regions has been completed since February 1991 but some processing of cost data is still taking place at PICU. Decentralization of PICU's store is being implemented. Procurement arrangements - except for pipes and fittings - have been adjusted by DANIDA, Copenhagen, to go through the Old East African Trading Co. (T) Ltd. in Dar es Salaam, and most of the local materials are purchased by the Regions.

The Accounts Adviser's post has been phased out following recommendations of the Review Mission of 1991.

PICU has suggested a phasing out plan where the following posts are expected to remain until the end of phase III:

- CTA
- 3 OMAs (one in each region)
- 3 VIPAs (one in each region).

The Review Mission is recommending that the OMAs physically stay at the RWE's office, but devote most of their time - depending on the final arrangements for O&M support - to strengthening the DWEs' capacities to support the villages (i.e. training, technical advice, monitoring etc.).

PICU proposes that the following posts are phased out as follows (the original plan is indicated in brackets):

- STA - by mid 1994 (mid 1993)
- SSEA - by end 1992 (mid 1994)
- PA - by end 1992 (mid 1994)
- RPA Iringa - by mid 1994 (mid 1994)
- RPA Ruvuma - by mid 1994 (mid 1994)
- RPA Mbeya - by mid 1993 (mid 1993)
- IWA - by mid 1994 (mid 1994)

The Review Mission is in agreement with PICU's recommendations, except for the post of SSEA. Retention of this post is needed also after the contract of the current adviser has expired, in order to support MAENDELEO and the VIPAs under the new institutional set-up, to coordinate village participation activities in the three regions, to assist in the development of sustainable O&M systems in the villages and at support levels and to develop a gender strategy in the project. A revised Terms of Reference is attached in Annex 9.

Depending on the outcome of the proposed Project Management and Auditing Mission the job descriptions for some of the advisers may have to be revised.

#### 5.4. Status in implementing the training and human resource development plan

##### 5.4.1. Background and Status

The training component had temporarily been put on the backburner while awaiting the completion of a training plan by an external consultant. This plan was submitted in August 1991, just in time to be reviewed by the first Review Mission. It may be considered a "maximum plan" in the sense that it is rather exhaustive in its identification of needs and requisite of training solutions.

As a reference the quantitative aspects of the "maximum plan" are indicated in Fig. 1 below, according to type of courses planned. The courses can be grouped into five major categories, namely: Training of Trainers Courses (T), Management and Supervisory Courses (M), Performance Improvement (P), Community Development Staff Training Courses (CD), and Beneficiary Courses (B) i.e. for scheme attendants, members of Village Water Committees, Group Scheme Committees and Village Governments, etc. In addition the project has organized a number of seminars or conferences for the beneficiaries, and a few study tours abroad for a few selected key project staff.

The numbers of implemented courses, trainees and training time are indicated in the same figure. The statistics have been compiled from the regional reports, but the Review Mission has become aware that a few staff courses might have been omitted, and one region might have overreported its beneficiary courses. One of the first tasks of the Training Co-ordinator will therefore be to consolidate the reporting and the statistics of this project component.

Fig.1: Total planned Training Programme for Phase III and Implemented Training Events January 1991 - June 1992

Type of courses	No. of planned courses	No. of implemented courses	No. of planned trainees	No. of trained trainees	No. of planned trainee weeks	No. of spent trainee weeks
T	17	7	235	124	320	234
M	74	5	512	16	926	40
P	103	31	990	131	1343	236
CD	14	3	217	178	244	52
Total Staff Courses	208	46	1954	449	2833	562
Total Beneficiary Courses	718	39	7182	1273	6800	1627

Apart from manpower, financial and logistical constraints, one important limitation on the full implementation of the plan will be the extent to which it may hamper the implementation of other project activities. Thus the Review Mission noted that certain community development activities had been suffering from temporarily diminished implementation capacity due to participation in training courses. The optimum utilization of this component therefore demands careful planning in order to minimize short-term drawbacks and maximize long term benefits.

The Review Mission is therefore pleased to have been informed that the full time Project Training Coordinator has been identified and will shortly commence work with PICU. In order to ensure a flying start the Review Mission recommends that she/he be joined by the External Consultant for a week's turbo-introduction to the training plan. However, it would be a mistake if the consultant's training plan comes to constitute the sole guideline for the Training Coordinator. A stock-taking of experience to date is at least as important. So far the experiences of two Training of Trainer courses have been processed in a winding-up workshop (Njombe, 20 - 24 July, 1992). In case of other courses the pre-designed evaluation forms have duly been administered to the participants and await a broader evaluation. In addition to this it is important that the Coordinator consults intensively with the current regional training managers and coordinators in order to consolidate the current programme. This process should lead to a prioritization of the existing plan suggestions based on the projects' own experience so far. It seems to the Review Mission that some identified training needs by now can be accommodated within the existing project activities and do not necessarily require a special training event.

Another aspect which probably needs adjustment is the selection process of the participants. The participants for the professional courses are preselected and mentioned by name. To prevent unnecessary frustration for the prospective trainees, the Review Mission suggests that they are informed that the original plan is a maximum plan, and that their expectations should only be based on revised annual plans to be presented to them every year. While the Review Mission believes that the ultimate selection decision should rest with the Training Coordinator at PICU advised by the project advisers, it recommends that, for the sake of institutional building within MAJI and MAENDELEO, that the relevant heads of departments (incl. the DCDOs) are consulted in a formal and systematic way. This would not only help strengthen institutional cohesiveness, but also increase the quality control of the relevance of the courses as well as the appointees' readiness to apply the acquired skill improvement to their daily work.

It was beyond the Review Mission's capacity to pursue the whole spread of training experiences. In line with its particular interest in O & M it limited itself to the training of beneficiaries.

#### 5.4.2. Training for beneficiaries

Training for beneficiaries include seminars for VG and VWCs, technical training for SAs/HAs and special courses for VWC treasurers and village accountants.

Training in financing is both a felt need and a crucial input for self-reliant village management of the handed over

projects. The mission had the opportunity to discuss the institutional course with one of the district cooperative officers in Mbeya region. Training is residential, takes 1-2 weeks and has either included financing as part of overall training for VWC members (2 hours/day) or as a special course for VWC treasurers and village accountants. Topics are: fund-raising, bookkeeping and accountability. The task of identifying sources of funds rests formally with the village council. The department has a paper on possible sources of funds and also invites ideas from the council. The chosen source(s) has/have to be presented to a general assembly. The exact role of the VWC in this activity did not become clear during the discussion.

During the bookkeeping training the cooperative officer shows and explains the participants the proper documents to use:

- cash receipts from a serialized receipt book
- a counterfile in which all receiptbooks in use in the village are noted
- a cash book in which all income for the VWF is noted
- cash payment vouchers, on which all expenditures (payments) are registered.

The trainer advises the treasurers to put the major part of the income in a separate bank account for the VWF and to keep some for cash-in-hand. As the standard of education is low, the training does not include summarizing the various monetary transactions in a ledger. Ideally the treasurers or accountants must prepare monthly financial statements and present these to the VWC and VG. The VG has to present financial statements of all village projects to a bi-annual village assembly.

Due to a shortage of stationery, no practical exercises (e.g. role plays) are done during the course. The treasurers are also not asked to bring their own books. The trainer advises them to buy the official receipt and cash books from the department, but as a receipt-book costs TAS. 780 and has to be bought at the district office, none of the VWCs have done this. They usually use a simple exercise book or loose leaves to keep accounts. Financial statements are usually not prepared and villagers are not aware that summary statements have to be presented in a village assembly. Village accountability is generally low. The department audits the books when they get a request from the village council. As it is short of transport its own audits of the village books, which are in its mandate, are not frequent.

Through discussion, the following recommendations for strengthening the training were identified:

- accepting that people use exercise books and non-governmental receipts and trying to improve upon these (serialized numbers, counterfiles)
- introduction of role plays, whereby some participants act as beneficiaries, assembly participants, etc. and others have the role of treasurer or accountant
- introduction of a simple overall statement form for summarizing incomes/expenditures and preparing annual statements ( can be adapted from the form used in the rural savings and credit schemes)
- discussions with the project how the villagers can be better informed about accountability
- in consultation with the project, list those villages where field follow-up is most necessary, so as to get more insight into the application of the training (e.g. villages with large and complex financing and limited accountability)
- clarification of the role of the treasurer of the VWC in villages where the village accountant keeps the water account (experience Ruvuma)
- including village accountants in training where these are in function, so as to avoid conflicts (Ruvuma).

In addition, the training of the CDAs in financing aspects should also be strengthened, so that they can give better on-the-job guidance in the villages.

#### 5.4.3. Communication and training materials

The Review Mission received a draft copy of the new Project Implementation Handbook and an outline for a village information film on O&M.

The new handbook is an integrated field guide, which in each step defines the activities to be undertaken and results to be produced by each party involved: MAJI, MAENDELOO, AFYA, KILIMO and various village institutions. The final version will have two parts and be in A5 format. The draft was developed by an interregional task force, which consisted of project and government staff from the different disciplines.

The way the document was prepared, through a team approach and incorporating the experiences of the different types of implementors should make it a valuable fieldguide. It may now be useful to review the guide in a somewhat wider circle, with special attention to:

- avoidance of the collection of too much data



- including a better gender orientation (see also section 6.2)
- assessing whether it is possible to make some of the data collection which is now an external activity (e.g. forms on health conditions and women's involvement) a more participatory activity
- developing a similar document for handpump schemes

The outline for the O&M film proposes that an engineer telling the villagers on O&M is the main personality. This would contradict the reality where the main personalities in village O&M are the villagers themselves. An alternative would be to have some key village men and women in O&M tell how they have come to maintain their system, including how they learned from earlier mistakes and keeping in mind that more than one road leads to Rome.

#### 5.4.4. Requirement for additional human resources

Not all of the project's requirement for human resources can be tackled through training. The dearth of CDO's in Mbeya has been commented upon elsewhere in the report. The Review Mission has verbally requested MAENDELEO to facilitate the process of reemployment of an Iringa CDO who is willing to meet this need in Mbeya. It was reported that Mbeya may soon lose several project engineers.

In Ruvuma Region there is a shortage of three engineers. MAJI is transferring one to the region, but its ability to supply the remaining two looks doubtful. The Review Mission therefore recommends that Ruvuma reports on the feasibility of meeting its needs through upgrading their available technicians through training so they are able to design and supervise construction activities. If this proves infeasible PICU should review the overall situation in the three regions to investigate whether it is possible to rationalize the distribution of engineers within the project area. If this also proves impossible, then MAJI HQ can be approached again in order to supply the needed engineers from other regions.

#### 5.5. Scope for intensified involvement of the Ministry of Health in project implementation, e.g. in the fields of sanitation and health education

AFYA has seconded a health officer to the VP cell in MAJI in each region and has approved the design of the institutional latrines. Health staff are also involved as trainers or resource persons in health seminars and in workshops for developing health education materials. The village health seminars are attended by both male and female members from the VG, VWC, SAs, TBAs, UWT, traditional healers and school teachers.

The Review Mission feels that a good start has been made with the introduction of health education and the cooperation with AFYA. Both intensity of programme and level of cooperation could probably be increased, but this would require more time, funds and manpower. As a nearer and functioning village water supply is very essential for public health and changing hygiene takes a considerable time and is also linked with economic development, it seems a sensible course to concentrate on good maintenance and management of the water system as a first priority.

However, health education could probably be made more efficient, when in each village the people could set one or two specific targets for improved hygiene. One way of doing so would be to use participatory techniques (e.g. priority ranking cards, village environmental walk) to identify which local condition or habit the villagers themselves think they are most in need of changing. If possible, the selection of a particular target should be chosen in such a way that the achievement of this target can be assessed.

As to sanitation, there is a discussion within the project whether construction of institutional VIP latrines should be continued, because of its high costs. There also seems to be a misconception that these latrines are meant as demonstration model for households.

The Review Mission is of the opinion that the latrine programme should be continued, not as demonstration for households, but to promote proper hygiene practices in children and to reduce health risks. Schools and clinics are places where many children gather and where the risks of transmitting sanitation-borne diseases are greatest. Moreover, education of the next generation in proper sanitation and hygiene practices cannot take place, when the school itself has poor facilities, which are difficult to keep clean and use hygienically. Shifting the sanitation programme halfway would also mean that earlier preparation of project villages has to be recalled and that sanitation outputs at the end of phase III will be limited.

However, a better cost-breakdown should be made for the substructure and superstructure of the latrine design, and all efforts should be made to reduce unit costs, so that a maximal of the original 155 target villages can be covered. Options for cost-reduction include optimalization of the use of transport and skilled labour available during water supply construction, maximal use of locally available materials, omission of non-essential design elements, reduced dimension (height) of cells for primary school pupils, enhancement of village contributions and above all, an increase in pupil/cell ratio.

Regarding hygienic use, a small monitoring activity could be established whereby the schoolchildren themselves monitor the maintenance and hygienic use of their latrines.

Summary of recommendations:

- to continue the present hygiene education and sanitation programme
- to develop participatory techniques to help villagers set one or two priorities for local hygiene improvement
- to devise ways to reduce the unit costs of institutional latrines
- to establish a simple monitoring system for school latrines as educational activity.

5.6. Study of feasibility of devolving responsibility for some part of the project implementation to district level, including procedures for transfer of funds

Involvement of Districts in the implementation of the project in their areas is very much encouraged. Some of the Districts are currently implementing water supply projects under the Programme. In Ruvuma Region, the DWEs in co-operation with the DCDOs of Songea (Rural), Tunduru and Mbinga Districts are involved in implementing projects.

In Mbeya Region the district of Mbeya (Rural), Kyela, Mbozi and Rungwe are involved in implementing projects.

In Iringa region the district of Iringa (Rural) is involved.

The involvement of the districts in construction activities has mainly depended upon the technical capacity of the District. Assessment of capacity has been done by the RWE and PICU has been approving transfer of implementation where relevant to the district.

In principal it is the responsibility of the Districts to support the operation and maintenance of rural schemes.

Completed projects have been handed over to village governments by the Regional Water Engineers. The project has continued monitoring and supporting handed over projects. This system is not sustainable and should be in due course be phased out because it by-passes the District level.

As one of the project's immediate objectives during Phase III is operation and maintenance with a view to ensuring sustained utilization through institution capacity building, it is necessary to transfer the monitoring of operation and maintenance activities to the district level.

The role of the project would be to support the districts to build the capacity through provision of training, transport facilities, office accommodation and working tools on a

sustainable basis. The degree of supports to the districts depends, however, on the conclusions of the awaited O&M proposal.

The PlanOps for phase III had foreseen provision of adequate office facilities and logistical support as capacity building towards O&M activities.

It is recommended that more districts are involved in implementing projects as and when the necessary capacity is achieved. The project should continue to support this move. Monitoring of operation and maintenance should be the responsibility of the Districts and not of the Project.

Currently funds for construction and operation and Maintenance go to DPO/RWE from PICU/MAJI to support the activities. Flow of fund should continue with the present system.

#### 5.7. Proposal for procedures for revising the Plans of Operation

In article 3 of the Government to Government agreement it is stated that the PlanOps for Phase III for each region and the project activities at the national level shall be considered as Annexures to that Agreement. They shall be updated periodically as stipulated in Article 8 which specifies that the PlanOps shall be modified according to the recommendations of the yearly reviews.

The proposed procedures for revising the Plans of Operation are as follows:

- (a) The Review Mission will prepare a draft report, which will be presented for comments from MAJI, MAENDELEO and Danida.
- (b) The Final version of the Review Report will be prepared by the Team Leader in consultation as required with other members of the Review Mission and incorporating such comments, which are considered relevant.
- (c) Based on the Final version of the Review Report, the Programme Officer at the Danish Embassy in collaboration with PICU should be responsible for modifying the PlanOps accordingly.

The draft report will be available before the end of September 1992. Provided that comments will be presented not later than by the end of October 1992, a final version should be ready by mid-November 1992. Subject to Government to Government approval of the O & M Task Force final proposal the Programme Officer and PICU should then be able to revise the PlanOps before the end of January 1993.

## 6. COMMUNITY DEVELOPMENT

### 6.1. Recommendations on the enhancement of community participation and the organizational location of the village participation advisers during the remaining part of phase III

#### 6.1.1. Village participation in the construction planning cycle

During the Mission it became clear that one of the reasons for a greater involvement of MAENDELEO in project implementation is the need to develop a more realistic planning horizon for the schemes development work. Through discussions with implementation staff it was found that delays occur partly because implementation schedules are planned without consultation of the villages on the times when their labour contribution to the project does not compete with other more essential economic/survival activities, such as planting and harvesting of particular crops. This problem could be reduced when the project expands its planning horizon and through MAENDELEO includes the communities in the planning of a realistic time schedule for those construction activities which need much community involvement.

#### 6.1.2. Involvement of the Community Development Department

In the formulation of Phase III, much emphasis has been given to including the Community Development Department in the project. So far, realization has mainly taken place at village/ward level. Involvement of the DCDO/RCDO has not yet been effectuated to a large extent, as day-to-day implementation is being guided by the VIPA and the head of the VP cell. The opinion of the Ministry of Community Development, Women's Affairs and Children expressed in the First Joint Annual Review Mission was not to change this set up so as not to interfere in the pace of implementation. However, this was considered a short-term arrangement, which is not sustainable and will come to an end when the project is wound up.

A systematic approach for village participation in implementation is now established and more emphasis is given to community management of completed schemes. As part of their general task, CDAs support the villages in this activity and liaise when necessary with higher level staff and other Departments. In view of this development, the Review Mission considers it appropriate that the VIPAs are placed in the RCDO's office. In Ruvuma, new office space is about to be available, while in Iringa a temporary solution is being worked out by the RCDO and VIPA until construction of a second floor on the regional block has been carried out. In Mbeya, practical aspects still have to be looked into. The Review Mission further recommends that the terms of reference of the VIPA are revised with a focus to their advisory role in

developing community management of the handed-over water schemes and overcoming problems with community involvement in implementation which they themselves have expressed.

### 6.1.3. Staffing aspects

In Mbeya, the Government-financed post of CDO (O&M) in the RCDO's office is still not established. Efforts to refill the post of CDO for project implementation in the RWE's office are under way. For the O&M post a CDO is available from Iringa, but her transfer is complicated by the fact that she is employed by Local Government and can only be transferred to another Local Government position, which is the post which has not yet been established. As an interim arrangement, the Review Mission has requested the Ministry of Community Development, Women's Affairs and Children to second a staff member from national level to the region until such time as the region has secured the post and has asked PICU to follow this up. The Ministry will appoint a member of its staff to look into this matter and will advise the CDO from Iringa on the steps to follow if she is interested in taking up the O&M post in Mbeya.

During this review, the Review Mission was also informed about the problem of tying community development staff to one particular project, e.g. water. Seen in the light of the Government's decision to reduce the civil service by 50,000 workers to start with, this arrangement will increasingly cause staff shortages at all levels. This staff lay-off can cause difficulties for the water project especially during the implementation activities, so that projects may be called upon to employ their own temporary staff for this phase.

To ensure that CDAs in the project areas nevertheless obtain sufficient knowledge of the project to assist the villages in their management of the completed water schemes, it has been decided in Iringa that CDAs will in any case take part in the essential steps of community involvement during the project implementation, such as the election of the VWC. More routine activities will, where necessary, be handled by temporary VPAs.

After handing over the schemes to the villages, it should normally be possible for the CDA visiting a village to combine his/her advisory task on the management of the village water project with other duties. However, as the pending staff lay-off is likely to reduce also the number of CDAs and therefore increase the number of villages that he/she may have to cover, the support role of the CDA in water should remain realistic and the major part of the project's effort go towards building the capacities of the villages themselves.

To cope with the weak academic background of VPAs who enter the CDA course in one of the Community Development Colleges, the Ministry had already concentrated all VPAs in one college,

i.e. Rungemba in Iringa region, so that special support could be given to them as a group. Despite this action, a need for extra tuition in English and mathematics has been expressed by both the trainees and their tutors. Since these subjects are not normally taught at the CD colleges, special arrangements to help VPAs successfully complete their course will have to be made.

6.1.4. Broadening village capacity building beyond VWC and SA

Reports to the Review Mission on the influence of the village leadership over the VWF in cases where there is mismanagement confirm that capacity building for village water management is not an isolated activity, but an integral part of the overall development process. It is therefore with pleasure that the Review Mission learned that the project's training activities have been expanded to other village leaders besides the members of the VWCs and SA/VMs, and now include also members of the Village Government, Village Accountants, Traditional Birth Attendants and Healers, women's leaders and schoolteachers (see also section 5.4. Training).

6.2. Gender aspects of project implementation

Village water projects are community projects which concern women, because they are responsible for supplying and managing the family's water and they are affected most when the village water system fails. The project and the women thus have a common interest keeping an accessible and reliable water supply going. Unfortunately, women generally have a disadvantaged position when it comes to their participation and say in village affairs. Hence, special efforts are required to redress this imbalance, while at the same time not excluding the men.

Ensuring a more equal gender involvement in control over and benefits from rural water supply projects is both a Tanzanian and a Danish policy. Quantitatively, the project has addressed this issue from the start. Half of the members of the village water committees are female, a condition which is now part of the Tanzanian water policy. Staff for village participation consists of both men and women.

	Ruvuma CDO/CDA/VPAs	Mbeya CDO/CDA/VPAs	Iringa CDO/CDA
Males	13	12	12
Females	6	15	7

Tap and pump attendants are women, while in the past such positions would automatically go to the (usually male) leaders

of each group of ten houses, the so-called 10-cell leaders. Training is given to all members of the VWCs and special courses are organized for the committee's treasurers, many of whom are women. In Mbeya, for example, of the 29 treasurers trained, 12 were women.

However, gender specific reporting does not yet generally take place (e.g. in project reports, minutes, etc.). This could be quite easily introduced as a standard routine (no. men/women in meetings, training, staff, etc.).

Qualitatively, the project makes a number of efforts to involve women and men in a more balanced manner into the project. Some of these depend on the personal affinity and skill on this subject of the project worker concerned. Methods developed are not necessarily shared with others and included in the project's strategy. Nevertheless, field staff seem to have quite some experience on what can be done to involve women and men more equally in project activities and where further strengthening is needed. This experience could be inventorized and structured by the project management, so that the expertise developed in the field can become an integral part of the overall project strategy.

To limit as much as possible the extra burden that for example a special seminar or workshops on this issue would cause, the Review Mission puts as a suggestion that the VIPAs and heads of VP cells collect this existing experience during ongoing meetings and trainings in the section and from technical staff working with male and female villagers. PICU can then systematize this data into a more general strategy paper and feed back the findings and conclusions of this paper into local training and fieldwork.

The Review Mission notes further that the new project handbook contains a number of gender-specific forms, but that in the process practical suggestions in the earlier version for enhancing the involvement of women have got deleted. It is recommended that these are reinserted and that enhanced involvement of women is addressed throughout the handbook.

Whether the process of involving women is successful and makes a difference to the quality of the water service is less easy to assess. PICU could consider asking the regions' advice on carrying out a more in-depth assessment of this. In some villages, planning meetings and site selections have involved few or no women and female VWC members have little or no influence. This may have had an impact on e.g. the distribution of the water points and the degree to which users can influence the quality of management. In others, responsibilities and work seem to fall to a greater part on women, with the men seeing the water supply more as a responsibility for the women than for the village as a whole. Such situations could improve gradually when the project gains experience and develops a more specified gender strategy which looks into a proper balancing of work, responsibilities and



authority for male and female users and village water functionaries.

In yet other cases, including in some of the villages visited by the Review Mission, the female committee members and other women said that they had no problems in taking part in village assemblies and water committee meetings and that their views were heard and respected. More training is a generally felt need, however, especially in financing, which is seen as a major tool for better managing maintenance and controlling the collection and use of funds.

Concerning the broader socio-economic impacts of the project, more information seems available for women and children than for men. Reported impacts on women include: more water collected (of which a large part by children) for family hygiene; easy and safe to collect water in the evening, so that the women can stay in the fields for agricultural work; more time and/or water for other income-related activities, or, according to the choice of the women, more rest. Apart from water consumption, all data are of a qualitative nature only.

It could be considered whether it would be valuable to also get more quantitative data on the impact on the project on people's lives, including gender-specific impacts on the household economy. This would apply in particular to those villages where long times of water shortage and large distances to traditional sources have been the main constraint for economic development, since other factors, such as land, marketing opportunities and organization were already present. In such a study, also the impact of the project on children (water collection) and men (skills, jobs, empowerment) and on male/female interactions would need to be considered.

Summary of recommendations:

- to make all project statistics gender-specific
- to specify the roles of the SSEA and the VIPAs on gender-related aspects
- to inventorize how social and technical field staff overcome constraints to women's involvement and use this information to develop a gender strategy
- to address gender aspects throughout the handbook
- to look into the value of special studies:
  - (a) whether the results of the project are better in villages with a high level of women's participation than where their level of involvement is low

(b) gender-specific impacts on village development where the previous water supply condition has been the major constraint to further development.

### 6.3. Status on introduction of quality control of village participation work

The first joint review mission recommended that besides a technical inspection also some measures to check the quality of village participation should be introduced. Possible indicators were listed in the mission report.

Steps for better quality control of VP work have since been included in the revised project manual. They include the assessment of village conflicts that have to be resolved before a project can start; no signing of a project agreement before the village has established a water fund, initiated source protection and elected a VWC. During construction the CDA reports on quality of village performance in organization, labour performance, source protection, bye-law setting, cooperation of village leaders, training and education given, degree of women's involvement and whether financing arrangements are in place.

As far as could be established, quality of village trainings e.g. increased knowledge or skills, is only assessed for the training of the SA (written test).

The introduction of the criteria makes it possible for the CD section to check whether a village is ready to become the owners and managers of the water system. At the same time, villages have a certain interest in seeing the date of handing over postponed, as from then on they will become responsible for the maintenance and management of the scheme, except for a guarantee period of 1 year on problems beyond community responsibility, e.g. the replacement of PVC cylinders in handpumps by a more durable VLOM-type. It seems therefore advisable that in villages where schemes are completed, but village management capacity is still weak, handing over is not postponed, but that the village is noted for extra training/support already during the implementation phase.

### 6.4. Preparation of national strategy for participatory techniques (PROWESS)

In March 1992, the Danish Embassy received a request from MAJI to finance a consultant for two years to prepare a plan to introduce the participatory techniques developed by PROWESS throughout the rural water sector in Tanzania. The cost of this consultancy was not indicated.

The request followed an earlier collaboration between PROWESS and the MAJI/Danida project. Two VIPAs and the CDO at PICU attended an orientation in Nairobi, Kenya. PROWESS staff then

organized a training-of-trainers seminar for the 3 VIPAs and 3 CDOs in Iringa.

The training was found very useful, as it can provide CDAs and field technicians with a wider range of participatory techniques and contributes to confidence building for and professionalization of the work of the CDAs. Some of the course content was felt to be also useful for higher-level engineering staff, as it can bring better insight in what village participation is and why it is needed. So far those trained have not yet been able to organize any training for CDAs or technical staff, however, and no training managers have been appointed in the VP section.

Because of these felt needs at project level, a higher priority should be given to some more support to the project than to establishing a national training plan. Financing for the plan would have to come from outside the project anyway, as a shortfall already exists.

Catering for national needs is nevertheless important, as the project sends VPAs for further training to the community development college in Rungemba and technicians to the Water Resources Institute (WRI). When these institutes would also be familiar with participatory techniques, effects can be both longer and have a wider reach.

A strategy is therefore proposed which reflects the felt needs of the project and ensures the application of the earlier developed TOT capacity, while at the same time also contributing to capacity building of the national institutions.

- (1) In accordance with the training plan discussed in section 5.4.1, the project appoints one CDO in each region on the training management team, alongside the already appointed engineers.
- (2) One of these CDOs organizes the first workshop on participatory techniques in his/her region. The workshop would consist of two parts: (i) an interregional workshop of a few days for engineers and senior staff from MAJI MAENDELEO and AFYA, and (ii) a longer workshop (one week?) for CDAs and foremen from the region concerned. The CDOs from the two other regions and two resource persons (trainers) from Rungemba and WRI would attend the workshops as participant observers.
- (3) PICU requests PROWESS to provide a facilitator for the workshops mentioned under (2). In close collaboration with CDO and VIPA he/she adapts the training contents to the needs of the project and the type of staff and links the training in participatory techniques with the projects' earlier training on the development of learning materials (Njombe workshop).

- (4) The CDOs from the two other regions each organize their own workshop for CDAs and foremen, with if required the assistance from their colleague in the first workshop.
- (5) PROWESS assist the trainers from Rungemba and WRI to integrate the use of participatory techniques in their training of MAJI/Danida project staff and capacitates the institutes for ongoing training in these techniques within their institutes.

Summary of recommendations:

- to give priority to the training of CDAs and technical field staff in participatory techniques
- to provide assistance to the earlier trained trainers in implementing this training
- to ensure the building up of national training expertise within Tanzanian institutes associated with the project.

## 7. TECHNICAL ASPECTS

### 7.1. Arrangement for quality control/final inspection of schemes before handover

Engineering practices call for different material tests as a mean of quality control. In the project area there are no regular tests instituted. It is however assumed that the quality is maintained through the practical experience of the foremen and engineers.

Reports from Mbeya indicate that some tests on soils are done using the Material Testing Laboratory of the RWE Mbeya for some schemes in Mbeya Region. Facilities are also available in Ruvuma at a road project. It is important for the Project to use these facilities whenever required.

On completion of a scheme it is required that a final inspection is done whereby PICU should be represented. One of the tasks of the Senior Technical Adviser is to carry out final inspections. As a large number of schemes has to be inspected, this would call for most of the STA's time and would not be possible.

The final inspection remains the responsibility of PICU, but PICU could delegate this task to the Regional Water Engineer of that particular region. The Danish Embassy in Dar es Salaam is sceptical about such a delegation of responsibilities as it would have as a consequence that the villagers do not have an independent authority to evaluate the technical quality of the completed works.

### 7.2. Arrangements for cooperation between the Water Project and the three Danida-supported projects (HIMA, Makete and Njombe) in the environment sector in Iringa region, particularly in the fields of source protection and water resources management

Since 1989 Danida has supported the HIMA project, which so far has been operating in two division (Mazombe and Kilolo) in Iringa district. The catchment areas of two water supply schemes (Image and Ibumu) constructed under phase I and Phase II of the Water Supply Project are situated in Mazombe division.

As far as the catchment area protection for the two schemes is concerned, collaboration between the two projects is taking place. Both projects also use the same participatory approach with involvement of the communities in demarcating the catchment areas, preparing village nurseries and planting the seedlings. It is thus very important that one has avoided different approaches and duplication of works. The Regional Hydrologist is involved in deciding the extent of the catchment area.

No water supply activities have so far taken place or are planned under Phase III in the Kilolo Division.

In August 1992 the Board of Danida has approved support over the period 1992-97 for a Natural Resources Conservation and Land Use Management Project in the two districts of Njombe and Makete in Iringa Region. A Government to Government Agreement is expected to be entered into shortly, and preparation activities may start as from October 1992. During the period up to August 1994 the main activities planned are construction of offices and staff houses and institutional strengthening at district level through training and staff development. Also village surveys will be carried out and project villages selected according to the catchment approach criteria and baseline surveys undertaken. It appears thus that catchment area protection field activities from the HIMA project will be rather limited during Phase III of the Water project. Under the water project there are only two group schemes involved, one in each of the districts (Bulongwa group scheme covering 10 villages in Makete district, and Imalinyi group scheme covering 4 villages in Njombe district). For both of these schemes source protection activities are under implementation under the responsibility of the RFO and the Regional Hydrologist and following the participatory approach.

The scope for coordination of physical activities on source protection in the two districts of Njombe and Makete during the remaining part of Phase III of the Water Project thus seems rather limited. However, the training and support activities should be coordinated. Regular exchange visits of especially the CD staff to each other's catchment protection projects and sharing of experiences with regard to community participation and women's involvement are recommended.

Concerning support facilities it is realized that the HIMA project plans to construct new office facilities next to the District Council Offices in Makete, where the Water Project during the coming year will construct new offices for the District Water Engineer and the District Community Development Officer (DCDO). The plans should obviously be closely coordinated to avoid duplication. In Njombe district the Water project only plans to do minor rehabilitation to the DWE's office, while the HIMA project will construct new project offices.

When in the near future the HIMA project is extended from one to three districts in Iringa Region some activities will have to be coordinated at regional level. Both the HIMA project and the Water Project plan to assist the regional authorities by providing office facilities at the Regional complex. Such plans should be closely coordinated to reduce costs.

A water resources monitoring project will be undertaken under the HIMA project with assistance from the Technical University of Denmark under a three year period in three catchment areas. Its purpose is to develop a better general understanding of

the influence of afforestation and soil conservation measures on the hydrological regime and to use this knowledge in the planning of future soil and water conservation projects. The Regional Hydrologist will be involved to establish and operate a number of hydrometeorological gauging stations inclusive of water quality testing. The costs involved are about DKK 170,000. It is recommended that this amount is financed under the Water Project as part of the support to the normal Low Flow measurement component which is carried out towards the end of each dry season on all potential scheme sources identified in the Water Master Plan for Iringa.

### 7.3. Addition of water points in village-managed schemes

Two issues which the Review Mission felt needed additional attention are the installation of extra DPs or handpump wells in villages with handed-over schemes to maintain the established village coverage level, and the installation of private connections.

#### 7.3.1. Preservation of population coverage in villages with handed-over schemes

After handing over, it is the responsibility of the village to expand the number of DPs or handpumps to areas with new settlement. Costs involved are some TAS 500,000 for a DP and TAS 700,000 for a handpump well. The underlying principle is that in line with the general policy of MAJI the project once out does not come back, but gives priority to villages which have not yet got any water project.

Since some years, the villages are informed about this policy during the implementation of the village water scheme. When designing the scheme field staff ask where new settlement areas are planned, and after making the technical design they advise the leaders where additional DPs will be possible from a technical point of view.

In some of the gravity schemes visited the mission observed that this expansion is actually taking place. One village had added 2 more DPs, raising the total from 28 to 30. In another, water tariffs had just been increased to finance an expansion. The impression was obtained that in handpump schemes upkeep of population coverage is more difficult.

Although the estimated design life of the handpump schemes is some ten years, local land use patterns do not always allow more families to settle around the pumps and water availability in new areas may vary. Installing both a well and a handpump at the same time may in addition be beyond the financial capacity of poorer villages. The mission advises that the project monitoring units look further into this issue assessing in particular the scope of the problem. A point to look into for the village participation section would be

whether the advise to the VG and VWC can be improved on this point and to see whether there are other, lower-cost options which the village could turn to, such as the protected wells constructed by the Rural Construction Units of MAENDELEO and the bucket wells under testing by MAJI (Mradi wa visima ndo).

### 7.3.2. Private connections

The agreement for Danida-assisted schemes was signed when the national water policy only allowed public water points in rural projects. This policy has now been changed, allowing also private connections. Moreover, once a scheme is handed over, the villages become the managers and can make their own decisions. Counteracting these decisions at higher level would be both contrary to the policy of self-management and unsustainable. This development makes it necessary that the project formulates a strategy regarding the installation of private connections, which acknowledges the management authority of the villages and gives them the possibility to make informed choices.

Discussions about this issue took place in all three regions and several villages visited where the local management (VG and VWC) had decided to allow private connections against higher payments to the VWF. After a thorough consideration of pro's and con's of revising the project's policy on this issue, the following consensus was reached:

- Under the Government to Government Agreement for phase III, new schemes can only be designed for public taps. Enlarging the schemes would either mean that the number of villages that can be served under the available budget has to be reduced, or bring administrative problems when those interested in a private connection would be asked to make a down payment to cover the extra investment costs of such a mixed scheme.
- The scope, consequences (both positive and negative) and financing implications of private connections installed in handed-over schemes should be looked into in more detail.
- As part of O&M support, an information strategy should be established which enables VGs, GSCs and VWCs that are considering to allow private connections to make sounder management decisions on whether the introduction of private taps is sustainable from a technical point of view (capacity of the source), what the implications are for the design life of the scheme and how to take this reduction of design life into account when determining connection fees and tariffs. Involvement of the users in the decision making process will also have to be looked into.



Summary of recommendations:

- to assess the upkeep of village coverage levels
- to look into the need to advise VGs and VWCs on other, lower-cost technologies to preserve village coverage levels in served villages
- to preserve the agreed service level of public water points for the remainder of phase III
- to undertake a study into the scope, consequences and financing of private connections
- to develop an information strategy to guide communities and GSCs on the issue of installing and managing private connections in handed-over schemes.

## 8. FINANCIAL ASPECTS

### 8.1 Update of budget for Phase III including assessment of its adequacy for achieving the tasks set out in the Plans of Operation

#### 8.1.1 Status on Expenditure and Funds Available

Total expenditure up to the end of 1992 is assumed to be 120.2 M DKK. By year, the annual expenditures have so far been 37.1 (1990) and 42.5 (1991) and the budgeted amount of 40 M DKK for 1992 is expected to be spent in full.

The budgeted funds available from 1 January 1993 up to 30 June 1995 is thus  $200 - 120.2 = 79.8$  M DKK.

To this can be added the following available sums: 6 M DKK remaining from Phase II, plus the value of 4.6 M DKK available in buffer stores, amounting in all to 10.6 M DKK.

The total amount of funds available for the remaining of Phase III after 1992 is therefore  $79.8 + 10.6 = \underline{90.4}$  M DKK.

#### 8.1.2 Background

The binding budget for Phase III is determined in the Government to Government Agreement of 4th July 1990. It is an aggregation and rounding of the budget from the Plan of Operation worked out in 1989. Due to a delayed start the termination of this five-year Phase was extended by six months, thus lasting from mid 1990 until mid 1995. In addition to the allocated 199 M DKK the project has since realized about one million DKK from sales of superfluous items from Phase II. This revenue has been added to the budget for Management Support. Thus Phase III has been able to budget with 200 M DKK.

The target for Phase III is occasionally expressed in terms of number of villages in which a water scheme will be constructed and/or in terms of their design populations. Thus the target number of villages for Phase III was set at 155. This performance criteria is however only "shorthand" for a wider spectrum of intended achievements. As implied by the budget construction of schemes is only one, albeit far the largest, of several project outputs. Apart from the physical assets provided by the construction of the schemes, the significant Operation and Maintenance component is intended to address the problems of institutional and financial sustainability, in the same way as the source protection component is designed to sustain the quality and the yield of the water source. As a supplement to the intended health impacts of easier access to water, the project furthermore comprises a sanitary component intended to contain faecally transmitted diseases and promote sanitary practices.

In essence therefore the objective of the project is a composite of its coverage (villages times population) and the sustainability of its benefits. If there should arise a conflict between these two criteria then the project is predisposed towards the latter at the expense of the former, or in the Plan of Operation's own words: "If a conflict for available resources should develop on the project, the emphasis shall be on securing O & M activities and institutional development in preference to implementation of new schemes". In other words: the ultimate performance criteria of the project is not a predetermined coverage in geographical terms, but rather the endurance of its benefits.

Consequently, when the first annual Review Mission anticipated a shortfall in the budget of 15 M DKK for implementing schemes in the identified 155 villages, its recommendation was, amongst other cost-saving measures, to reduce this target to 140 villages. Amongst the cost-saving measures on operational expenses were improved transport management, reduction of staff, particularly casual labour, and manufacturing of own ringwells. Additional revenue has been realized from dormant stock and reduction of buffer stores.

At the time of the second annual Review Mission it was realized that the implementation capacity (see para 3.4.3) of the project is such that no more than 130 villages can be covered within the remaining time, and only if all personnel constraints can be relieved. Taking current and foreseeable constraints into consideration the implementation capacity of 126 villages is more realistic. However, cost projections had increased to such a degree that the remaining budget allowed only the completion of 89 villages. For the first time therefore the project is experiencing a financial constraint. Hitherto implementation capacity has constituted the main constraint on project progress. The time has therefore come for a political decision to rephrase the project's parameters in terms of time horizon, costs and achievements. Before alternative scenarios are presented, the factors and developments leading to this point should first be identified and explained. One issue concerns the causes of the apparent underbudgeting, another the factors which delayed the realization of this situation.

### 8.1.3 Reasons for the Budgetary Shortfall

A minor part of the budgetary shortfall can be attributed directly to gross undercosting of certain components at the time of budgeting for the Plan of Operation. Thus the Sanitation Component, as the most extreme instance, was originally budgeted to less than a million DKK but is today estimated to cost more than five. Some cost items were identified by the first Review Mission as being subject to overspending rather than underbudgeting. Thus the cost of running a car was, prior to the above mentioned cost-cutting exercises, more than twice the expected amount (200.000 - 250.000 T.sh. rather than the budgeted 100.000).

MAJI comments that the annual costs of running a car today is TAS 1.0 million and that this should be looked at as an example of underbudgeting rather than overspending.

Another contributory cause seems to be that the PlanOp Budget either neglected certain costs, or assumed that they would be covered by GOT. Thus the PlanOp budget seems to assume that the general costs of running the Regional Water Engineers' offices and yards are covered from GOT's budget, while in reality the project seems to have been heavily subsidizing, if not completely covering, such expenses. This may be a contributory factor to the rather large overheads recorded in relation to direct scheme costs (57% and 41% for 1990 and 1991 respectively). Other items which were not originally budgeted for are: low flow gauging, pilot and research activities, running of guest houses, source protection of handed over schemes, not to mention 8-900 casual labourers working under the RWEs. In 1991 alone such items came to about 3.7 M DKK in all. Over a five year period this could add up. Some of these items seem to be within the "spirit" of the Government to Government Agreement, others not.

In reviewing the contributory causes for underbudgeting, administrative oversights by the donor can not be overlooked entirely. In all this factor accounts for a shortfall of almost 6 M DKK, the bulk of which stems from not adjusting the original budget, which was worked out during appraisal in 1988, to 1989 prices and currency levels.

One reason for underestimation of costs concerns the number of handpumps in a given village. The PlanOp Budget is based on an average of 7 pumps per village, while the implementational experience so far has shown 13 due to the distance criteria being decisive and not users per handpump.

Another reason for systemic underbudgeting are the different institutional ambitions of Phase III compared to those of Phase II. As most of the unit cost estimates are derived from the experience from Phase II, the budgeting has failed to take into consideration that an important aspect of Phase III was institutionalization of project activities, partly in MAJI and MAENDELEO, and partly in the villages. Thus the advisory positions are now truly advisory, and not executive as previously the case. Similarly, villagers participate in an integrated way in the construction activities, although this is not timewise reflected in the planning documents and budgets received by PICU. This mode of implementation is pursued because it is deemed more sustainable, but it is also less speedy. Time is also money, however, and this cost of success was not taken into consideration in the budgeting for Phase III.

Finally, the above described underbudgeting may have contributed to the fact that budgeting has not functioned as an effective management tool in the project. The non-functioning of budgeting as a management tool could admittedly

partly be a legacy from Phase II, where the main constraint to implementation was not finances, but rather implementation capacity. Still, managing through budgeting requires at least three preconditions, namely a) initial realistic cost-assessments, b) transparent linkages between expenditure and performance criteria, and c) an incentive structure which induces compliance by the given cost-centres; all conditions which have largely been absent.

8.1.4. Reaction Time for Identification of a Shortfall:  
Some Lessons about Monitoring

The problem of underbudgeting was recognized already in the First Annual Report of Phase III (1990). Preliminary calculations projected an estimated shortfall of over 100 M DKK, representing a financial constraint which would limit implementation to only about 100 villages.

Naturally, this projected financial constraint became a major concern of the first Review Mission (August 91). It responded by recommending a reduction in the number of targeted villages to 140, i.e. less 15 of original target, and the initiation of a cost-savings campaign meant to slash expenses by another 10 M DKK. Counting on the unused contingency of 5 M DKK the combined effect was estimated to balance the budget. If the savings campaign was not sufficiently effective, further reductions in the numbers of villages were foreseen. Retroactively, a number of assumptions behind this estimation has turned out to be either unfounded or too optimistic. PICU was operating under the assumption that the overall budget could be revised in line with inflation, but were unaware that such revisions had to be corrected for developments in exchange rates. However, the major shortcoming in this set of estimations lay in the estimations of costs per village. At the time the Regions and the first Review Mission were working with a standard cost estimate (of 840.000 DKK per village). It took another year before the Regions were basing their estimates on more tailor-made cost projections for the actual individual schemes.

Meanwhile PICU had dissented from the above mentioned estimation, and was, therefore, requested to work out an alternative to it, once the 1991 expenditures were known. This alternative estimation was ready mid-May 92. Using the same scheme cost-estimates it forecasted a budgetary shortfall of between 50 and 59 M DKK for implementing the target of water supply to 155 villages. The significance of this estimate was obfuscated though, by the concurrent claim that this shortfall could be filled partly through inflation adjustments to the tune of 20 M DKK and partly by cutting other achievement goals than villages covered (i.e. O & M, and sanitation). It thus in effect concludes that financial constraints do not prevent the project goal attainment in terms of villages covered. Instead it identifies the implementation of capacity as the constraining factor, allowing maximally 90 per cent goal

achievement. If this, admittedly off-hand, estimate was translated into number of villages covered, it would imply that the project could cover 140 villages at the most - the very same bottom line as that concluded the first Review Mission, but through a very different chain of logic.

The second Review Mission has tried to reconcile these approaches and estimates and concluded that both the financial and the implementational constraints have been underestimated. The financial most though, and that is why it became appropriate to explore alternative scenarios below.

There are several reasons for the prolonged uncertainty of the situation. A major one is the lack of consensus on methods for integrating cost monitoring and projections with goal attainment. Some estimators have used cost per design capita, and others cost per scheme, by averages or by aggregation of scheme specific estimations. Both approaches have their merits, but neither include the sustainability dimension, i.e. cost in relation to the scheme's total production capacity during its lifetime. If such a method had been used, it would have revealed that a major part of what has been described as budget shortfall was not due to cost overruns or underbudgeting as such, but rather increased goal attainment since the gravity schemes on average have larger number of beneficiaries due to a 20 years design horizon than the handpump schemes with a 10 years design horizon. Another reason for the prolonged reaction time in identifying the current constraints of the project is the absence of a format for calculations which allows the very varied assumptions to transpire. Both of these observations lead to the conclusion that the project would have been helped, in its ability to react promptly to unanticipated circumstances, if its design had included an appropriately standardized reporting format, or if such a one had been developed immediately after its inception. Another observation is that the collected information has not been analyzed and acted upon.

Changes and improvement in the management procedures have, however, been initiated early in 1992, and are planned to be fully operational on 1st January 1993. These measures include the following:

- a) Standardized computerized, easy to interpret more management-oriented reporting formats which are now being finalized.
- b) Uniform, improved transport monitoring programme.
- c) New Budget control procedures which will allow among many other things a comparison of total estimated scheme cost and accumulated expenditures over several years broken down into its constituent parts.

- d) A fully computerized, new accounting system which will permit an ongoing control of expenditures for each scheme compared with the estimate contained in the detailed design. The information available will permit detailed analysis of costs on individual water schemes.
- e) Computerization of most project activities and training of staff.

#### 8.1.5. Alternative Scenarios for Continuation of the Project

Depending on whether time, money or achievements should be the most important factor in the continuation of the project, it is possible to paint three different scenarios - and unlimited variations of - or combinations between these. Five such scenarios representing particular decision criteria are described below.

The first scenario operates within the present budget constraint of 90.4 M DKK. This amount is only sufficient to complete water supply schemes for 89 villages, implying the termination of construction activities before the expiration of other project activities. The schemes for six villages are already completed, and 74 are in various stages of construction.

The second scenario includes all 26 villages for which design and/or surveys have commenced. Therefore there already exists an expectation and a perceived commitment that construction will go ahead. This scenario would amount to a coverage of 106 villages. The needed additional funds will amount to about 20 M DKK, which may more or less be covered through reduction in the budget for transport facilities for O & M systems.

The third scenario is determined by the project's present implementation capacity in the scheduled project horizon. This is currently assessed to max 126 villages. This implementation capacity is basically limited by staff requirements demanded in particular for community participation, and to a lesser degree for source protection and training. It demands an additional allocation of about 39 M DKK.

The fourth scenario is only relevant if a special effort is able to lift the Community Participation constraint of the third scenario. The constraint with regards to engineering capacity alone would allow the implementation of about 130 villages in total. This scenario would imply a supplementary allocation of 45 M DKK.

The fifth scenario is determined by the goal of supplying the originally number of 155 villages with water supply systems. This would involve an additional allocation of about 100 M DKK, and an extension of Phase III with about 18 months. The attainment of this goal will in terms of marginal increase be

more than twice as expensive as in the case of the third scenario, because the project will have to reinvest in a number of assets, ranging from staff contracts to the motor pool.

#### 8.1.6 Recommendations

It is beyond the Review Mission's Terms of Reference to suggest a particular, or any of the possible scenarios, for the remaining part of Phase III. To preempt unnecessary frustration in potentially benefitting villages caused by the possible choice of scenario one, it is however strongly recommended that the project with immediate effect suspends any plans for initiation of new surveys, until either a scenario exceeding that of number two has been chosen by Danida, or until a prioritization and selection amongst the candidates for the remaining limited funds has taken place.

In view of some of the managerial issues observed by this Mission and indicated above, it is furthermore recommended that any further allocation of funds to the project be preceded by a review of the present managerial systems by an external consultant. The consultant should be independent from any current contractual obligation to the project. The scope of work for the consultant should include, but not be limited to:

- a) Review of the existing budgeting and accounting system in order to assess its future potential as a management, monitoring and forecasting tool. This sub-task should include a reassessment of quantification and costing of current budgeting, and one output should be a verification and refinement of whichever above cost scenario has been opted for.
- b) Analysis of the potential for increasing the cooperation and refining the division of labour between PICU and the Regional Projects, in the context of a possible Phase IV.
- c) Proposals for an improved project reporting procedure and format, including identification and definition of ultimate and intermediate performance criteria. This sub-task should timewise overlap with the completion of the proposals by the Task Force on O & M, in order to incorporate its findings, conclusions and recommendations.

#### 8.2. Review of procedures for transferring funds from the Danish Embassy to the regions through the Treasury and MAJI

Danida normally issues checks to the Principal Secretary of MAJI when transferring funds to the GOT for use on the project. On receiving the checks MAJI submits them to Treasury. Release of the funds from Treasury through an



Exchequer Release Warrant is subject to approval by the Planning Commission.

In order to get the approval from the Planning Commission, MAJI is required to submit Physical and Financial Quarterly reports. In essence these reports should contain information on executed activities during the reported period, implementation status, and plan for the next quarter. The financial report should indicate annual allocation, funds released during the reported period, expenditures during the reported time and funds required for the next quarter. These reports are prepared by the Division of Design, Construction and Material Testing and submitted to the Planning Department of MAJI for checking and submission to the Planning Commission together with a Fund Release Application form.

Normally the submission to the Planning Commission includes all projects implemented by MAJI.

The Planning Commission checks the reports and approves the request. The approval is sent to the Treasury which in turn releases the funds to MAJI, who then writes a warrant of fund to the Regional Water Engineers.

In the above mentioned chain of events there are critical events which normally contribute to the delay in release of funds:

- Submission in time of clear physical and financial reports by the RWEs to MAJI/PICU.
- Compilation of all National Projects in the Planning Department of MAJI.
- Checking of the Reports and subsequent approval by the Planning Commission.

The first of the above three events is within the Project's influence.

Alternative procedures for the transfer of fund to the project area are:

- to establish a project account which is subject to approval by Treasury
- to channel more funds through the DPO.

The above two alternatives do not conform to the Government procedure of the disbursement of government funds. The aim of the project is to work within the framework of the Tanzania Government procedures. It is therefore recommended that the existing government procedure be followed in transferring funds from the Danish Embassy to the regions. PICU/MAJI should make sure that the reports from the Regions are submitted in time for compilation. After compiling the three

regions' report, MAJI should arrange immediate submission of the reports to the Planning Commission instead of waiting until all National Project Reports have been compiled. It is recommended that the Division of Design, Construction and Material Testing assigns one person to follow up on approval from the Planning Commission.

