WB

Progress Report
January - March 1996

Domestic Water Supply Programme
Shinyanga Region

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Shinyanga Region

DHV Consultants BV

PR 96/1

SHINYANGA, April 1996

* Payment procedures by district to contractors!
Annual open tender by DTB

* Recommendation: do not pull the plug but ... budgeting ... headed allocation (Downscale the programme
Get rid of over funding!)
DWSP to develop into a Resource Center for separately
funded water programmes via the DRDP.

* Issues: - Tendering
- Payment
- Supervision by DWE
- Pvt. Contr. >>.
- Irontime system to be carlike size ... room

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Abbreviations and acronyms

BAR	Bariadi District
CD	Community Development
CDP	Community Development Promoter
DDA	District Development Adviser
DRDP	District Rural Development Programme
DWE	District Water Engineer
DWSP	Domestic Water Supply Programme
IPM	Integrated Pest Management
KAH	Kahama District
MAS	Maswa District
MEA	Meatu District
MWE	Municipal Water Engineer
NGO	Non-Government Organization
O+M	Operation and Maintenance
PA	Programme Assistant
PoO	Plan of Operation
PRA	Participatory Rural Appraisal
RC	Regional Commissioner
RCDO	Regional Community Development Officer
RNE	Royal Netherlands Embassy
RPLO	Regional Planning Officer
RPM	Regional Programme Manager
RTD	Radio Tanzania Dar es Salaam
RTDC	Regional Training and Development Centre
RWE	Regional Water Engineer
RWH	Rain Water Harvesting
RWSE	Rural Water Supply Engineer
RWSSP	Rural Water Supply and Sanitation Programme
SHSP	School Hygiene and Sanitation Package
SRU	Shinyanga Rural District
SM	Shinyanga Municipality
	Social Mobilizer
VIP	Ventilated Improved Pit (latrine)
VTC	Vocational Training Centre
WFA	Water Field Assistant
WID	Women in Development
WUG	Water User Group

INTRODUCTION

This report presents the progress made in the implementation of the Domestic Water Supply Programme in Shinyanga Region as executed during the period January - March 1996.

The main achievements are briefly described in the Executive Summary (chapter 1) where also a summary is given of the various guests who have visited the programme area.

The General Framework for the programme is described in Chapter 2, whereas overall programme targets are elaborated in Chapter 3. The progress achieved during the reporting period is presented in Chapter 4.

The seasonal impact during the first quarter of 1996 has clearly shown, as was expected, decreased output in terms of completed water points. Therefore, due attention was given to training of field staff to appropriately prepare for implementation after the rainy season. Field staff participated in hands-on-skill training, i.e. hand dug well technology, disinfection of wells, hand pump technology, construction of institutional VIP and ground water survey by using hand augers. In addition they concentrated on community mobilization and adult learning methodologies.

District management of all districts and the region attended a course in computerized planning.

1 EXECUTIVE SUMMARY

1.1 Overall programme target

In the 1994 Annual Meeting of February 1995 it was agreed to take the expected output, as it is shown in the Plan of Operation (page 24), as reference for future assessment of programme's performance.

DISTRICT	SRU	BAR	MAS	MEA	KAH	SM	TOTAL
WATER-SUPPLY :							
Rehabilitation shallow wells	129	53	62	150	104	52	550
Construction shallow wells	114	197	200	100	146	73	830
Rehabilitation piped supply	9	4	-	4	7	1	25
Construction piped supply	-	-	-	1	-	3	4
Rain water harvesting	-	9	8	-	5	-	22
Spring protection	-	-	-	-	5	-	5
Improving traditional sources	-	-	-	-	15	-	15
Boreholes	-	-	4	8	5	-	17
Solar energy	-	-	-	-	1	-	1
Small dams	-	-	4	-	5	-	9
Windmills	-	-	-	-	1	-	1
Estimated number of people to be served :	87,000	81,000	89,000	85,000	95,000	43,250	480,250
SANITATION :							
VIP-latrines	126	50	80	150	100		506
Washing slabs	243	128	322	-	100		793
Communal/individual latrines	-	-	200	-	-		200

Table 1.1: Overview of expected output for 1993 - 1998

1.2 Progress

By the end of March 114,500 people had excess to improved water supply. This is including 1,250 inhabitants of Ibanza who are supplied from a piped scheme. The achievement equals to 23.8 percent of the PoO expectation.

Few of the ten primary schools where pilot activities started responded somehow satisfactorily. In general all schools need due attention and a lot of follow-up, which may require assignment of a sanitary engineer at regional level because of the workload. Primary school teachers will be trained in April.

Users' contributions for pumps and O+M as is reported in the Status Quo sheets on shallow wells is still increasing, with an exception in Meatu district. In some districts discrepancy was noticed between reported data and bank statements. Reason for this is that contributions are paid cash to district councils whereas the revenue is not immediately banked.

It is encouraging to see that the programme's policy is now becoming clearer to all programme actors at different levels in the districts. Gradually things are also becoming brighter with DRDP districts than before. In Kahama district, community response is somehow promising. The water user group concept is now, after the formation of a District Animation Team, better understood and being accepted and adopted. The new organizational set up of Maswa district is another positive achievement for bringing about changes.

The third support mission by the consultant's hydro-geologist to the strengthening process of the regional geo-physical team was carried out. During the short term mission for DWSP special emphasis was put on:

- Improvement of geo-physical database;
- Evaluation of geo-physical investigations carried out since the last mission;
- Supervise the execution of pump tests;
- Pump test evaluation;
- Kahama Town Water Supply:
  - evaluation of the field work carried out sofar,
  - recommendation for additional geo-physical fieldwork and test drilling;
- Testing and starting up of new geo-physical equipment which replaces the rented units;
- Planning and start-up of field work for the District Mapping in Bariadi;
- On-the-job training of the second hydro-geologist of the RWE's office.

Four exploratory boreholes drilled for Kahama Water Supply were pump tested. The results, however, were not promising.

A number of interesting developments took place in four villages where rehabilitation of the piped scheme is in process or being considered. During the reporting period a first assessment has been made for the rehabilitation of three schemes (Luguru (BAR), Mwandoya (MEA) and Usanga / Singita (SRU)) as was foreseen in the Plan of Operation for 1996.

Private contractors are highly involved in the programme. Till the end of March in total 66 contracts for ring casting were awarded to local contractors. The value of all contracts amounted to TShs. 55,221,000. For this amount 3,004 rings and 131 well covers had to be made. To boost output DRDP districts in particular have to involve the private sector more aggressively. An overview of contracts awarded is shown in table 4.5 on page 45.

A revised version of the signboard was made. Various Bills of Quantity for different technological options were prepared and are shown in Annex IV. A summary sheet of the costs for respective options is presented on page 7.

Except for Maswa which has agreed to incorporate water in a replica organigram of the so-called pilot districts (Annex V), Kahama and Meatu have not yet reached a final decision on the matter. Negotiations are still going on between district authorities, the region and the consultant.

Institutional development of the geo-physical team within the organization of RWE's office encountered some difficulties. Geo-physical site investigation is an important activity in Shinyanga Region due to the complexity of the hydro-geological conditions. Experiences sofar have shown that for this work full-time assignment is required for one hydro-geologist, who is preferably employed by the Regional Water Engineer's office.

A training Programme detailing the type of courses to be conducted during 1996, prospective trainees, training calendar, venues and the general training guidelines has been finalised and circulated to all districts in the region. It is planned that a mid-year assessment of the trained persons will be carried out to determine the training impact. From January to March 96 trainees from both DRDP and DWSP districts attended various courses of which most of them were on technical hands-on-skill training. The Facilitator's Handbook and four curricula were developed and used during training.

The Regional Training and Development Centre was officially inaugurated during the MAJI Week. It has proved to be a vital resource both as a learning and demonstration ground for various water and sanitary technologies. Individuals and institutions are beginning to show keen interest by paying study visits to the centre. More technologies are now being erected at RTDC for demonstration and training purposes.

1.3 Visitors

During the reporting period the following guests have visited the programme offices, the Regional Training and Development Centre and/or paid visits to programme field activities. During the field visits representatives of the Regional and District Government, as well as ward and village level representatives and programme advisers accompanied the guests.

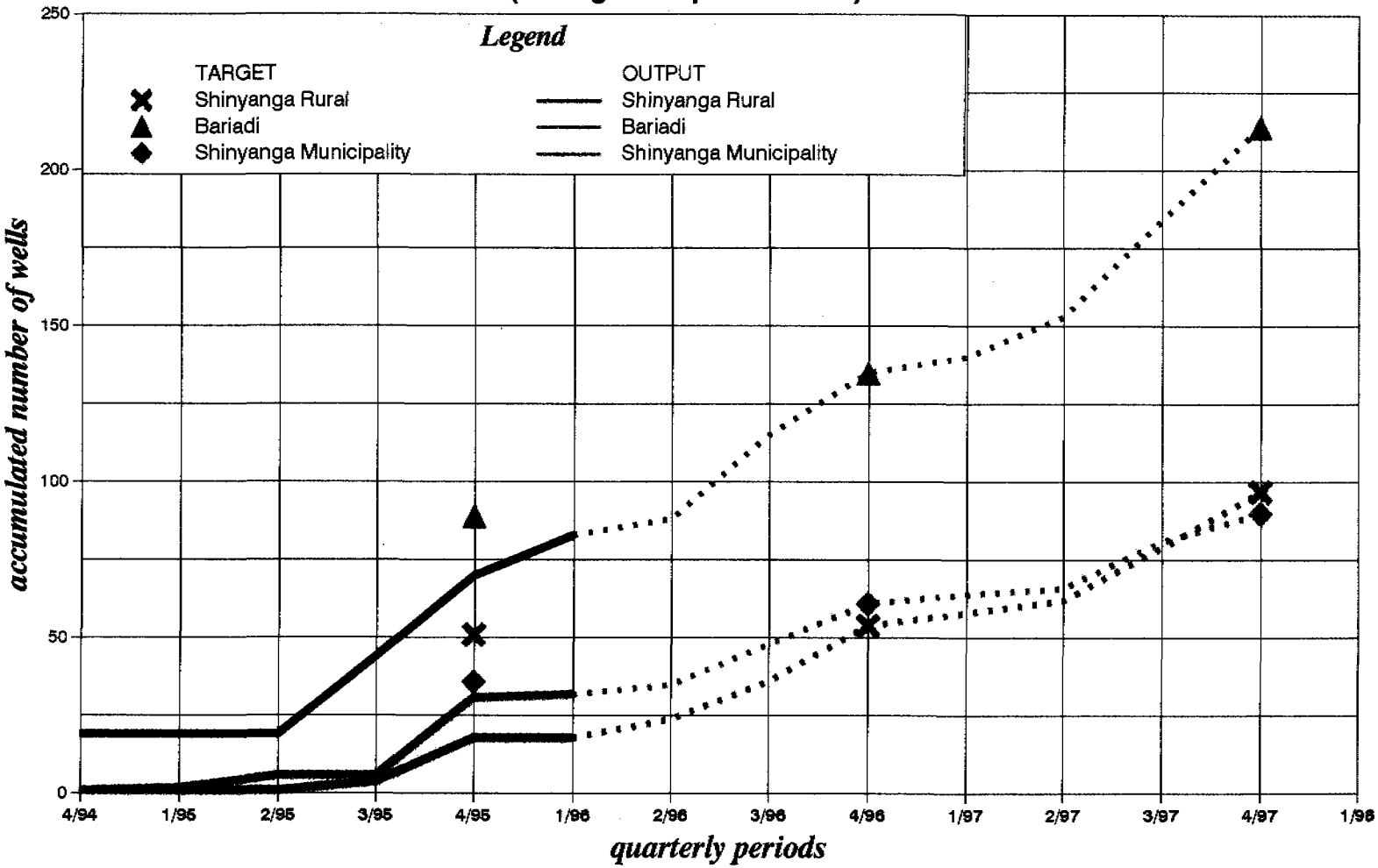
Date	Visitors	Purpose of visit
21/02-05/04	**Mr. R. van Lissa**, senior hydro-geologist DHV Consultants.	Third support mission to regional geophysical team. Part of the time was spent on site investigation in Ngara district and preparation of a proposal as was requested by RNE and DRDP Ngara.

27/02-02/03	**Team of HESAWA** representatives from Musoma Region.	Study tour to learn from and compare DWSP's experiences with those achieved in Musoma Region.
04-30/03	**Mr. F. v d Laak**, senior adviser DHV Consultants.	Facilitator in course on computerized planning with PS5 programme for district and regional programme staff.
07/03	**Dr. Pius Y. Ng'wandu**, Minister for Water.	To be informed about DWSP's efforts and experiences regarding: - private sector involvement, - WUG approach and "demand" management, - Step-by-step approach, - women involvement, - various technological options (whereby visit was paid to RTDC).
18-21/03	**Mrs. Y. Debetz**, (Project Officer Central and East Africa Division, DGIS) Ministry of Foreign Affairs, The Hague, The Netherlands and **Mr. B. Broens**, project director DHV Consultants.	To attend a presentation on District Water Development Planning. To familiarize with the DWSP and to get a picture of its performance.
18-21/03	**Mr. B. Bakker**, team leader WRAP Kenya and **Mr. Enos Wafula**, Engineer (member of West Pokot Water Development Planning Team) Kenya.	To facilitate a one day seminar on District Water Development Planning based on a similar programme executed in Kenya.
18-21/03	**Mrs. E. Lauwo**, hydro-geologist RWE's office Morogoro Region.	To represent Morogoro Region in the above mentioned seminar.

DWSP Options for Water Supply Facilities		Contribution		Total cost
		User	Donor	
1. **Improved Traditional Water Point**		80,000/=	50,000/=	130,000/=
2. **Hand Pumped Wells**				
2.1 Rehabilitation Hand Dug Well:	6.00 m depth	120,000/=	281,000/=	401,000/=
	8.00 m depth	120,000/=	317,000/=	437,000/=
	10.00 m depth	120,000/=	353,000/=	473,000/=
2.2 Construction Hand Dug Well:	6.00 m depth	151,000/=	486,000/=	637,000/=
	8.00 m depth	173,000/=	592,000/=	765,000/=
	10.00 m depth	205,000/=	698,000/=	903,000/=
2.3 Construction Hand Drilled Well:	10.00 m depth	125,000/=	478,000/=	603,000/=
2.4 Construction Machine Drilled Well:	20.00 m depth	150,000/=	1,357,500/=	1,507,500/=
	30.00 m depth	150,000/=	1,857,500/=	2,007,500/=
3. **Rain Water Harvesting**				
3.1 Thai jars:	300 - 500 lts.			10,000/= - 20,000/=
	1,000 - 1,500 lts.			30,000/= - 50,000/=
3.2 segmental tank including rain water gutters:	5,000 lts.			up to 500,000/=
3.3 ferrocement tank, including rain water gutters	10,000 - 30,000 lts.			1,000,000/= - 2,000,000/=
4. **Piped supplies** Rehabilitation		Depends on conditions and requirements		

construction of shallow wells in DWSP districts

(through 1st quarter 1996)



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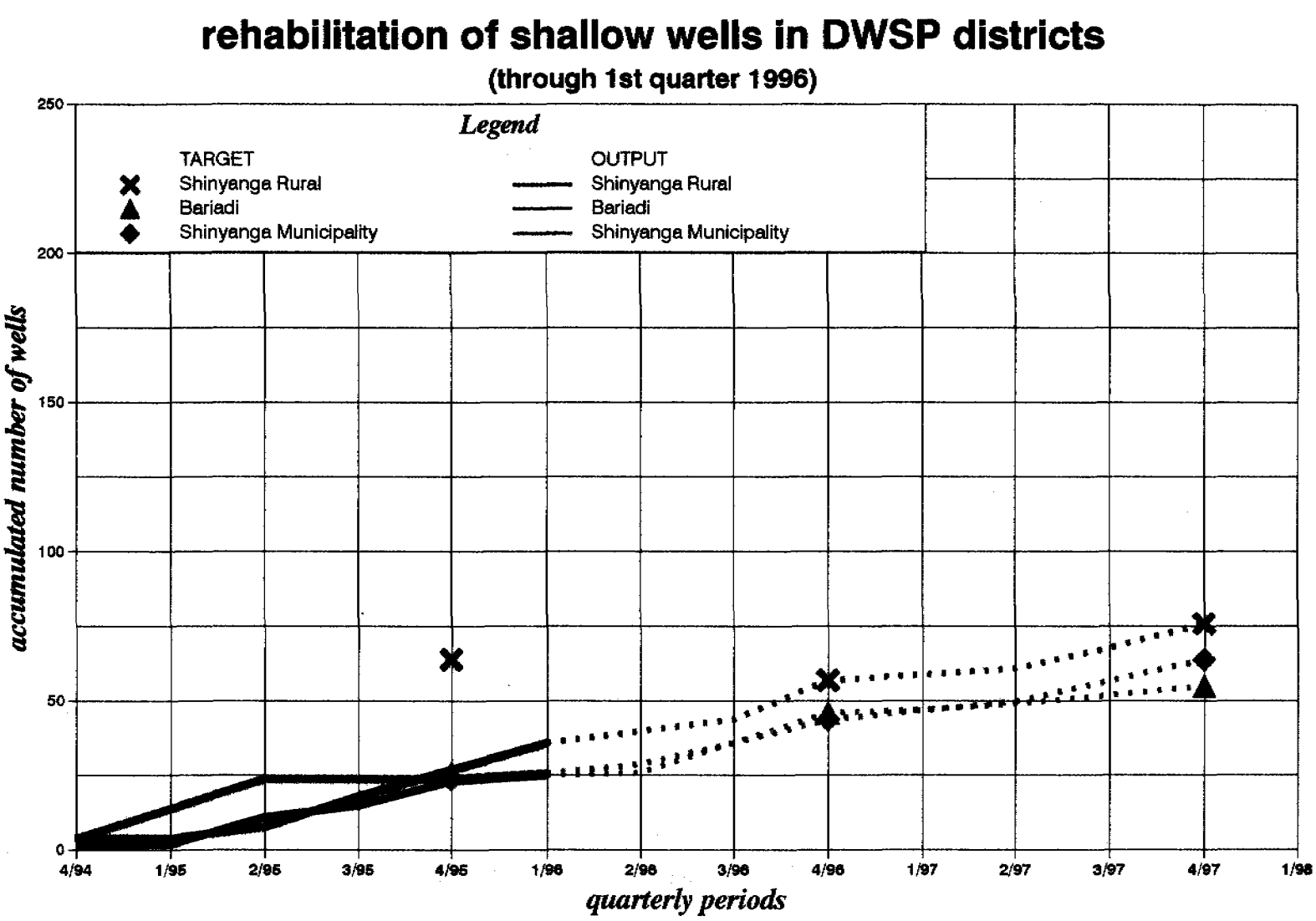

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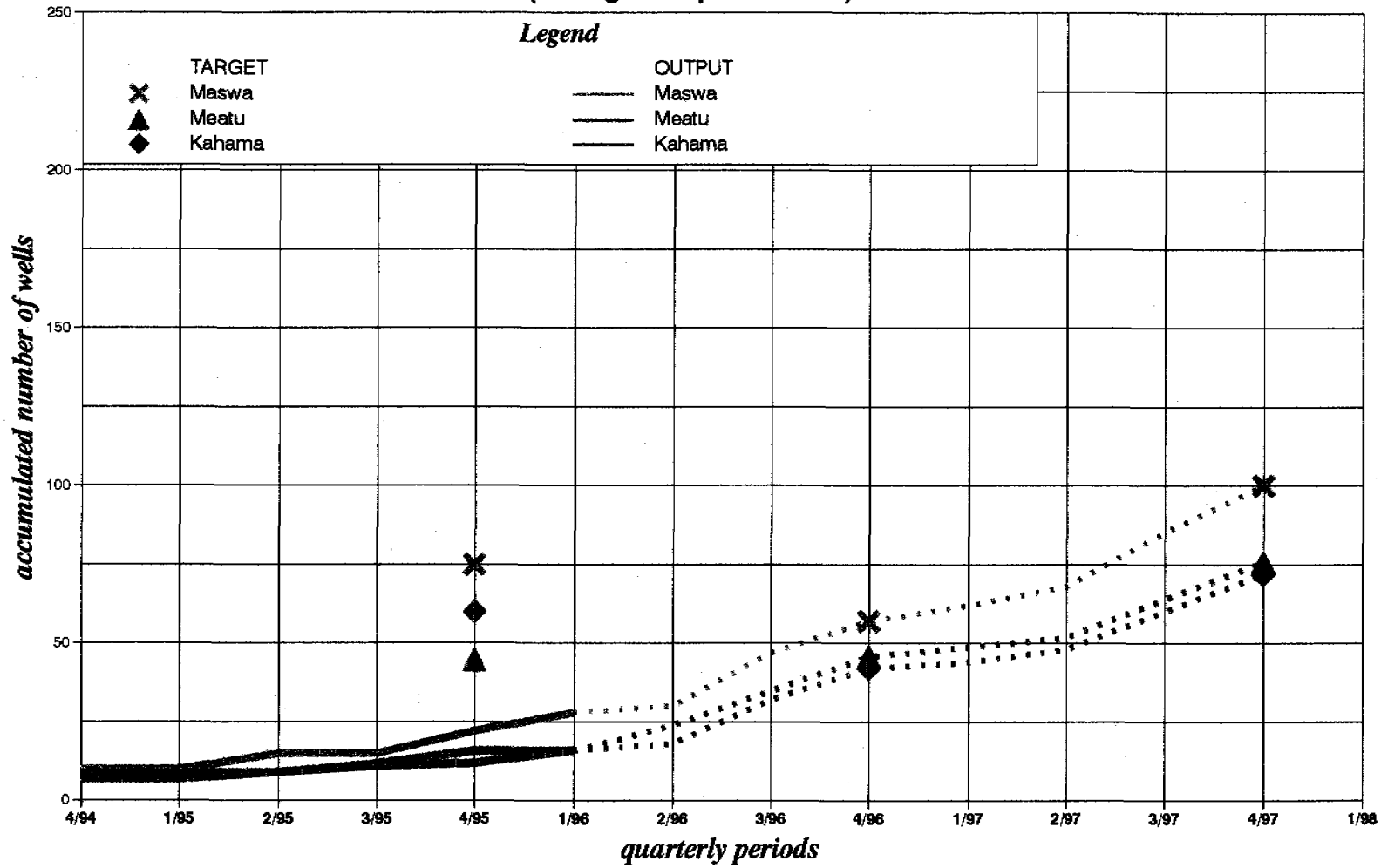
construction of shallow wells in DRDP districts

(through 1st quarter 1996)



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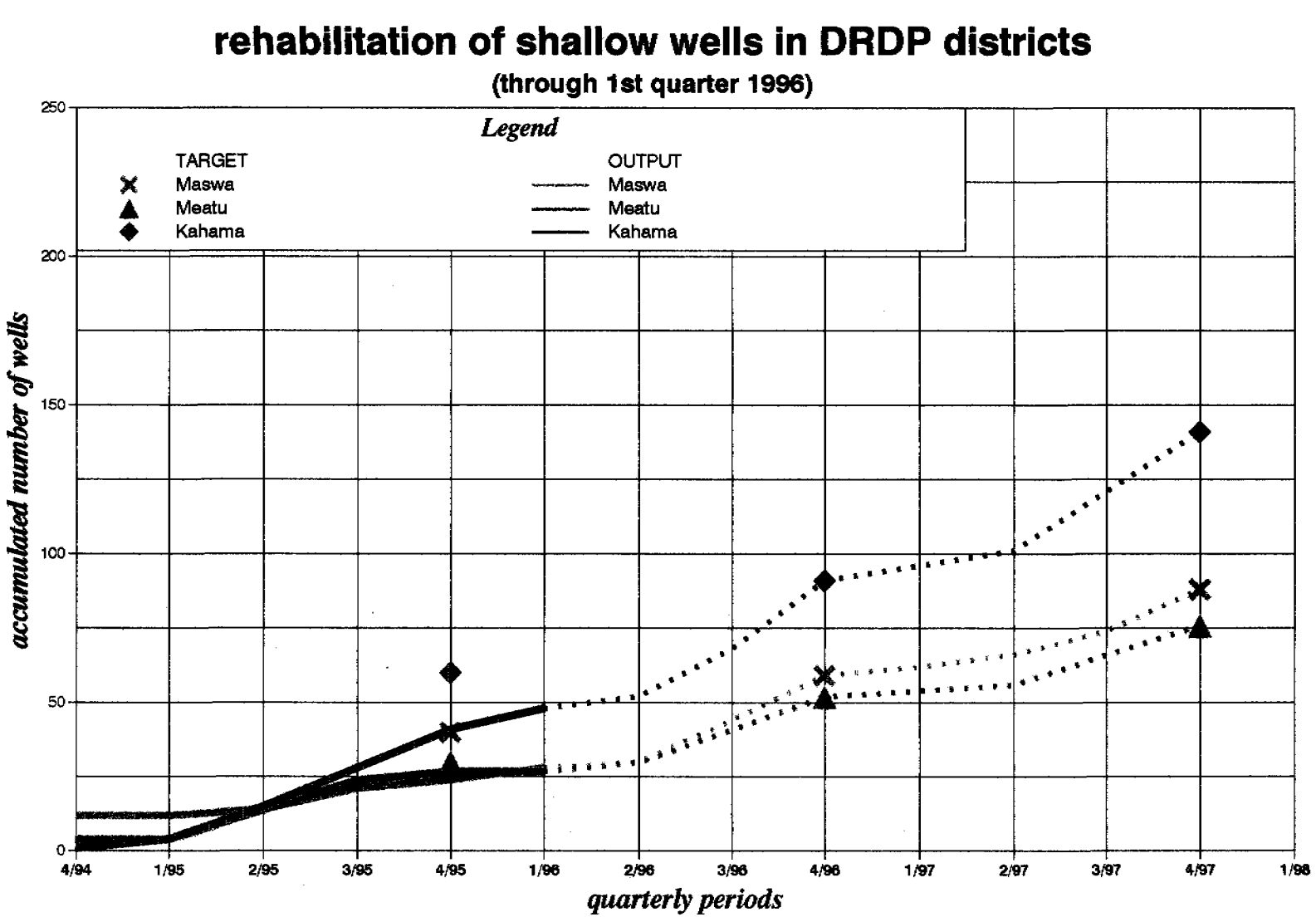

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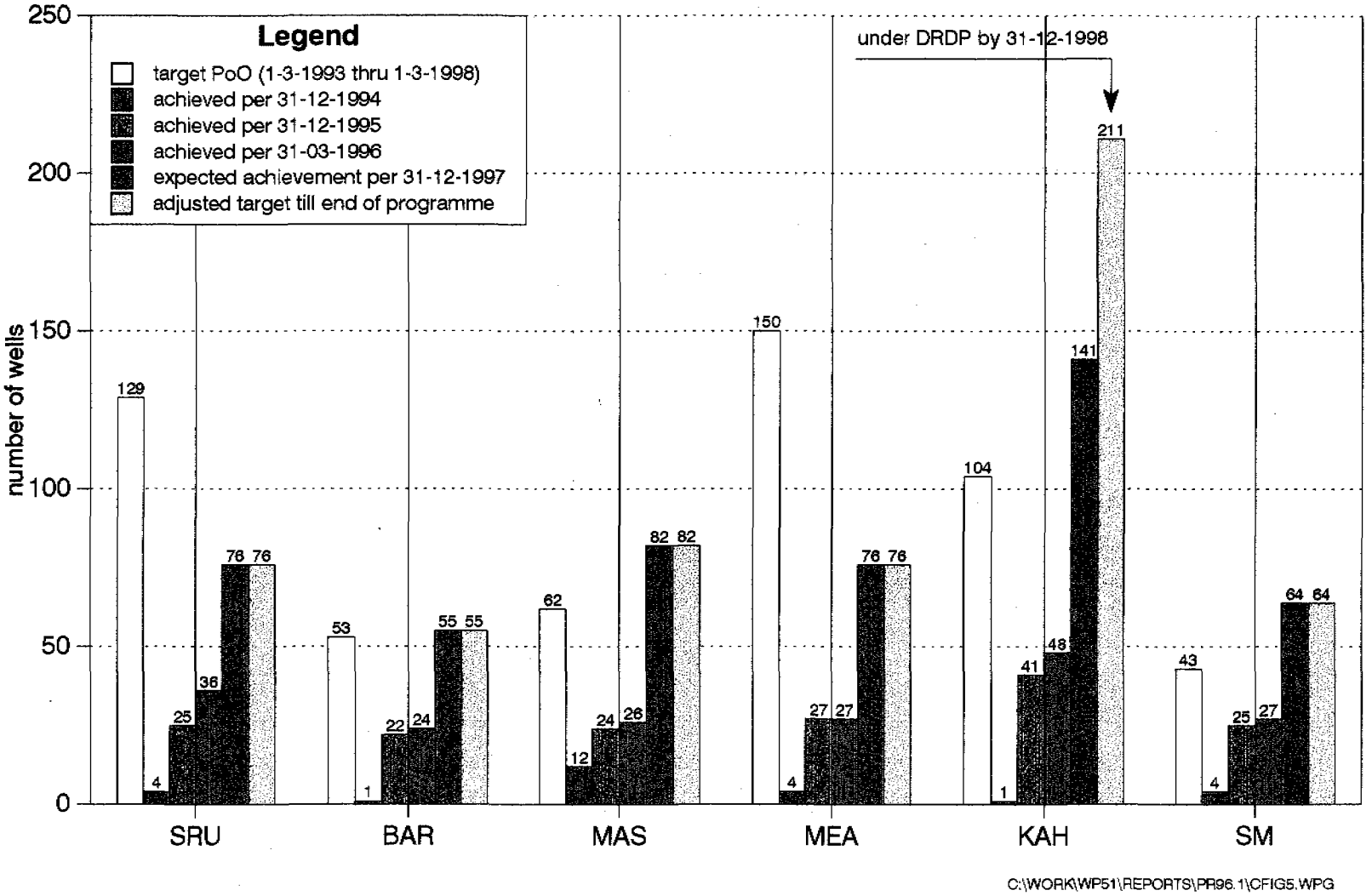
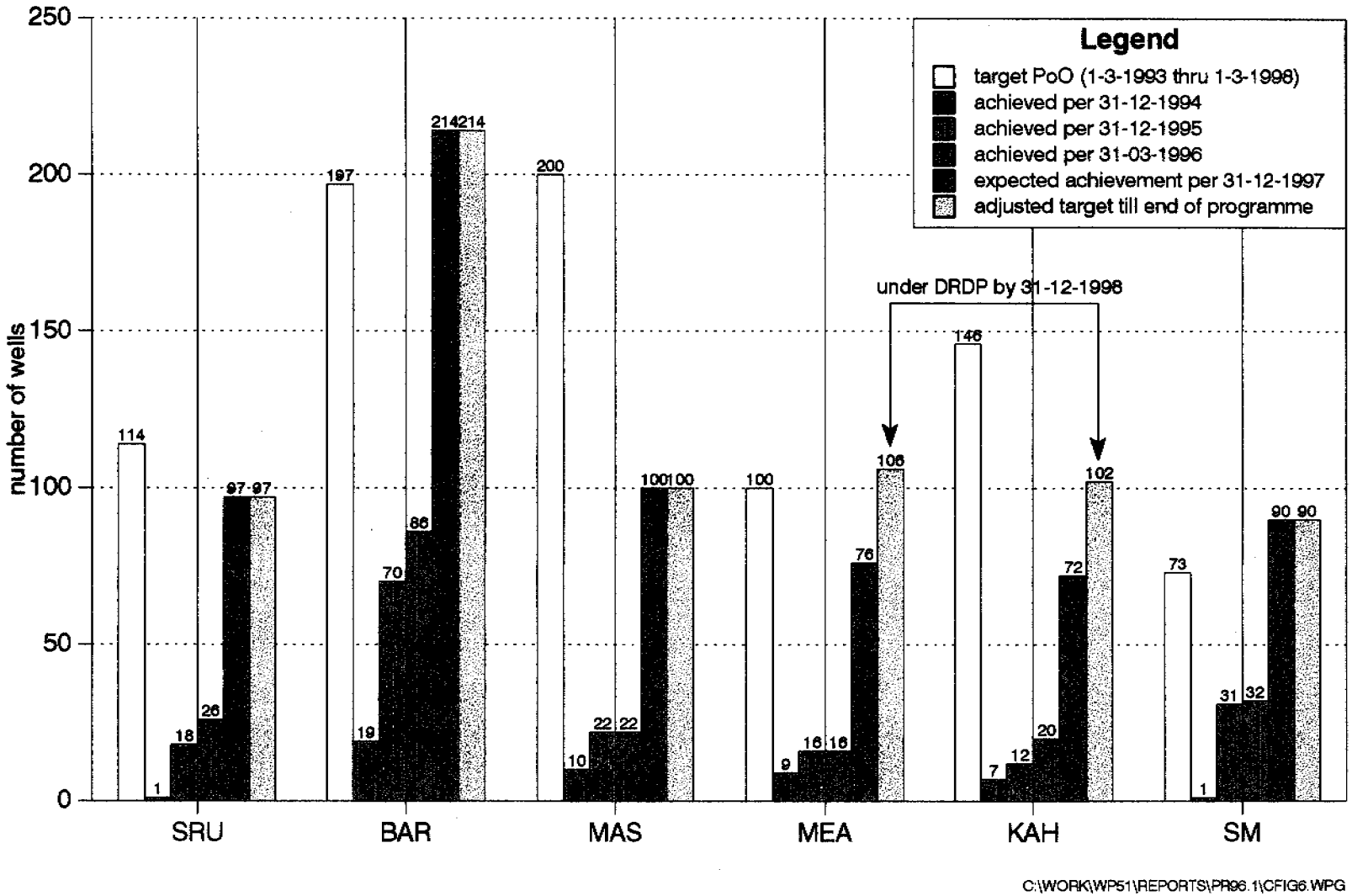
rehabilitation of hand dug shallow wells

accumulative



construction of hand dug shallow wells

accumulative



2 GENERAL FRAMEWORK

2.1 Long term objective

The long term objective of the programme is to improve the living conditions and the health situation of people by providing access to an adequate -i.e. sufficient in quantity and safe in quality- water supply or sanitary facilities within a reasonable [1] distance of the homesteads in a sustainable and environmentally viable way.

Initiatives to improve or construct a water supply system or sanitary facility must come from the users. The implementation of these field activities will be carried out along the lines of the step-by-step approach. The planning of the programme will follow a process oriented approach.

2.2 Medium term objectives

In order to reach the above mentioned long term objective the following medium term Programme objectives shall be achieved:

1) increased number of people making continuous use of raised service levels of water supply and/or sanitary facilities, as a basis for improved public health and living conditions;

2) reduced effort spent on water collection substantially [2], by providing water closer to the homesteads;

3) improved gender balanced participation of the users in decision-making;

4) improved sustainability of the Operation and Maintenance of water supply and sanitary facilities, by e.g. strengthening the relevant skills of user groups;

5) strengthened capacity of the institutional framework for the provision of water supply, sanitary facilities and hygiene education, in order to ensure continued efficient, effective and environmentally viable development, when donor assistance is reduced.

2.3 Strategies

To meet the above mentioned medium term objectives, the programme will put emphasis on the following gender-specific strategies:

1) constructing **improved water points** in the proximity of the homesteads, in gradually increasing numbers, in order of relative urgency and receptivity, taking environmental effects into account.

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[1] What is reasonable or substantial will be determined by the beneficiaries, the technical possibilities and the costs involved.

2) stimulating **community participation** in order to support user group management, that is taking full responsibility for planning, implementation, operation & maintenance and ownership of their water supply system or sanitary facilities.

3) focusing on **institutional development** in order to establish a functional system of services to rehabilitate or construct and to maintain the water supply and sanitary facilities, to manufacture and distribute pumps and spares, slabs, tools and equipment. Therefore it will be necessary to develop:

- specific capabilities of user groups;
- the implementation capacity of the departments;
- the organisational set-up of the programme;
- the services rendered by the private sector;
- the services rendered by supporting agencies;
- the cooperation with other programmes and NGOs.

4) focusing on **human resources development** in order to strengthen the performance of the parties involved in the programme. A Personnel Development System is to be established, which will include a training programme to assist departmental staff at various levels to execute their tasks satisfactorily.

strengthening the performance of certain groups within the community and of the VWSCs by identifying and organising training activities. Strengthening the performance of people in the private sector will get specific attention (see 5).

5) supporting the **private sector** to render their services for construction and rehabilitation of water supply systems and sanitary facilities (e.g. wells, tanks for rainwater harvesting, piped water supply schemes, as well as VIP latrines and other sanitary facilities); supporting workshops at the regional level that can produce hand pumps and spare parts; supporting small scale enterprises and shops at the district and the ward level to take up the role of distributor.

6) promoting **sanitation and hygiene education** at village level, by providing training and through the execution of pilot activities and a mobilization campaign.

7) developing **appropriate technology and methodology** in order to eliminate constraints and to improve the implementation of the programme.

2.4 Indicators

The achievements during the reporting period have been included in the summaries on the next pages. In order to have a common understanding on the indicators to be used for the remaining programme period, the consultant recommended to convene a meeting for representatives from national, regional and district level in February 1996. The aim should have been to discuss and establish an up dated package of indicators. However, due to various reasons it was not possible to bring all key persons in one meeting together by then.

PHYSICAL IMPROVEMENTS (structural improvements, functioning)				
indicator	**Programme target**		**achievement per 31 March 1996**	
1. Number of improved water supply / sanitary facilities.	**WATER SUPPLY:**		number	percent
	rehabilitation shallow wells	498	188	38
	construction shallow wells	757	202	27
	rehabilitation piped schemes	24	1	4
	construction piped schemes	1	0	0
	rain water harvesting	22	16	73
	spring protection	5	0	0
	improving traditional sources	15	0	0
	boreholes	1	11	
	solar energy	1	0	0
	small dams	9	0	0
	windmills	1	0	0
	SANITATION:			
	VIP latrines	506	> data to be up	
	washing slabs	793	dated	
	communal/individual latrines	200	8	4
2. Quality, quantity and continuity of water supply.	No quantifiable units mentioned.		The three characteristics have been met in nearly all newly constructed and rehabilitated wells. In Meatu and Maswa two wells had to be disapproved because of too high EC and Fluoride values.	
3. Ownership of the facilities (community, institution, private).	In principle all domestic facilities should be owned by either of the indicated parties.		During RNE's last monitoring mission in September 1995 nine wells have been handed over to the users in Baradi district. In addition some five more wells were handed over during the MAJI week in same district.	

PHYSICAL IMPROVEMENTS (structural improvements, functioning)		
indicator	**Programme target**	**achievement per 31 March 1996**
4. Water storage practices.		Two courses were given in construction of storage tanks. Ferro-cement tanks (30,000 L), segmental tanks (5,000 L) and Thai jars (300, 500, 1,000 and 1,500 L) were made. Each type of tank will serve a specific users' group. Subsequent field tests have to show what volume and technique is most applicable for users. In total some 16 tanks of various models have been constructed. All districts have worked by now on ferro-cement technology. Thai jars of 300 and 500 litres will likely be preferred. For institutions both the tanks of 30,000 and 4,500 litres satisfy sofar.
5. Availability of spare parts.		The first operational distribution centre was established in Bariadi. The centre is managed by the mission. Requests for spares have not yet been received so far. In Meatu and Maswa minor stocks are kept for immediate need.

EFFECTIVE USE (effective improvements / utilization)

indicator	Programme target	achievement per 31 March 1996
6. Number of people making use of the facilities.	The overall aim of the programme (Morogoro and Shinyanga) is to enable an extra 500,000 people to get access to clean and safe water by the end of the programme period. PoO estimates for Shinyanga that 480,250 people should be supplied with water.	The status quo data sheets on shallow wells report the following data on families in programme villages and Water User Groups. The average coverage was reached in the DWSP villages.

District	village	WUG served	average family size	coverage (%)
SRU	5,753	3,714	5.9	64.6
BAR	8,349	3,772	7.3	45.1
MAS	10,008	3,022	5.9	30.2
MEA	4,675	2,047	6.9	43.8
KAH	3,834	1,776	6.3	46.3
SM	8,379	4,117	5.0	49.1
Total:	40,998	18,448		
Avg:				44.9

Based on the respective average family size (census 1988) in each of the districts the total number of people living in the DWSP villages amounts to approx. 252,200. By the end of March 114,500 people had excess to improved water supply. Or an achievement of 23.8 percent of the PoO expectation. This is including 1,250 people supplied by Ibanza piped scheme.

EFFECTIVE USE (effective improvements/ utilization)		
indicator	**Programme target**	**achievement per 31 March 1996**
7. Well- and / or latrine site and home cleanliness.		In order of priority the programme focuses first on the site cleanliness around wells and latrines and then, in particular through primary school hygiene and sanitation programmes, on home cleanliness. Assessment of programme's impact is a continual duty for field and district teams. It is too early to have quantifiable data by the end of the reporting period. Few of the ten primary schools where pilot activities started responded somehow satisfactorily. In general all need due attention and a lot of follow-up, which may require assignment of a sanitary engineer at regional level. Primary school teachers will be trained in April.
8. Personal hygiene practices.	No quantifiable units mentioned.	Here too the point of entry will be the youth at primary schools. Experiences learn that more efforts have to be spent on guiding the schools (see above). In particular Kolandoto primary school showed initially a very poor progress. This was likely caused by lack of commitment from the side of village leadership. Currently, improvements are being made.
9. Total time spent on water collection (improved access).		No quantifiable data available as yet. From the field is learnt that satisfaction on the side of the users is considerable because of improved access.

EFFECTIVE USE (effective improvements/ utilization)

indicator	Programme target	achievement per 31 March 1996
10. Completion time of a well.	No ultimate time span has been fixed.	From the status quo data sheets, which were further developed, following information on completion time was determined.

District	A	B	C	D	E	F
SRU	40	57	36	33	75	135
BAR	10	64	21	16	19	193
MAS	137	188	141	108	45	306
MEA	169	204	47	314	5	18
KAH	211	61	146	116	25	110
SM	9	152	135	97	54	152

Legend various time spans (from - to) in days:
A = election WUG - submission application
B = submission application - financial contribution
C = submission application - start rehabilitation
D = submission application - start construction
E = implementation time for rehabilitation
F = implementation time for construction

The mutual spreading within a time span is reportedly considerable. Possible reasons are:
- inaccurateness of data and inconsistent registrations,
- extent of eagerness communities,
- efficiency of the follow-up by field staff,
- work planning not optimal,
- delays in digging when done by villagers,
- re-digging due to geological formation.

IMPACT		
indicator	**Programme target**	**achievement per 31 March 1996**
11. Incidence of diseases in general, and waterborne.	No reference level indicated.	Availability of reliable data is often doubtful, as can be noticed from the baseline data forms. However, it is likely that data collectors need further training whereby emphasis is put on verification of data. Analyses should be done more frequent by District teams. Whenever necessary data should be corrected or completed.
12. Child (under 5) and infant mortality.		see above
13. Benefits perceived by water collectors (satisfaction rate ?).		
14. Gender specific satisfaction rate (benefits perceived ?).		

SUSTAINABILITY / REPLICABILITY		
indicator	**Programme target**	**achievement per 31 March 1996**
15. Gender balanced attendance in group-committee meetings, training, etc.		There is a development going on that women's role and participation is better understood and accepted by men. The gender balance in the WUG committees scores high in Kahama, whereas Bariadi women are in an obvious minority.
16. Gender balance of village workers.		Due to changes in programme implementation it is more appropriate to consider balance among field and other staff (M/F). facilitators district SRU 3/0 BAR 1/2 MAS 3/0 MEA 3/0 KAH 3/0 SM 2/1 DHV - 4/1 RWSEs - 4/2
17. Gender balance of village leadership (village government, VWSC). In addition, it would be more appropriate to monitor composition of Water User Group Committees.		See above under point 15. And also tables 4.1, 4.2 and 4.6

SUSTAINABILITY / REPLICABILITY		
indicator	**Programme target**	**achievement per 31 March 1996**
18. Time of non/ill-functioning of water points (breakdown and repairs).		In the 3rd quarter of 1995 monitoring of various types of pumps, including one SWN 80 with wooden bearings, was started. Two weekly inspections are made. The breakdowns were very minor. Only two direct action pumps showed some failing, which was rectified.
19. Relevant skills of user groups: - management skills of VWSC - technical skills of village workers		Technical skill of village workers involved in the establishment of the water facility improved. Technical training of field staff contributed to this advancement.
20. Autonomy of VWSC (village?), village water and sanitation development plan.		With the user group approach now widely applied the management of the water supply is mainly with the group.
21. Ability and willingness to pay for water supply / sanitary facilities.		There is an apparent positive contribution to both pump and for O+M. Contribution for pumps need to be reviewed since one of the Direct Action pumps (TANIRA) is as expensive as SWN 80. Therefore it should be justified to request the users to contribute for the TANIRA pump a share of TSh. 50,000. See details under 22.

SUSTAINABILITY / REPLICABILITY		
indicator	**Programme target**	**achievement per 31 March 1996**
22. Level of cost sharing and community contributions, i.e. investment and O + M.		The following contributions were reported up to the end of March:

	pump	O+M
SRU	1,050,000	1,083,700
BAR	3,259,000	1,392,200
MAS	1,010,500	76,000
MEA	550,000	1,096,000
KAH	1,150,000	278,325
SM	2,151,800	406,000
TOTAL	9,171,300	4,332,225

23. Programme coordination, level of cooperation (with NGOs ?).		Cooperation is often discussed by nearly all donors and NGOs in Shinyanga Region. Real cooperation is mainly working with World Vision Tanzania (Kahama), Maryknoll Fathers (Bariadi) and some missionaries in Maswa. Hashi will take up a more prominent role in the SHSP at primary schools.

3 OVERALL PROGRAMME TARGETS

3.1 Implementation annual plans

As was reported in the previous progress report work plans for the DWSP districts, the region and the consultant were approved by December 29th, 1995. Therefore, respective parties could smoothly take off with the planned activities in January.

The work plans for the DRDP districts were submitted by the respective districts directly to the RNE. Upon request of RNE the consultant reviewed the plans for water supply only. Remarks were communicated with RNE and the districts. In general only minor changes should be made to the plans and budgets and thus implementation could commence soon as well. However, each of the three DRDP districts had apparently difficulty with the estimation of the number of wells to be rehabilitated and those to be constructed in 1996 and 1997. Meatu forecast more rehabilitations than the total of number of wells which are reported not to work. Initially, Maswa and Kahama were possibly too optimistic with regard to construction and rehabilitation respectively.

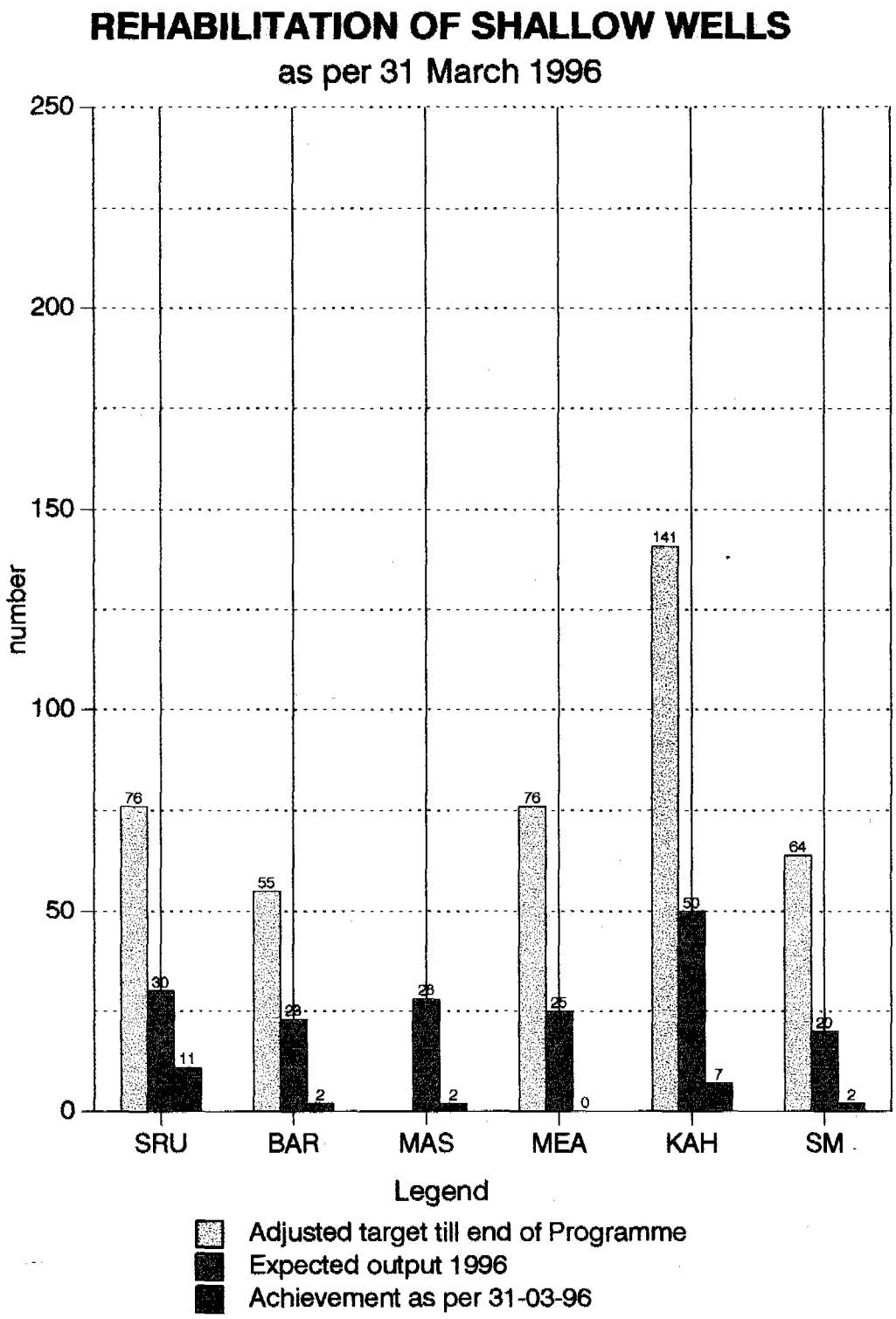
For further assessment of the programme performance the adjusted targets indicated on page 12 and 13 will be considered. In the graphs on the next two pages progress in 1996 on rehabilitation and construction of shallow wells is shown.

The data management of shallow wells continued improvement in all districts. Together with the recently introduced planning programme the district management is able to prepare state-of-the-art presentations on what is going on in the projects.

3.2 General conclusions

With regard to the implementation of the planned activities nothing special can be concluded. The first and second quarter of the year are usually affected by the rainy season.It depends on the progress by the end of December in the year before whether wells can soon be completed or become operational or not. Shinyanga Rural and Kahama districts had apparently enough wells under rehabilitation which needed minor work for completion (see graph on page 28). Looking at new constructions (see graph on page 29) Bariadi and Maswa district were fortunate that nearly 20 % of the target set for 1996 could be reached during the first quarter.

At this point it is good to realize that in 1995 some 138 rehabilitations and 123 new constructions have been completed. This really was a great achievement. For 1996 not less than 176 rehabilitations and 305 constructions should be executed. Hence, by the end of 1996 in total 742 hand pumps should be operational. this goal should not be marginalized. Assuming that the job can be managed technically, yet the ultimate success will be determined by the extent of sustainability. For that we have to think of changing attitudes and behaviour, which by any means cannot be compared to the change of a bearing or a cylinder.



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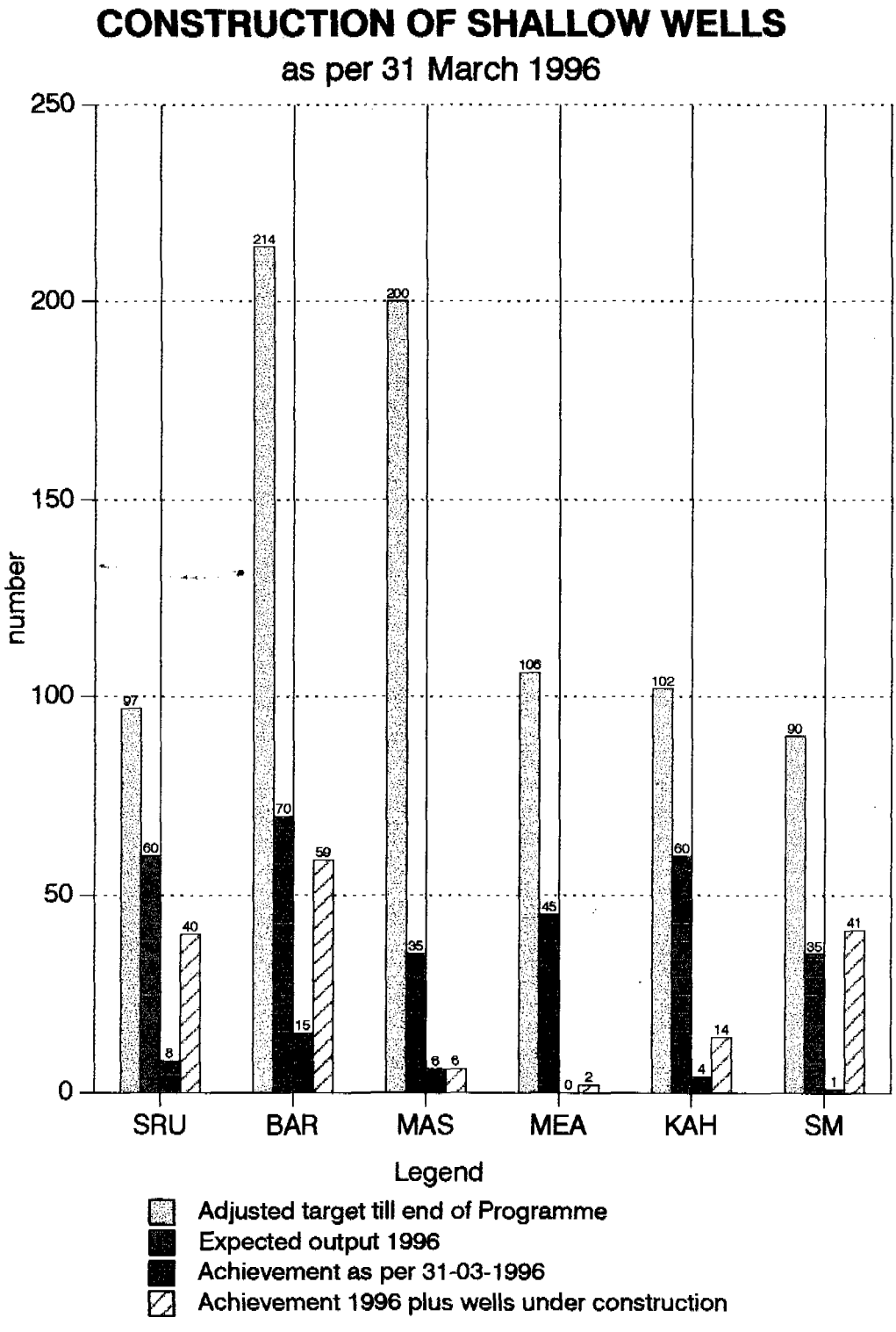

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3.3 Obstacles encountered

With the increase of implementation activities, whereby in general good results were booked, some hindrances were encountered as well. Other main constraints, of which some were mentioned in the previous progress report, were the following.

1. As was reported in the previous report planning of work was not yet given the attention it should receive. From the practical during the PS 5 planning course districts learnt that many Water User Groups started in one way or another their activities but sometimes after 7 or 9 months it was not really clear what actual progress had been. And thus it became difficult for the District Management Teams to control the work properly.

2. Only in Maswa district restructuring of the organizational set-up for the water activities took place. With Kahama district the issue was discussed with DWE, MWE, DDA and RWSE.

3. The organization and overall management of the water activities in DRDP districts is not yet well established. Work plans and budgets are awaiting approval by the donor. Lack of access to funds caused in Meatu that trainees could not attend courses. All laptop computers provided by DWSP were infected with viruses. There is insufficient talk of team building, as yet.

4. Each of the DRDP districts has outstanding financial matters with DWSP. Consequently, the consultant cannot close the books for 1995, as it was agreed upon. The amounts to be settled, i.e. properly accounted for or reimbursement to consultant's programme account at regional level, are shown in paragraph 4.7.1.

5. The School Hygiene and Sanitation Package as used in the DWSP districts received insufficient attention. Some schools have disappointing results.

3.4 Recommended adjustments

To remedy the obstacles mentioned in the previous paragraph the following adjustments are recommended.

1. District should make weekly up-date of the PS 5 planning per WUG. Generated summaries need to be made on a monthly basis, whereas quarterly reports shall be prepared for regional and national level.

2. The proposed set-up for Maswa was tabled in Kahama and soon follow-up to settle the matter should be aimed at.

3. Appropriate systems should be developed in DRDP districts to avoid that implementation of water activities are interfered. Sincere care should be given to donor's equipment in particular computers since data is becoming more and more important in view of monitoring and management.

4. Outstanding financial issues should be cleared soon by the districts. If not possible, then reimbursements could perhaps be arranged through DRDP channels.

5. Support to this activity shall be intensified. If necessary by employing a Sanitary Engineer, who needs to work closely together with the schools, i.e. teachers, parents and pupils, and Hashi extension workers.

4 PROGRESS

The first quarter of 1996 was utilized to prepare for various implementations later this year. To accelerate output and improve quality due attention was given to training and education. The hands-on-skill training was conducted at the RTDC. In addition practical training was given in the field in Meatu District and villages around Shinyanga Town. The courses on community mobilization and adult education were carried out at Kizumbi institute. All districts and the region participated in a computerized planning course at the Regional Block.

The geo-physical field team continued with site investigations and was involved in testing wells for Kahama water supply. It became clear that the analyses of the field measurements require the assignment of a fulltime hydro-geologist. Discussions with regional authorities on further strengthening of the unit focused on the institutional establishment in order to ensure future sustenance.

In general terms the progress during the period January - March may be considered satisfactory. The number of well constructions has been lower than the previous quarter. Influence is caused by the rainy season, which started relatively late in March.

4.1 Compliance with programme objectives

The long term objective remained unchanged during first quarter implementation. The region, districts and consultant worked closely together with the implementation of a school hygiene and sanitation package.

The number of people making continuous use of their (improved) water supply has increased to 114,500 persons. Perhaps not for all, but the majority of these people will have less efforts spent on collecting water.

From Tables 4.1, 4.2 and 4.6 can be derived that the aimed at balanced participation among men and women has not yet reached a 50 - 50 level. However, changes are slowly taking place. Further improvement needs good examples and above all ... time.

The daily operation of water points is gradually better managed since all hand pumps are lockable. Most of the user groups have established periods that pumps can be used.

For additional information on the overall developments reference is made to paragraph 2.4 and Annex I (Follow-up recommendations Review Mission 1994).

4.2 Community development

The first quarter of 1996 has been a very active one in terms of training, community mobilization and finalization of the draft Facilitators' Handbook. The Step-by-Step approach underwent some amendments. The improvements have been prompted by the increased demand from the villagers and WUGs for additional information and guidelines about DWSP.

Interestingly, despite of the onset of rains, community mobilization activities have not been hampered too severely since in all the villages where PRA exercises were conducted, water ranked high. Construction and rehabilitation works, however, have slightly decreased because of seasonal conditions.

4.2.1 Facilitators' Handbook

Translation and editing of the revised Facilitators' Handbook and community participatory methodologies have now been completed. The document is ready for use, whereas preparations for printing are being made.

4.2.2 Community mobilization workshop

The purpose of this workshop was to provide programme facilitators with up-dated and more effective and modern methods for sensitizing and mobilizing the community, so that they can participate actively in development activities.

In order to ascertain the workability of the translated Facilitators' Handbook, the consultant (TA and CD advisers), in collaboration with RPM and RCDO, convened a 2-days meeting for all PAs and CDPs from the DRDP and DWSP districts in which the translated handbook was subjected to the final review.

Following the above meeting, three workshops were successfully run for five consecutive days for facilitators (WFAs, SMs) in the three DWSP districts. A similar workshop has been planned for DRDP facilitators during the 2nd quarter of 1996.

District	total no. of participants	function		women	
		WFA	SM	WFA	SM
Shinyanga Rural	16	8	8	3	1
Shinyanga Municipality	12	6	6	1	4
Bariadi	18	9	9	-	1
TOTAL	46	23	23	4	6

Table 4.1: Participants in Community Participation Workshop

The Step-by-Step approach, as well as community participatory methods, adult learning tools and techniques (LEPSA, PRA, SARAR) and gender related matters were exposed both theoretically and practically. Step I of the Step-by-Step approach was practised at village level.

LEPSA stands for: Learner centred - Problem Posing - Self discovery - Action oriented

PRA for: Participatory Rural Appraisal

and SARAR for: Self Esteem - Associative strength - Resourcefulness - Action Planning - Responsibility

Facilitation of the course was done in collaboration with HASHI personnel, the RCDO and districts' Community Development staff. The course, which indicated positive results, was evaluated by trainees and facilitators and appeared to be very useful. Trainees requested for close follow up and support at field level. The consultant shall continue to expose more of these techniques as requested in order to strengthen field staff capabilities on promotion skills.

In addition, a three hours in depth training on the Step-by-Step approach, some community participatory and adult learning techniques and gender, were accorded to WFAs and local fundis at the RTDC during the 5 days training on Hand-dug Well Technology (TR.01) and Disinfection and environmental sanitation of wells (TR.02).

4.2.3 Gender Planning Workshop

As a result of the aforementioned activities, which required substantial input of the consultants, another important workshop, i.e. on gender planning, had to be rescheduled. By organizing that workshop in September it will facilitate an immediate practical application of the acquired knowledge to prepare the 1997 work plan with a stronger gender perspective.

4.2.4 Baseline data

Review of the data forms, which is a tool falling under step II in the Step-by-Step approach, formed part of the training during community mobilization workshop. All the forms and how they are to be used were thoroughly discussed and with the assistance of participants a summary data sheet was developed, see the example in Annex II. Follow-up and assessment will be done during the second quarter.

4.2.5 Community mobilization assessment at field level

Dissemination of the DWSP policy and concept is increasingly being effected. The strategy on information delivery focused on various brochures, hand-outs, diaries and the 1996 calenders, which have been widely distributed to all districts, wards, villages and institutions within and outside the programme areas in Shinyanga Region.

It is encouraging to see that the programme's policy is now becoming clearer to all programme actors at different levels in the districts. Gradually things are also becoming brighter with DRDP districts than before. In Kahama district, community response is somehow promising. The water user group concept is now, after the formation of a District Animation Team, better understood and being accepted and adopted. The new organizational set up of Maswa district is another positive achievement for bringing about changes.

Opening of bank accounts, matters pertaining to operation and maintenance of projects and looking into alternative possibilities of fund raising activities for water accounts have always been stressed by facilitators during the meetings.

To this effect, commissioning of the already completed water projects so as to empower the water users become managers of their own projects has been encouraged by the consultant. During the famous MAJI week, five water points were commissioned in Bariadi district. The activity shall be accelerated in the coming quarter and thus not be limited to one prominent event per year. To enhance the awareness on the ownership of a water facility and the subsequent responsibility for O+M water systems should be commissioned to the users soon after completion of the work. After a grace period of say six months handing over of the hard ware can be formalized. The grace period should be for all parties involved, i.e. users, contractor, manufacturer, supplier, district and donor (consultant), to meet respective standards. Samples of commissioning certificates and Agreement are appended, see Annex III.

Training of the WUGs leaders so as to strengthen their managerial capacities is planned for to take off during the second quarter.

4.2.6 Gender

Effective community participation is a vital asset towards the success of any development programme. It is for this reason that DWSP is putting great emphasis on the gender sensitive approach. That implies that both women and men must be vigorously involved in all programme activities. Strategies have been proposed within the Step-by-Step approach for sensitizing the community to conceptualize the importance of involvement of the entire community. Conducting more meetings for women in order to give them room to voice out their views freely is one of such strategies. Election of women on leadership positions as is observed at user group level is an indication of awareness.

District	Total No. of WUGs	Chair person		Secretary		Treasurer	
		female	male	female	male	female	male
Shy. Rural	68	22	46	27	41	13	55
Bariadi	62	6	56	16	46	7	55
Maswa	17	5	12	5	12	3	14
Meatu	31	14	17	9	22	23	8
Kahama	29	11	18	12	17	10	19
Shy Municipality	43	6	37	18	25	11	32
Total	**250**	**64** (26 %)	**186**	**87** (35 %)	**163**	**67** (27 %)	**183**

Table 4.2: User Group Leadership as per gender perspective as at January 1996

The table on the previous page shows the respective percentages for female chair person, secretary and treasurer of 219 WUGs. Bariadi scores the lowest for each of the positions, whereas Kahama WUGs seem to be more balanced in their management.

4.2.7 Women

Shinyanga region may look at first sight, depending on the season, rather rich. But in reality it is among the poorest regions in Tanzania. Women, who are primary actors of the rural economy, are the ones mostly affected in their wealth. Having realized this situation, several women decided to organize themselves in groups and are doing small income generating activities. Nine of such groups (2 in SRU and 7 in Shinyanga Municipality) have sent their requests for support from the Small Embassy Fund. It is through such initiatives, that women can gain confidence and strengthen their solidarity, for which they shall be encouraged.

4.2.8 Multi-sectoral collaboration

DWSP strongly believes that community development cannot be achieved independently. Hence collaboration with other agencies is highly recommended. To this effect, the consultant has collaborated harmoniously with HASHI in the areas of training the programme facilitators on the PRA techniques and on environmental conservation. With this regard, about 3,000 seedlings of both fruit trees and other species have been distributed to (pilot) primary schools and to some user groups and have been planted. However, there is an indication of lack of close follow up and supervision. Also inadequate information delivery on good tree husbandry calls for improvement. It was noticed that recently planted seedlings were removed from school grounds and replanted at private yards.

Furthermore, the Integrated Pest Management Programme (IPM) indicated willingness to seek advice on adult learning and community participatory techniques. The already formed WUGs is another asset earmarked for their interventions.

In addition, Kizumbi Co-operative College in Shinyanga has cooperated well with the regional team with regard to facilitation of training. The teaching staff shall be among the resource facilitators on financial management for WUG treasurers.

The use of the private sector for both soft and hardware activities is another area of concern. There is a shortage of community development extension workers. The few available are mostly men who are inadequately and insufficiently trained on community participation skills. Hence, for the moment they are ineffective. It is for these reasons that involvement of the private sector is strongly being encouraged. The private (that means non-GoT) WFAs and SMs who are presently working under the programme have proved to be effective which is an indication of encouragement.

4.3 Water supply

4.3.1 Geophysical ground water investigations

The third support mission by the consultant's hydro-geologist to the strengthening process of the regional geo-physical team was carried out from February 22nd to April 4th. Upon request of RNE

a one week field visit was paid to Ngara district to support DRDP with identification and formulation of a project proposal. During the short term mission for DWSP special emphasis was put on:

- Improvement of geo-physical database;
- Evaluation of geo-physical investigations carried out since the last mission;
- Supervise the execution of pump tests;
- Pump test evaluation;
- Kahama Town Water Supply:
  - evaluation of the field work carried out sofar,
  - recommendation for additional geo-physical fieldwork and test drilling;
- Testing and starting up of new geo-physical equipment which replaces the rented units;
- Planning and start-up of field work for the District Mapping in Bariadi;
- On-the-job training of the second hydro-geologist of the RWE's office.

As a result of the March geo-physical planning meeting, the consultant's hydro-geologist, regional programme advisor and regional programme manager evaluated and agreed with the regional staff of the RWE on the responsibilities and job descriptions of the two hydro geologist of the RWE's office. The job descriptions are presented in Annex VI.

4.3.2 Survey / pump testing for Kahama Water Supply

Four pump tests were carried out in Kahama District at Kiyinza and Mwime Ilindi. The four boreholes were constructed to investigate the ground water potential for the Kahama Town Water Supply However the results were disappointing.

site	borehole number	depth in metres	tested capacity in litres per hour
KIYINZA	SHY/102/95	29.30	735
MWIME ILINDI	SHY/64/95	39.60	3,400
KIYINZA	SHY/103/95	34.30	3,000
KIYINZA	SHY/95/95	38.00	600

Table 4.3: Tested boreholes in Kahama

For more detailed information on the geophysical site investigations, approaches, institutional developments of the survey team, works executed, reference is made to the next mission report (Third Support Mission Report).

4.3.3 Piped water schemes

A number of interesting developments took place in four villages where rehabilitation of the piped scheme is in process or being considered. During the reporting period a first assessment has been made for the rehabilitation of three schemes (Luguru (BAR), Mwandoya (MEA) and Usanga / Singita (SRU)) as was foreseen in the Plan of Operation for 1996.

4.3.3.a *Ibanza village (SRU)*

In this village the piped scheme was rehabilitated with support from DWSP. The scheme is operational since half a year. After some ups and downs the following was achieved in the first quarter:

- a new management team has been elected for the running of the water scheme,
- since the last three months the scheme is daily operational,
- pumping takes place twice a week, whereby the pump attendants are still trained on-the-job and supervised by the DWSP mechanical engineer,
- a simple job guide for the pump attendants has been prepared on the operation of the generator and pumping system,
- with the experience of the Morogoro DWSP piped schemes, discussions are going on with a legal adviser on how best the scheme can be owned and run by the users themselves.

4.3.3.b *Luguru village (BAR)*

This scheme is already operational for a few years. Extension of the scheme is considered, but before doing so first investigations have to be made on the feasibility, willingness of community and technical options. The following steps were taken:

- first village meetings took place with the beneficiaries and leaders to explain the DWSP philosophy,
- village mapping to indicate where the beneficiaries are living and the present location of distribution system and domestic water points,
- collection of as-built drawings from the RWE's office,
- technical inspection of the source, pumping system, storage tank and distribution system.

4.3.3.c *Mwandoya village (MEA)*

This scheme has not received Dutch donor support sofar. Therefore, first preparatory investigations had to be made on matters like:

- inspection and testing of the source (river wells and sump),
- inspection of the diesel engine and centrifugal pump,
- preparation of village meetings,
- village mapping.

4.3.3.d *Usanga / Singita villages (SRU)*

As in Mwandoya this scheme has not been assisted by either RWSSP or DWSP programmes. And thus initial investigations need to be made, such as:

- since the existing source (borehole) has collapsed and World Vision Tanzania (WVT) drilled nearby a new borehole, discussions will take place with WVT on the utilisation of their borehole for the piped scheme,
- a first village meeting on the DWSP philosophy took place during MAJI week.

4.3.4 Contracting out of prefab concrete works

Till the end of March in total 66 contracts for ring casting were awarded to local contractors. The value of all contracts amounted to Tshs. 55,221,000. For this amount 3,004 rings and 131 well covers had to be made. To boost output DRDP districts in particular have to involve the private sector more aggressively. An overview of contracts awarded is shown in table 4.5 on page 45.

4.3.5 Rain water harvesting (rwh) technology

Beside several training sessions held at the RTDC for the manufacturing of Thai Jars by local fundi's and district technicians, a number of medium and large rain water harvesting tanks were constructed (or are under construction) for the purpose of promoting the ferro-cement technology and the harvesting of rain water.

DISTRICT	5,000 litres segmental tank	10,000 litres ferro-cement tank	30,000 litres ferro-cement tank
Shinyanga Municipality and RTDC	2		2
Kahama			2
Bariadi	4	1	2
Meatu			1
Shinyanga Rural	1		1

Table 4.4: Rain Water Harvest tanks

At Matanda Vocational Training Centre (VTC) galvanized steel roof gutters are manufactured of a modified design. The new type of gutters are presently tested at several sites in Shinyanga Municipality. The DWSP mechanical engineer assists also the Districts in the proper installation of the gutters and drop pipe. Often the biggest bottleneck for efficient and effective harvesting of rain water.

4.3.6 Hand pumps and the local manufacturing

4.3.6.a Handle pumps

Presently a batch of 100 units SWN 80 pump heads and pump stands are manufactured at a local workshop in Shinyanga, i.e. United Metal Engineering. The pump units are manufactured from both raw materials purchased from the Netherlands and those locally available in Shinyanga Town. All new pump heads will be fitted with wooden bearings, manufactured at the cost of Tsh. 2,000.-- per pair at the Matanda Vocational Training Centre.

4.3.6.b Direct action pumps

The programme has three different types of direct action pumps operational. These are: - **Afya** of the SWN manufacturer of the Netherlands, - **Wavin** from the Netherlands and - **Tanira AF 85** from Dar es Salaam.

In March this year some 100 complete units Tanira AF 85 (for a setting of 10.00 m.), including installation tools for each pump, were purchased from the Dar es Salaam factory. On request of the DWSP programme the Tanira pumps were modified in accordance with the requirements for the hand dug wells in Shinyanga Region. This means a larger (standardized) footplate and a longer sprout so that water can be appropriately pumped in a bucket or jerrycan / container. If the Tanira direct action pump performs well, it is the programme's intention to discuss the possibilities of having a official agent for Tanira appointed in Shinyanga for the easier access of the beneficiaries to hand pumps and spare parts.

4.3.7 "Signboard"

A revised version of the signboard was made. Various Bills of Quantity for different technological options were prepared and are shown in Annex IV. A summary sheet of the costs for respective options is presented on page 7.

4.4 Institutional Development

4.4.1 Staff Performance Assessment

This activity will take place as soon as the work on the revision of the system design is complete. As for now, tasks, responsibilities and procedures are being reviewed both in DWSP and DRDP districts to correspond with the changes in the management set up.

4.4.2 Revision of System Design

4.4.2.a Role of RMT and DMTs

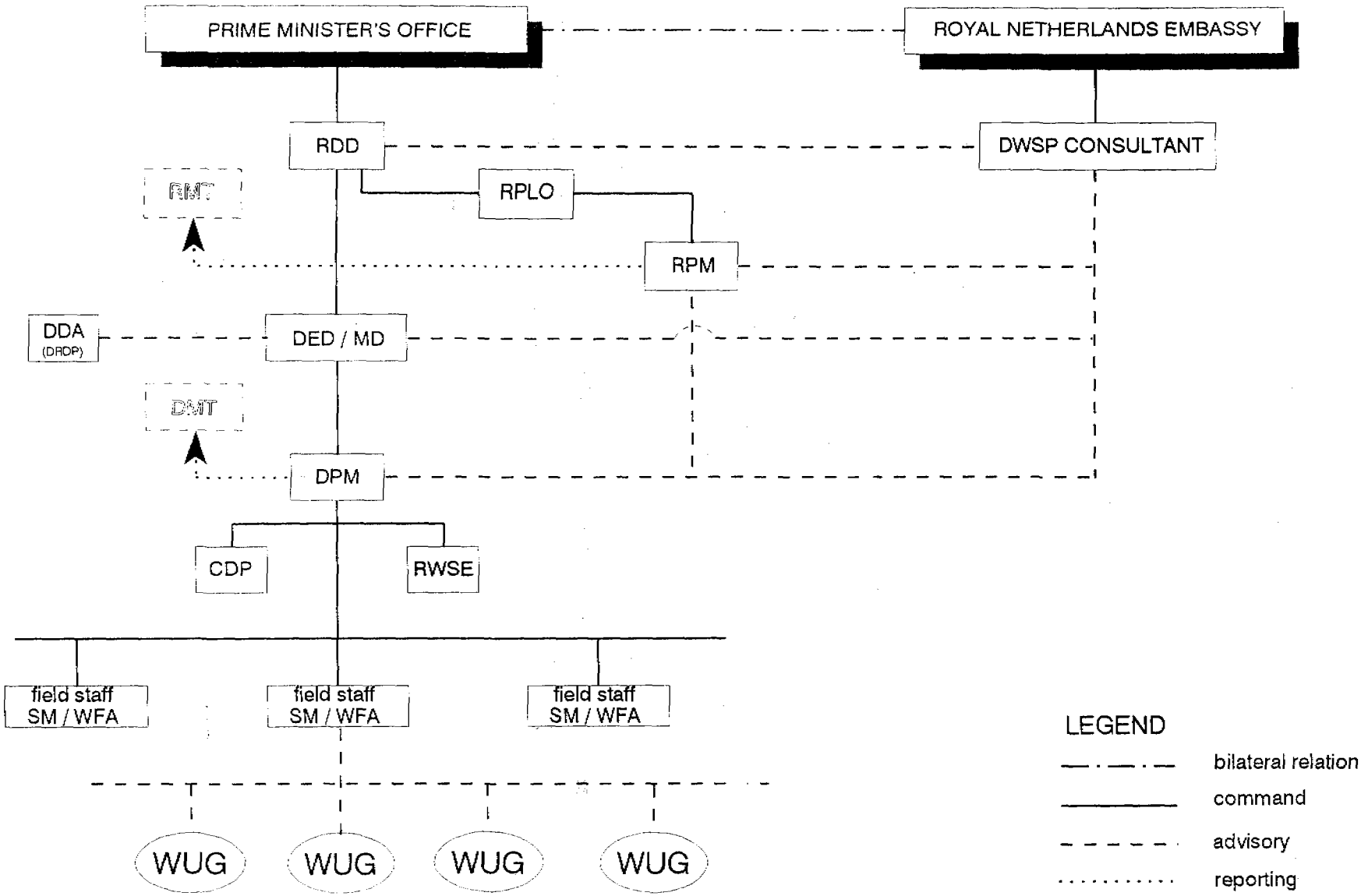
In the revised DWSP Organigram (see next page) the Regional Management Team (RMT) and the District Management Teams (DMTs) are featured as organs for which respectively the Regional Programme Manager (RPM) and the Project Management Teams (PMTs) must report to. As regular government management organs, RMT and DMTs comprise all Heads of Departments and a number of institutions within the region/district and are responsible for planning, coordinating and control of activities, water inclusive. Hence, PMTs have been advised to submit their reports to the RMT/DMTs on regular basis.

Moreover, since the adoption of the project approach in which the DPMTs and RPMT were considerably streamlined, Steering Committees both at the regional and district levels seem to have been rendered less effective.

4.4.2.b Integration of Water in DRDP districts

Except for Maswa which has agreed to incorporate water in a replica organigram of the so-called pilot districts (Annex V), Kahama and Meatu have not yet reached a final decision on the matter. Negotiations are still going on between district authorities, the region and the consultant.

basic structure DWSP organization Shinyanga Region



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4.4.3 Dissemination of DWSP information

Several channels to disseminate information about DWSP to specific users and the general public have been used. These include radio news bulletins (RTD), Programme calendars, flyers, diaries and T-shirts.

In the past two years there have been discussions regarding the possibilities of the Programme to publish its own newsletter. Though this has been thought of as a good idea, it must be borne in mind that the structural changes which preoccupied the DWSP implementors and the Consultant in the past year, could not have spared any time to consider the implementation of this proposal.

However, possibilities of joining hands with other newsletters in the region are still in place. The consultant has, in the meantime, discussed with HASHI whether some DWSP articles could be published in their magazine on quarterly basis. Moreover, the intricacies in the publishing business e.g. registration, availability of newsprint, reporters and printing costs have to be considered by DWSP before any venture is made towards establishing an in-house newsletter.

4.4.4 Analysis of institutional requirements for WUGs

4.4.4.a Ibanza Piped Scheme

A legal expert has submitted his proposal on the type of organization which could be adopted by the Ibanza Rural Piped Scheme. But since this is the first piped scheme to be run by users in this region, more discussions have to take place before a final institutional framework is agreed upon. The consultant, respective PMT, together with the legal expert will first chart out possible organizational possibilities and later present them to the users for final approval. The process is expected to be finalised in the next quarter.

4.4.4.b WUGs with hand-pumped wells

In this quarter districts have been directing their efforts to strengthen the management of the WUGs which had completed their projects in 1995. This included the election of WUG committees, defining roles and responsibilities of the parties involved and opening of O + M accounts. This exercise is ongoing and is meant to assess the capacities of individual user groups.

4.4.5 Programme Management Manual

The first draft has been completed and is being edited by the Consultant and RPM. However, organization charts for Meatu and Kahama have not been included in the manual since the negotiations have not been finalised.

4.4.6 Disposition of GoT employees

During this quarter on a number of important GoT positions relevant to the programme transfers and replacements took place. The newly appointed authorities are:

Regional Commissioner	General Tumainiel Kiwelu, (previously RC in Tabora Region)

Regional Development Director	Mr. P.L. Nnko, (prior to being first RPLO in Shinyanga Region for a short period Mr. Nnko was Member of Parliament in Meru District in Arusha Region)
Regional Planning Officer	Mr. A. Mwakalinga, (formerly economist with the Planning Commission in Dar es Salaam)
Project Manager Bariadi	Mrs. C. Sana, (worked for more than one year with OXFAM in Kasulu District in Kagera Region and she was before that i.a. District Adviser for RWSSP in Bariadi District)
Project Manager Kahama	The replacement for Mr. Mulazi, who was transferred to Ngara District in Kagera Region, is due to be effectuated. Possibly Mr. Kisa will be appointed as Project Manager.

The Project Manager in Meatu district was assigned numerous other duties in addition to the tasks for the DWSP. This may in future hamper smooth programme management and implementation of field work.

Institutional development of the geo-physical team within the organization of RWE's office encountered some difficulties. Geo-physical site investigation is an important activity in Shinyanga Region due to the complexity of the hydro-geological conditions. Experiences sofar have shown that for this work a full-time assignment is required for one hydro-geologist, who is preferably employed by the Regional Water Engineer's office. Since March 1995, when the short term reconnaissance mission was executed, DWSP was supported by one regional hydro-geologist. As it was not possible according to him to be fulltime active for DWSP activities, a division of tasks has been worked out. One hydro-geologist (Mrs. Jonathan) will be fulltime engaged in all activities related to the geophysical site investigations. The second hydro-geologist (Mr. Mgozi) will be on a part-time basis (50 %) in charge of borehole construction, design and testing of machine drilled wells. The job descriptions for both hydro-geologists are given in Annex VI.

4.4.7 Strengthening of private sector

In order to enable the private sector to establish entrepreneurial activities DWSP has opted to continue awarding contracts for civil works during the rainy season, which is in actual fact not the construction season. The season for execution of well digging and rehabilitation starts in May and runs up to the end of december. Delays at the beginning of the season, normally caused by casting and curing of rings, can be avoided by building up a stock of well lining. The volume of contracts awarded are shown in the table below. Given the fact that rains came late this season it even was possible to construct a number of rain water harvest tanks.

In addition to Matanda Vocational Training centre a second metal workshop (UMECO) was identified for production of hand pumps (SWN 80). The first of pumps have been delivered.

District	Contracts awarded	volume of contract		
		rings to be cast	amount in Tshs.	
SRU	13	538	10,045,400	incl. 55 covers
BAR	22	1446	25,219,600	incl. 18 covers
MAS	3	84	1,557,000	incl. 7 covers
MEA	3	113	2,971,000	incl. 8 covers
KAH	9	235	4,389,500	incl. 4 covers
SM	16	588	11,038,500	incl. 39 covers
TOTAL:	66	3,004	55,221,000	incl. 131 covers

Table 4.5: Contracts awarded

4.5 Sanitation and health

Masagala Primary School (SRU) has completed a pit latrine with three stances and one shallow well. With other schools, construction is on-going at various stages. Problems causing delay have been sorted out and were mostly coming from poor leadership. At Shilabela Primary School (SRU) however, due to negligent site selection the upper structure and one stance among the six have collapsed due to heavy rains. Formation of school hygiene and sanitation clubs, tree planting and establishment of vegetable gardens have been initiated in all the six primary schools. The district teams have been advised to follow up this activity closely and intensively since satisfactory results did not materialize as yet.

4.6 Training

4.6.1 1996 Training Programme

A training Programme detailing the type of courses to be conducted during 1996, prospective trainees, training calendar, venues and the general training guidelines has been finalised and circulated to all districts in the region. It is planned that a mid-year assessment of the trained persons will be carried out to determine the training impact.

4.6.2 Courses undertaken

The following schedule indicates the courses and number of persons (male/female) who have been trained by DWSP from January to March.

Course No.	Course Title	No. of Trained Persons		
		Male	Female	Total
TR.01	Hand-dug Well Technology	5	1	6
TR.02	Disinfection and Environmental Sanitation of Wells	9	1	10
TR.03	Hand-pump Technology	5	1	6
TR.06	RWH (Thai Jar Construction)	4	1	5
TR.07	Construction Institutional VIP Latrines	5	0	5
TR.08	Groundwater Survey (hand-drilling)	5	0	5
TR.10	Computerized Planning (PS 5)	5	8	13
TR.11	Community Mobilization (SRU,BAR,SM)	36	10	46
	Total:	74	22	96

Table 4.6: Courses undertaken in first quarter 1996

Participants to these courses were drawn from both DkDP and DWSP districts. The Region delegated two persons to TR.10. Due to their practical nature, technical courses could only accommodate a maximum intake of six trainees at a time to allow a more effective pedagogical attention from trainer to trainees. These courses were conducted at the RTDC in Shinyanga with regular intervals of fieldwork in the villages or at selected sites.

The emphasis in all training programmes is on practical-orientation. Hence, all trainees have been subjected to more practical than theories. By the end of each course trainees were required to have demonstrated in practical terms what they had learnt e.g. construction of Thai jars, institutional VIP latrine and ring casting, hand augering, water quality analysis and disinfection of wells.

Trainees in community mobilization have organized PRA exercises in selected villages to show their ability in facilitating the Step-by-Step approach.

4.6.3 Curriculum Development

4.6.3.a Development of Training Modules

The following training modules have been developed / compiled and have been used during respective training programmes:

- Water Jar Construction
- Construction of Institutional VIP Latrines
- Hand-pumps Technology
- Hand-Dug Wells and their Construction

The participant's manual "Financial Administration for Water User Groups" was finalized and translated ("Utunzaji na usimamizi wa fedha katika Vikundi vya Watumiaji Maji"). Courses on this matter will commence in the second quarter of 1996.

Due attention was paid during the reporting period to transfer of skills and knowledge to the RCDO, CDPs and PAs to enable them to develop course outlines, training modules as well as analytical skills to supervise training and evaluate the results thereof.

4.6.3.b Facilitator's Handbook

A field manual for DWSP facilitators "Tupate Maji kwa Pamoja" has been pretested and edited. A Camera Ready Copy (CRC) is presently being worked on in preparations for printing. This is a guide to facilitators in the process of implementing the DWSP Step-by-Step approach.

4.6.4 Rescheduled Courses

Three course i.e. Financial Management for WUG Treasurers (TR.05), Community Management for WUG committees (TR.12) and Gender Planning Methodology (TR.14) were rescheduled due to a number of reasons. Course TR.05 and TR.12 required more time from the Consultant's part of view to plan for. They now start in the second quarter of this year.

As for the Gender Planning Methodology course, it was found out to be more appropriate to conduct it just before the districts start working on their 1997 work plans so that they could plan with some gender perspectives.

4.6.5 On-the-job Training

Apart from residential training some local fundis and WFAs have been trained on-the-job in Bariadi and Meatu during the construction of demonstration ferro-cement rain water tanks and survey drilling with hand augers.

4.6.6 Regional Training and Development Centre (RTDC)

This facility which was officially inaugurated during the MAJI Week, has proved to be a vital resource both as a learning and demonstration ground for various water and sanitary technologies. Individuals and institutions are beginning to show keen interest by paying study visits to the centre. More technologies are now being erected at RTDC for demonstration and training purposes.

4.7 Financial aspects

4.7.1 Advanced funds and retirement

The following table sets out an overview of funds (in TShs.) advanced versus retirement per district and for the region during January - March 1996.

The column Outstanding should be read as un-accounted-for funds. Districts may have received advances towards the end of the quarter. Retirement of these funds can only be made in the next quarter. Therefore, the table merely shows the extent of funds required in the districts and the region. The column To be settled concerns the expenditures which cannot be approved and need

refunding. The not approved expenditures (Outstanding) and the not yet accounted for funds add up to the total amount of advances (TSh. 19,686,186) in the first quarter of 1996.

	Advances	Retirement	Outstanding	% To be settled
Region	9,515,615	4,586,655	4,928,960	
Shinyanga Rural	6,013,439	3,853,542	2,159,897	
Bariadi	11,486,501	7,531,469	3,955,032	
Maswa	1,823,810		1,649,850	173,960
Meatu	1,935,273		1,134,056	801,217
Kahama	2,179,569		1,043,390	1,136,170
Shinyanga Munic.	5,675,520	2,971,875	2,703,645	
Total:	38,629,727	18,943,541	17,574,830	2,111,356

4.7.1.a Region and DWSP districts

In the DWSP districts and the region financial reporting has been fine-tuned. The cost per well can now be generated per user group instead of per village as in the former financial set-up. This secures a more accurate allocation of the cost over the various user groups. Besides, the file numbering systems for budgeting and financial reporting have now been streamlined so that budgeted cost and actual expenditures can easily be compared.

4.7.1.b DRDP districts

On January 1, 1996 all issues which need to be settled have been listed as well as the outstanding advances. No new advances have been forwarded to the districts apart from Kahama which received another advance for contractual payments in order to avoid that implementation was interrupted.

Annexes

Follow-up recommendations Review Mission 1994 - Annex I

For the assessment of the follow-up of the recommendations forwarded by the 1994 Review Mission, due attention should be given to a number of essential developments which could not be foreseen at the time the review was conducted. In Annex IV of Progress Report July -September 1995 a number of important considerations were mentioned. In the current update of the status some additional points are touched upon so that a general picture is created on the overall developments. These evolutions may have their influence on the impact expected by the review mission and the donor. Some developments even may have impeded full implementation of the recommendations. Others could be reached to a certain level only.

The following facts should be realized.

1. For all districts and the region 1995 was a transitional year in terms of both managerial restructuring and mode of operation. The institutional amendments were quickly applied in the so-called pilot districts, i.e. Shinyanga Rural, Bariadi and Shinyanga Municipality. The integration of water under the umbrella of DRDP required much more time. And even at this moment the conclusion may not be that all problems have been sorted out or solved.

2. Obviously, the prime aim for the districts was to substantially increase the number of wells, rather than to promote a wide variety of technological options with the risk that not sufficient wells could be made. As it was learnt during the second half of 1995 most users' requests concerned construction of shallow wells.

3. Enormous efforts were put on the formalization and actual implementation of the Water User Group concept. The management constraints in the DRDP districts contributed in the delay to accelerate the process in those districts.

4. The WUG approach stimulated users so much so that they took own initiatives to dig their wells based on their local experiences. This move led to disappointments to some WUGs since they could not easily strike water. The geo-hydrological circumstances in the region are insufficiently known by the communities and necessitated for the introduction of geophysical site investigations in order to site wells on the most suitable locations. A special activity was started to establish a regional team for this purpose.

5. The involvement of the private sector in ring casting did not take off as quickly as expected in all districts. In the course of 1995 it became clear that "the private sector" was not yet well established. Of course, many artisans offered their services and the programme gave them an opportunity to show their abilities as much as possible. However, by the day it became clear that qualitative competency had to be built. Some contractors did not complete the work, a few did not adhere to the contractual conditions, whereas others had to redo the job. Practical training would be the only answer to improve quality. Initially on the job while preparations were made to finalize establishment of a Regional Training and Development Centre (RTDC).

6. Local production of hand pumps, SWN 80 and Direct Action models, was given to two workshops in Shinyanga to enhance the element of competition and check on quality of work. For the SWN 80 pumps trials were initiated to test production and functioning of wooden bearings, which can be locally made. Time will show the rate of success and practicalities.

7. Installation and field-testing of various types of hand pumps were undertaken. A special emphasis was put on the introduction of Direct Action hand pumps. Obviously, it will take some time before durability and acceptance by the users can be proven.

8. Towards the beginning of the 1995 rainy season construction of different models of Rain Water Harvesting reservoirs was started. First hands-on-skill training was realized at the RTDC. For good order one should realize that rain water harvesting will be, in most cases, in Shinyanga Region a supplementary (non-perennial) water supply. For that reason the programme is focusing on promotion and skills training as is indicated in the "sign board".

   Thai jar technology which has been introduced in the programme shall be promoted among users for water storage purposes and hand washing facility at institutional VIP latrines.

9. A practical test case has commenced in Ibanza where the rehabilitation of a (diesel driven) pumped piped supply system was completed. Due to the history of the scheme a learning-by-doing approach is being followed to establish the users' organization, as well as operation and management of the scheme.

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.a.i. GoN to reconsider the role of the consultant as a financial controller, an adviser, an implementor and authority.		See comments by region/districts, they did not feel the problem as was written by mission. 1. Responsibilities for financial transactions is in the DWSP districts with the management team as before. 2. In the DRDP districts the responsibility is with the Heads of department and through the DPLO eventually with the DED. 3. In the districts RWSEs were assigned by the consultant to carry out the advisory role at a level closer to the users. 4. Implementation is done by district staff, users and private sector.	100 %
5.2.a.ii. The consultant's team and the Regional Management Team to start a process to gradually merge into one team by adopting counterpart working relationships, so as to reduce the physical and psychological boundaries between the two parties.	Both teams, regional and consultant, need to be accommodated in one building, for which funds have been provided in the past. To be realized before 1 May 1995.	1. After the Annual Meeting composition of regional team was amended. Region assigned the RPM as a nearly full time counterpart to the RPA. Assistance from Regional departments is requested for as need arises. 2. Since their offices are close together it was decided not to accommodate in one building.	100 %
5.2.a.iii. The consultant/Regional Management Team to conduct regular combined programme meetings with all district implementation teams.		1. Management teams of the DWSP districts met with region and consultant on a number of occasions. 2. Similar joint meetings on integration with DRDPs could not materialize, but took place on individual basis.	75 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.a.iv. The consultant/Regional Management Team to initiate a newsletter for the programmes so as to provide a platform for communication for all levels of actors involved in DWSP.	This item is regarded less urgent. A newsletter at national level could be a better idea. It is important that the distribution of DWSP document is well arranged.	1. Further to DGIS' consideration a wide variety of programme information was sent to all districts through other channels, e.g. flyers, RTD, posters etc.. 2. Documentation was and is also distributed to other programmes and NGOs.	100 %
5.2.a.v. The consultant to reduce the employment of long term consultants and to increase the employment of local consultants both for long term and short term consultants, with more problem targeted disciplines.	The consultant teams in both regions should be reduced, still to cover the following disciplines: - institution development / rural development / planning - sociology / WID / community development - engineering. The assignment of associate experts, involvement of training institutes and sub-contracting to local consultants might be considered. For special studies and/or pilot activities local short-term expertise could be assigned.	1. Consultant's team represents the disciplines indicated by DGIS, which is for this moment the bare minimum. Two long-term national consultants, i.e. for HID/TA and CD/WID replaced the experts in 1995. 2. Six associate experts (RWSEs), a Tanzanian quality controller cum technician and an assistant technician were recruited. 3. Various consultancies were awarded to national parties, e.g. for the Private Sector Study, preparation of Facilitators guide, RWH training, Financial Management training and hand-augering.	100 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.i. The Consultant/Regional Management Team as well as the district implementation teams to apply the step-by-step methodology more flexibly, particularly where it concerns point source development, such as wells and improved traditional water sources. The step-by-step approach should become an instrument of communication and building of capacities and confidence among user groups, instead of being a tool for planning inputs and outputs, and as such being an instrument for control. Time tables should be more flexible and match the users' aspirations and capabilities.	In view of the "slow progress of the programme" it cannot be expected that the physical output will reach the targets mentioned in the Plan of Operation. The step-by-step approach as such is good, but implementation time for each step should be flexible. Although steps cannot be skipped, the total implementation might be accelerated. However, also quality has to be assured. With respect to Shinyanga a solution to implement the s-b-s approach faster and therefore to show earlier visible results might be to change the current broad approach into a concentration on a limited number of villages at one time.	1. Some adjustments to S-b-S were made to comply with users' expectations and capabilities. The DWSP districts adhere with possible flexibility to the S-b-S. In conjunction with the status quo sheets and the Planning Programme (PS5) the approach will be an adequate management and monitoring tool. This allows district management to financially control activities and work on optimization and value-for-money auditing. 2. Eventually, all districts have limited the geographical span of operation and intervention criteria set. 3. From the overview of indicators it can be noted that the range of completion time of (sub-)steps is considerable among districts. Though output improved considerably further optimization (faster implementation) is required. 4. To accelerate well construction part of the rings are cast in advance during rainy season to build up stock and meet users' demand.	80 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.ii. The Consultant/Regional Management Team in the case of piped supplies to apply the Step-by-Step approach as an important instrument, not as a rigid procedure, especially for creating the awareness of the managerial aspects of piped supplies.	The institutional side of the piped supply schemes needs further elaboration. Promotion of community participation is not sufficient. A clear study on which activity has to be implemented at what level (tap committee, village, ward, district, region, national), under what conditions and needs (financial feasibility of the schemes, size of the system in connection with social restrictions, available and required technical and management capacity at various levels, funding of construction and extension, fees and subsidies, legal regulations) should be compiled. The study would provide options to run piped schemes. The study should provide options to run piped schemes in a sustainable and better way. To be realized before March 1995.	1. In Ibanza, where there is a rehabilitation of a piped scheme, which could not be finished for years due to loss of materials at regional level, awareness of the managerial aspects is being created by completing the work in close cooperation with the users. So far good results were obtained. This approach is one of "development-by-doing". Community organized itself and is able to run the scheme to a large extent. Organizational frame work is currently being discussed between consultant, legal experts, district and users. This is the first scheme for the region to adopt the new approach of "privatization".	50 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.iii. All programme actors in the programme should emphasize physical implementation so as to build renewed trust among the water users with high expectations, as well as to increase job satisfaction amongst implementors. The mission therefore, endorses the approach adopted in Morogoro and encourages Shinyanga to follow suit, which concentrates its activities in a similar number of villages. District water teams are advised to undertake "easy" rehabilitation works as a matter of high priority.	In view of the quantitative objectives mentioned in the Plan of Operation and the experience gained in the current project phase so far, targets to be realized mid 1995 should be determined in consultation with all actors involved.	1. All districts have put emphasis on the rehabilitation of wells. However, by reducing the area of operation the market for rehabilitations becomes smaller as well. 2. Momentum in well construction is being regained, whereas trust among the users is improving especially due to the WUG approach, which instills a sense of ownership-demand-driven approach. 3. Realistic and reliable commitments to serve user groups are gradually improving. 4. Targets for remaining programme period were reformulated by districts. 5. Personnel management in DWSP districts improved and job satisfaction increased in many cases due to clear policies, job descriptions and less bureaucracy. 6. Several good experiences exist in Bariadi district with regard to the involvement of NGO facilitators, both for mobilization and technical support, in the programme.	80 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.iv. The Consultant/Regional Management Team to stimulate the district teams to establish "pilot" project in which, in selected wards, private sector implementors are involved in the programme along the lines suggested under Chapter 4 (of the review mission Final Report).	The capacity of the private sector seems to be still insufficient to implement an extensive district programme. The district construction teams are still needed. A model for presenting capacities and realized outputs might facilitate a comparison between districts and might provide an overview of the realization of targets in various districts. Implementation by the districts has to be settled through standards that have been determined beforehand. Certification should be done by the regional level. In case of implementation by the private sector the district has to deal with certification. Promotion of privatization of district teams is a reasonable option. Payments to the private sector should be more attractive than the costs involved for implementation by the district. The involvement of the private sector should not be limited to one pilot sub-project. Main objective of the project is to implement water supply development on an extensive scale through promotion of the involvement of the private sector. The aim should be to establish as much pilot projects as possible.	1. Three districts (SRU, BAR and SM) adopted the recommendation of pilot project in April 1995. The good results up to now justify to change categorisation from "pilot" into DWSP district. 2. In these districts first advancements get shape. So there is better use of equipment, transport and funds. Also financial accountability has improved tremendously. Staff is highly motivated and work more as a team with less bureaucratic processes in decision making. 3. Need to involve private sector is well understood and many contracts were awarded. All ring casting work is done by private sector. 4. The DRDP districts make a move into the same direction, but smooth implementation is hampered by bureaucracy (tender board procedures, late payment). 5. In all districts quality of work is improving, however, close follow-up and additional practical training is certainly necessary.	80 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.v. Consultant in collaboration with the Regional Management Team to develop a "technology" basket for future inclusion in the "protocol".	Apart from alternative technologies also for other activities (surveys, training, extension) cost standards should be fixed in order to simplify settlements between regional level, district level and auditors.	1. Set up was made to define and establish a "sign board" whose models are found at the RTDC. Rather than to embark too soon on a wide scope of work, activities will first aim to reach acceptable levels in well construction and rehabilitation. One piped scheme was rehabilitated and 20 ferro cement tanks for rain water harvesting were constructed. 2. Annual work plan, budget, detailed planning and accounting system were harmonized in order to arrive at clear value-for-money auditing model. 3. Planning and control of training cost has improved.	100 %
5.2.b.vi. The Consultant/Regional Management Team to investigate alternative incentive packages for District administrative - as well as field staff.		1. In DWSP districts and in Maswa field staff were assigned by the DED to the area (Ward) of operation. Management of personnel is with the Project Manager to whom they are accountable. 2. Regular allowances are paid (at GoT rate) for field work with a maximum of 20 working days per month. Management team (CDP and RWSE) checks on actual work done. To maintain personal bicycle Ward level staff get paid Tshs. 500 per week. Serious complaints are not heard from the districts. 3. Management in DWSP districts are very keen in that field staff only claim for days they have been really active in the field.	100 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.b.vii. Awaiting the outcome of such an alternative incentive package, acceptable to GoT and GoN, the latter to consult with each other so as to ensure that the present programme's allowance structure for local staff is fully in line with prevailing GoT regulations and ongoing externally financed programmes in the Regions.		1. The matter was various times discussed at national level among donors and GoT.	undefined yet
5.2.c.i. The consultant to carry out a short "private sector" assessment study, with the aim to establish the relevant skill potential in the districts, training needs, business viability, as well as to identify constraints as perceived by the private sector for participation in the programme.	Via RNE the consultant might ask the advise of the regional sector specialist for small scale enterprise development or assign consultants for short missions.	1. In consultation with the RNE a regional consultants team was contracted to carry out a "Private Sector Involvement Study". The study was carried out between April and July 1995. 2. The sector specialist was asked by RNE to comment on ToR.	100%
5.2.c.ii. The Consultant/Regional Management Team to stimulate the District Teams to establish "pilot" project in which in selected wards private sector implementors are involved in the programme along the lines suggested under Chapter 4 (of the review mission Final Report).		1. Three districts opted in April 1995 for the so-called "pilot approach". The method worked satisfactorily with both private sector and District staff. It is justified to continue with the set-up and to call it as from 1996 the regular DWSP district approach.	100%

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.c.iii. The Consultant/Regional Management Team, based on the studies and consultations conducted, to draft a private sector support programme by July 1995 or before.		1. Various kinds of training are offered at RTDC. 2. Both private sector and institutions have access to and participated in training there. 3. The contracts awarded for construction of RWH tanks in the districts included a clause that on-the-job training had to be granted to local artisans.	60 %
5.2.c.iv. The Consultant/Regional Management Team to speed up the spares distribution programme, through private retail outlets in the districts, as a separate programme component.	To be considered for the purchase of products it will be required that pump suppliers are regionally represented.	1. The first distribution centre was established in Bariadi. The centre is run by the mission. 2. Mini buffer stocks have been established in Kahama and Meatu. SRU and SM will be served from the VIPIMO shop. 3. Contact was established with TANIRA. Over 100 pumps have been purchased, of which 20 have been installed. Access to spares will thus become easier. Possibilities for local outlet was discussed with manufacturer. For the time being nearest point is Mwanza.	25%

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.d.i. The Consultant to develop a much wider range of technology options with associated cost implications, ranging from low to high ('signboard' concept).	As a result of the unclarity of the programme with regard to the organization and possibilities of the programme, a "protocol" and "sign boards" should be developed clarifying the following issues: - DWSP in general (objectives, backgrounds, etc.); - institutional and managerial aspects (description of the roles and tasks responsibilities and competence of the various actors); - technical possibilities and financial aspects (flow of funds, own contribution of the users for investments and O + M). With respect to the price setting for water supply through piped schemes, wells and alternatives, social-economic studies should be conducted before March 1995. The DRDP protocol can be used as a guideline for the formulation of the "protocol" and "sign boards".	1. DWSP's objectives and backgrounds have been thoroughly reviewed by the programme implementors. A pamphlet with clear conditions for programme support has been made and distributed on large scale. 2. Improved descriptions of roles and tasks have been drafted. Basic DWSP organigram has been revised in consideration of the structure changes in the management. Consultations with the DRDP districts took place. However, with Kahama and Maswa institutional strengthening is needed. In Meatu cooperation with CD staff to be reinforced. 3. Draft Protocol was made. 4. Signboard underwent various amendments. 5. With more work implemented programme gets better insight in price setting. Competitive bidding is slowly developing.	70%
5.2.d.ii. The Consultant to carry out short term socio-economic studies focused on the willingness to pay for improved water facilities, e.g. vendor studies, private investment studies etc.	The studies need a broader focus on the "ability and willingness to pay" of the target groups. Study to be implemented before March 1995.	1. Policy on programme conditions, i.e. donor share and users' contribution (investment and O + M) are now clear. 2. Signboard was developed. 3. The so-called "protocol" is being transformed into a Programme Management Handbook.	80 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.d.iii. The Consultant/Regional Management Team to propose a draft "protocol" to the relevant Steering Committees, specifying the community contributions to investment (signboard) as well as a redefinition of responsibilities between the actors and procedures.	The protocol should deal with all activities for which a settlement between regional and district level has to take part through fixed standards (see point *5.2.b.v.* and *5.2.d.i.*). To be realized before May 1995.	1. See point 3. above. Financial and administrative regulations are being implemented to a large extent. 2. Discussions with respective parties have to take place on a number of issues especially on the institutional set-up. In general no difficulties expected.	75 %
5.2.d.iv. The Consultant/Regional Management Team, after relevant consultations to propose a draft set of operational guidelines for the District Water Investment Fund, to the relevant Steering Committees.		1. ToR for feasibility study related to the establishment of a Rural Savings and credit Institution was prepared by RIAS. 2. ToR was distributed to DRDP coordinators for comment, which was not received. 3. RNE decided to postpone further action in anticipation of study results to that effect from donor programmes with comparable objective.	20 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.e.i. The Ministry of Water in cooperation with the PMO, at national level to address through the appropriate channels the problem of "free water" policy perception, so as to guarantee the uniformity of the water policy of water as an economic good.	Proposal for cost-recovery and subsidization rules should be submitted to the Steering Committees and through these committees to the national administration for approval. The national level should be stimulated to promote the policy of cost-recovery through the available channels (regulations, public information, zonal workshops).	1. RNE made it very clear in Annual Meeting for 1994 that minimum users' contribution should be not less than 20 % of total investment. 2. Users contribute TShs. 50,000 or 25,000 for a pump, depending on the type. Furthermore, they open a bank account for O + M purposes. Finally, they participate in siting and digging of the well and pay for the construction of the slab around the well and provide all building materials thereto. 3. The Minister for Water, Dr. Pius Ng'wandu visited the programme on March 8th and commended the programme for its policy and efforts regarding the WUG approach. The national message is now that water is not a free gift, but an economic commodity.	100 %
5.2.f.i. The Consultant/Regional Management Team, in a coordinated manner, develop more independent Hygiene and Sanitation component, complementary to the present Step-by-Step approach. This is to be supported by additional advisory services with relevant expertise, e.g. through local consultants.	An inventory should be made of all available experience and expertise in East Africa on health education (including water transport), environmental hygiene and sanitation. Also available training material and training possibilities should be looked into. The consultant/regional management teams should develop an approach that complies with other initiatives in the two regions, e.g. in the field of primary health care. There should be a link with diseases of frequent occurrence in the region. The Ministry of Health has already some basic material available.	1. Good cooperation with PHC programme in villages around Kolandoto was established. PHC coordinator was involved in DWSP as facilitator. 2. A Hygiene and Sanitation package was drawn up for primary schools. Approach was first tested in a number of pilot schools. Primary school teachers are being trained to up-date knowledge, to orientate them on the package and to enable them to develop more innovative approaches to involve pupils in school hygiene activities and community outreach programmes. In this activity an important role is foreseen for HASHI.	75 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Additional considerations by DGIS, as presented in the Steering Committee Meeting of December 2nd, 1994	Status on the developments undertaken	Compliance as per 31-03-1996
5.2.f.ii. Include a representative of the Ministry of Natural Resources and Environment in the field monitoring visits that precede the national Steering Committee meetings, so as to provide national policy making with first hand information. Establish contacts and working relationships with regional and local level organisations working in the field of environmental protection.	The regional management teams should have the possibility to implement ground water studies to update available data, to collect data on the quality of surface water and to monitor ground water. With respect to environmental aspects an overview should be made of the approach at various levels, objectives and content. proposal to be finalized before May 1995. An environmental profile for both regions will be drafted. The Steering Committees should agree on a terms of reference for the profiles, in cooperation with the RNE sector specialist for environment.	1. The Ministry of Tourism, National Resources and Environment nominated Dr. F. Kilahama to be a member of the National Steering Committee. 2. Regional and district level representatives joined in a presentation with regard to the experiences with District Water Development Planning in Kenya and the need / possibility therefore in Shinyanga. All districts consider the establishment of a plan an important tool and urged for action. A Tanzanian model will be developed by the districts and region along the Kenyan lines. The DWDP should be seen in the light of up-dating the Shinyanga Water Master Plan (1971 - 1974), which had a scope of 20 years. 3. An environmental Impact Study will be undertaken after a similar exercise being currently implemented in Morogoro region.	70 %

Recommendations by Annual Review Mission 1994, as indicated in Chapter 5 of the Final Report	Further recommendations by DGIS	Status on the developments undertaken	Compliance as per 31-08-1995
	a) A longer-term structural planning on how to implement the Plan of Operation is lacking. Mr. Schröder, monitor adviser to RNE, had drafted a "Plan of Operation Summary in logical framework" as a basic for strategic planning. A structural planning should be drafted by the programme implementors before March 1995. b) Criteria should be developed to set priorities for the implementation of user group applications. c) The SWN pump is not the only option. In the choice of supply a division has to be made in maintenance of existing pumps and installation of new pumps. For maintenance purposes a constant supply of spare parts is necessary (imported or local production) for sustenance of the pump. In the selection of new pumps the criteria of preference, local availability and purchase / maintenance costs should be applied. It will be proved that a locally produced direct action pump will be the outcome in many cases.	1. To do adequate planning one should first have reliable and clear data on field experience. These data were obtained in 1995. The lessons learnt show that further optimization is necessary and likely possible. Establishment of a planning structure is one aspect. More important is the management and control of plans. Frame work of annual plan, budget, detailed planning and cost control is practically in place. More justified focus on future plans can be established. 2. Criteria for priorities are as follows: • village should be within concentration area • WUG shall be formed • agreement on sources required • financial contribution shall be made by WUG for investment and O + M • hydro-geological formation determines what source or system can be made 3. Pump programme comprises at the moment the following models: - SWN 80 - Afya - TANIRA - WAVIN - "farmers" pump (cast iron) Field tests are being carried out to investigate technical suitability and eventually users' preference.	60 %

Summary sheet:

Annex II

Village baseline data

SUMMARY SHEET: Village baseline data | Ward: SAKWE | BARIADI DISTRICT

S/N village	Village	data collected	sub villages	total number of HH	total number of WUG	population: total	men	women	under 5 years	5 – 17 years	economic situation: total income	spent on water		spent on other development		banked
[no.]	[name]	[date]	[number]	[number]	[number]	[number]	[number]	[number]	[number]	[number]	[TShs.]	[TShs.]	[%]	[TShs.]	[%]	[TShs.]
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Sakwe	02–May–95	10	431		6,974	2,544	4,430	1,700	2,218	24,998,000	0	0.0	77,500	0.3	
2	Itubukilo	02–May–95	9	719		5,230	2,240	2,990	1,127	1,834	550,000	0	0.0	140,000	25.5	
3	Ibulyu	02–May–95	6	458		2,073	871	1,202	476	659	1,037,500	150,000	14.5	100,000	9.6	
4	Mwanzoya	30–Apr–95	8	481		4,385	2,095	2,290	589	551	201,588,421	37,000	0.0	90,000	0.0	
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
TOTAL			33	2,089	0	18,662	7,750	10,912	3,892	5,262	228,173,921	187,000	0.1	407,500	0.2	0

HH = Household
WUG = Water User Group

SUMMARY SHEET: Village baseline data | Ward: SAKWE | BARIADI DISTRICT

S/N village	Village	water situation: TWS w	TWS n/w	S/W existing w	S/W existing n/w	S/W required r	S/W required c	DWP w	DWP n/w	dams u	dams n/u	IRWH w	IRWH n/w	total coverage	environmental sanitation (household level): latrine p	latrine t	latrine none	dry rack yes	dry rack none	garbage pit yes	garbage pit none	bath room yes	bath room none
[no.]	[name]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[%]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]	[each]
1	2	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1	Sakwe	4	0	0	0	0	28	–	–	1	–	–	–	0	–	418	13		12	–	–	–	–
2	Itubukilo			0	0	0	21	–	–	1	–	–	–	0	–	150	569		514	–	–	–	
3	Ibulyu	–	–	1	1	1	6	–	–	–	–	–	–	12	–	408	50		380	–	–	–	–
4	Mwanzoya	–	–	6	1	1	10	–	–	–	–	–	–	35	2	341	138		190	–	–	–	–
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							
TOTAL		4	0	7	2	2	65	0	0	2	0	0	0	47	2	1,317	770	0	1,096	0	0	0	0

TOTAL			
	w	=	11
	n/w	=	2

TWS = Traditional Water Source
S/W = Shallow Well
DWP = Domestic Water Point
IRWH = Institutional Rain Water Harvest

w = working
n/w = not working
r = rehabilitation
c = construction
u = used
n/u = not used

p = permanent
t = temporary

[redacted]

S/N village	Village	environmental sanitation (institutions) (latrines only)																prevailing water / hygiene related diseases					
		p. school			s. school			dispensary			RHC			other									
		p	t	n	p	t	n	p	t	n	p	t	n	p	t	n	Diarrhoea	Worms	Malaria	Bilharzia	Skin	Eye
[no.]	[name]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[each]	[each]	[each]	[each]	[each]	[each]
1	2	40			43			46			49			52			55	56	57	58	59	60
1	Sakwe	1						1									5	12	25	13	16	30
2	Itubukilo		0																			
3	Ibulyu	1													1							
4	Mwanzoya	1																				
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						
TOTAL		3	0	0	0	0	0	1	0	0	0	0	0	0	1	0	5	12	25	13	16	30

TOTAL			
	p	=	4
	t	=	1
	n	=	0

RHC = Rural Health Centre

p = permanent
t = temporary
n = none

		mortality			community leadership / gender information											
S/N village	Village	infant < 1 year	child 1 – 5 yrs	registration year	VG		VWSC		village chairperson		VEO		VM		VHW	
					m	f	m	f	m	f	m	f	m	f	m	f
[no.]	[name]	[number]	[number]		[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]	[no.]
1	2	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
1	Sakwe	2	5	1994	19	5	1	4	1	–	1	–	–	–	1	0
2	Itubukilo				19	6	3	3	1	–	1	–	0	0	0	0
3	Ibulyu				19	6	3	3	1	–	1	–	0	0	0	0
4	Mwanzoya				19	6	4	3	1	–	–	1	0	0	1	–
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
TOTAL		2	5		76	23	11	13	4	0	3	1	0	0	2	0

TOTAL	m	=	96
	f	=	37

VG = Village Government
VWSC = Village Water and Sanitation Committee
VEO = Village Executive Officer
VM = Village Mechanic
VHW = Village Health Worker

m = male
f = female

S/N village	Village	community involvement: women groups	community involvement: youth groups	community involvement: women headed families	remarks
[no.]	[name]	[no.]	[no.]	[no.]	
1	2	76	77	78	79
1	Sakwe	1	0	17	
2	Itubukilo	1	0	57	
3	Ibulyu	0	2	107	
4	Mwanzoya	0	0	30	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
	TOTAL	2	2	211	

Commissioning Certificate and Agreement

Annex III

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA WAZIRI MKUU NA MAKAMU WA KWANZA WA RAIS

Mkoa wa Shinyanga

HATI YA KUMILIKI KISIMA CHA MAJI

Leo tarehe . . . . . *Wanakikundi cha* . . . . . .

Kitongoji cha . . . . . *Kijiji cha* . . . . . .

Kata ya . . . . . *Wilaya ya* . . . . . .

Wamekabidhiwa Mamlaka ya kumiliki kisima chao Na. . . . . . *aina ya pampu* . . . . . *na Na.* . . . . . .

Kisima hiki kimechimbwa chini ya usimamizi wa Meneja wa Mradi na kuhakikiwa na Mhandisi wa Maji wa Wilaya kama maelekezo ya Hati ya makubaliano inavyoonyesha.

Mradi huu unakabidhiwa ukiwa katika hali nzuri.

Sahihi ya Mwenyekiti wa Kikundi (k.n.y. wanakikundi)	*Sahihi ya Mwenyekiti wa Kijiji/ Afisa Mtendaji wa Kijiji*

MKURUGENZI MTENDAJI / MKURUGENZI WA MANISPAA

WILAYA / MANISPAA . . . . . *TAREHE* . . . . . .

UNITED REPUBLIC OF TANZANIA

PRIME MINISTER'S OFFICE

Shinyanga Region

CERTIFICATE OF OWNERSHIP OF A WATER POINT

To-day, on . . . . . the Water Users' Group . . . . . .

of Sub-village . . . . . in Village . . . . . .

in Ward . . . . . in . . . . . District.

have been officially handed over their water point with registration no. . . . . .

with . . . . . hand pump no. . . . . .

This well was constructed under the supervision of the District Project Manager and certified technically operational by the District Water Engineer as shown on this certificate of ownership.

This project was handed over in good condition.

Signature of Water Users' Group Chairperson

Signature of Village Chairperson / or Village Executive Officer

DISTRICT EXECUTIVE DIRECTOR / MUNICIPAL DIRECTOR

DISTRICT / MUNICIPALITY..... *DATE:.....*

MAKUBALIANO
HATI YA MAKABIDHIANO

MAKUBALIANO haya yamefikiwa kati ya KIKUNDI CHA WATUMIAJI cha:

. . . . . KITONGOJI cha: . . . . . .

KIJIJI cha: . . . . . KATA YA : . . . . . .

WILAYA YA: . . . . . .

NA

Mhandisi wa maji (W) Wilaya ya . . . . . *MKOA WA Shinyanga.*

Mradi wa maji wa kikundi kilichotajwa, umekamilika tarehe . . . . . .

Wanakikundi chini ya uongozi wa Kamati yenu ya maji, mnao wajibu wa kutunza, kulinda na kuendesha mradi wenu ili uendelee kutoa huduma iliyokusudiwa. Kwa maana hiyo, kikundi kinapaswa kuzingatia masharti yafuatayo:

- Kubuni mbinu na njia za kudumu za kupata mapato kwa ajili ya kutunisha mfuko wa uendeshaji na matengenezo ili uwe na fedha za kutosha wakati wote.
- Mradi huu utakuwa chini ya matazamio kwa muda wa miezi sita (6) kuanzia siku ya kukamilika kwa mradi. Hii ina maana kwamba endapo kutatokea hitilafu za kiufundi katika kipindi husika litarekebishwa.
- Kushindwa kwa kikundi kutunza na kulinda mradi huu kama inavyostahili kutasababisha kuchukuliwa kwa pampu.
- Endapo pampu itaibiwa, kikundi kitawajibika kununua pampu nyingine mpya kwa gharama halisi.

Sahihi..... ..... Sahihi
(Mhandisi wa Maji (W)) (Meneja wa Mpango wa Maendeleo ya Maji)

Sahihi.....
(M/Kiti/Katibu Kamati ya Kikundi)

Sahihi..... ..... Sahihi
(M/Kiti Kamati ya Maji na Usafi wa Mazingira Kijiji - Mdhamini) (M/Kiti wa Kitongoji - Mdhamini)

Tarehe..... Mahali.....

AGREEMENT
CERTIFICATE OF COMMISIONING

This AGREEMENT is between the . . . . . WATER USERS' GROUP

of . . . . . Village, ... Ward

. . . . . District

AND

The District / Municipal Water Engineer of . . . . . District/

Municipality in Shinyanga Region.

The water project for the above mentioned group was completed on . . . . . Henceforth the water users' group under the management of Water Users' Group Committee will have the primary responsibility of operating, maintaining and safeguarding their water point to ensure uninterrupted services all the time. For their matter the Water Users' Group is bound to fulfil the following conditions.

- To mobilize and initiate numerous sources of funding to collect money for a permanent Water Account. This money will be used for pump service and maintenance.
- The water project will have a grace period of 6 (six) months from the day of completion. This means that any technical malfunctioning of the pump resulting from poor workmanship within the said period will be attended to by the Domestic Water Supply Programme.
- Failure of the group to maintain and safeguard their water point will mean the withdrawal of the hand pump.
- In the event that the pump is stolen, the Water Users' Group shall have to buy a new pump at the actual cost.

Signature.....
District / Municipal Water Engineer

.....Signature
District / Municipal Programme Manager

Signature.....
Chairperson / Secretary Water User Group

Signature.....
Chairperson Village Water and
San. Committee - Guarantor

.....Signature
Sub-Village Chairperson - Guarantor

Date.....

Place:.....

DWSP Options for Water Supply Facilities		Contribution		Total cost
		User	Donor	
1. **Improved Traditional Water Point**		80,000/=	50,000/=	130,000/=
2. **Hand Pumped Wells**				
2.1 Rehabilitation Hand Dug Well:	6.00 m depth	120,000/=	281,000/=	401,000/=
	8.00 m depth	120,000/=	317,000/=	437,000/=
	10.00 m depth	120,000/=	353,000/=	473,000/=
2.2 Construction Hand Dug Well:	6.00 m depth	151,000/=	486,000/=	637,000/=
	8.00 m depth	173,000/=	592,000/=	765,000/=
	10.00 m depth	205,000/=	698,000/=	903,000/=
2.3 Construction Hand Drilled Well:	10.00 m depth	125,000/=	478,000/=	603,000/=
2.4 Construction Machine Drilled Well:	20.00 m depth	150,000/=	1,357,500/=	1,507,500/=
	30.00 m depth	150,000/=	1,857,500/=	2,007,500/=
3. **Rain Water Harvesting**				
3.1 Thai jars:	300 - 500 lts.			10,000/= - 20,000/=
	1,000 - 1,500 lts.			30,000/= - 50,000/=
3.2 segmental tank including rain water gutters:	5,000 lts.			up to 500,000/=
3.3 ferrocement tank, including rain water gutters	10,000 - 30,000 lts.			1,000,000/= - 2,000,000/=
4. **Piped supplies** Rehabilitation		Depends on conditions and requirements		

COST OF IMPROVEMENT OF TRADITIONAL WATER POINT

Depth up to 6.00 metres

Construction activity	unit	rate	qty.	contribution	
				user	donor
Cleaning and deepening	foot	2,000/=	10	20,000/=	
(Top) lining	LS	50,000/=	-		50,000/=
Transport of lining material	trip	10,000/=	1	10,000/=	
Slab, drainage and fence	LS	50,000/=	-	50,000/=	
Total				80,000/= (61%)	50,000/= (39%)

REHABILITATION COST OF HAND DUG WELL

Depth of 6.00 metres

Construction activity	unit	rate	qty.	contribution	
				user	donor
Clearing and deepening	foot	2,000/=	10	20,000/=	
Concrete ring diameter 0.95 m	0.5 m	15,000/=	2	30,000/=	
Replacement of concrete cover diameter 1.15 m	EA	20,000/=	1	20,000/=	
Slab, drainage and fencing	LS	50,000/=	-	50,000/=	
Tanira direct action handpump	EA	200,000/ 18,000/=	1		200,000/=
Pumphead and 2 inch cylinder of 1.50 in length Rising main and pumprod	meter		6		81,000/=
Total				120,000/= (30%)	281,000/= (70%)

Note: Rehabilitation cost of hand dug wells with depth of 8.00 and 10.00 metres will only differ for the cost of rising main and pumprod

CONSTRUCTION COST OF HAND DUG WELL, with TANIRA Direct Action hand pump

Construction Activity	Unit	Rate	depth of 6.00 metre		depth of 8.00 metre		depth of 10.00 metre	
			user	donor	user	donor	user	donor
digging	foot	2,000/-	36,000/=		48,000/=		60,000/=	
concrete rings diameter 1.15 m.	0.5 meter	17,500/=		210,000/=		280,000/=		350,000/=
cover diameter 1.15 m.	EA	20,000/=		20,000/=		20,000/=		20,000/=
transport of concrete rings	trip of 3 rings	10,000/=	40,000/=		50,000/=		70,000/=	
slab, drainage and fencing	LS	50,000/=	50,000/=		50,000/=		50,000/=	
pumphead and 2" cylinder, L= 1.50	1	200,000/=		175,000/=		175,000/=		175,000/=
rising main and pump rod	meter	18,000/=	25,000/=	81,000/=	25,000/=	117,000/=	25,000/=	153,000/=
		Total*	151,000/= (23%)	486,000/= (77%)	173,000/= (23%)	592,000/= (77%)	205,000/= (23%)	698,000/= (77%)

Excluding:
- cost of ground water survey
- cost of supervision of the contractors
- maintenance and depreciation cost for digging tools and construction equipment (e.g. moulds for concrete rings)
- tools for operation and maintenance

CONSTRUCTION COST OF HAND DRILLED WELL

Depth of 10 metres

Construction Activity	Unit	Rate	Qty.	Contribution	
				User	Donor
Mobilization of equipment	LS	50,000/=	-	50,000/=	
"Foot price allowance" for drilling one meter depth, diameter 6 inch	meter depth	5,000/=	10		50,000/=
Purchase and installation of UPVC permanent casing (screen and plain) diameter 4 inch, packed with gravel	meter	10,000/=	10		100,000/=
Slab, drainage and fencing	LS	50,000/=	-	50,000/=	
Tanira direct action handpump Pumphead and 2 inch cylinder of 1.50 m length Rising main and pumprod	 EA meter	 200,000/= 18,000/=	 1 10	 25,000/=	 175,000/= 153,000/=
Total				125,000/= (21%)	478,000/= (79%)

CONSTRUCTION COST OF MACHINE DRILLED WELL

Depth of 20 metres, hand pump setting of 15 metres

Construction Activity	Unit	Rate	Qty.	Contribution	
				user	donor
Mobilisation of Equipment	LS	50,000/=	-	50,000/=	-
"Foot price allowance" for drilling one meter depth, diameter of 8 inch, incl. cost for labour, fuel, maintenance of tools (e.g drilling bits), supporting lorry etc.	meter depth	30,000/-	20	-	600,000/=
Purchase and installation of UPVC permanent casing (screen and plain), diameter 6 inch slot size 1 mm, packed with gravel of 2-3 mm.	meter	20,000/=	20		400,000/=
Slab, drainage and fencing	LS	50,000/=	-	50,000/=	
SWN 80 handle pump					
Pump head and 2 inch cylinder	EA	280,000/=	1	50,000/=	230,000/=
Rising main and pumprod	meter	8,500/=	15		127,500/=
Total*				150,000/= (10%)	1,357,500/= (90%)

* Excluding:
- cost of ground water survey
- replacement / depreciation cost of equipment
- cost of supervision of the contract

s i g n b o a r d

OPTIONS
FOR
WATER SUPPLY FACILITIES
YOU CAN REHABILITATE OR CONSTRUCT WITH
DWSP ASSISTANCE

It should be clear that the technical feasibility of the type of supply facility for which the user group will opt, depends on:

- availability, quality and depth of ground water
- geological formation (hardness of the formation)
- water demand

ALSO FOR INDIVIDUALLY OWNED WATER SUPPLY FACILITIES APPROPRIATE DWSP ASSISTANCE CAN BE PROVIDED

1

IMPROVED TRADITIONAL WATER POINT

A traditional water point is usually a shallow dug hole or seasonal spring, without stable lining and protection. It often has the risk of collapsing. Because a super-structure (top lining / slab) is lacking dirty and polluted surface run-off water can enter the water hole, whereas people and cattle can fall into the well and thus may create dangerous situations. Sometimes the water hole cannot give enough water to everyone, due to insufficient depth / storage. At the end of the season there should be at least 5 feet of water in the well early in the morning. After improvement the installation of a hand pump is possible.

LINING AND DEEPENING

The well can be protected by means of rock-lining, bricks, cement blocks or by concrete rings. What material is used depends on the conditions of the subsoil and the availability of skills and building materials. The lining shall be extended till at least 50 cm above ground level. The soil shall be duly sealed to the lining.

To increase the storage capacity of the well at the end of the dry season it should be made deeper.

USERS' SHARE

- provision of labour
- selection of fundi (if needed)
- provision of cement, sand, aggregate
- erection of fence
- transport of lining materials (rings or blocks)

DONOR's SHARE
- technical advise, survey, design and supervision
- tools (chissel and heavy hammer) and equipment (mould, tripod, hoisting device, de-watering pump) for fundi
- pre-fabricated rings or lining blocks

USERS' COST
TShs. 80,000

NUMBER OF FAMILIES
50

COST PER FAMILY
± TShs. 1,600

O & M CONSEQUENCES
- uncovered well is subject to pollution
- regular maintenance (cleaning) required
- cleaning of well site

2

HAND PUMPED WELLS

Shallow wells, either dug or drilled can be best provided with a hand pump to ensure that water can not be polluted. Clean water will contribute to the health of the users. Dug wells, rehabilitated or newly constructed, shall be lined with in-situ cast rings, prefab concrete rings or cement blocks. Lining can be done over the full depth or only partly to prevent collapsing of the top section. The well will be covered with a sturdy concrete cover with anchor bolts to mount the hand pump. Also a drilled well shall be lined with uPVC casing (blind and slotted) and shall get a concrete pump foundation. Hand pumps can also be installed on deeper drilled wells (boreholes) made by a machine. Wells with a water level up to 30 - 40 metres can still be hand pumped. Wells with water levels within 10 metres below ground level can be equipped with Direct Action pumps; they are cheaper and easier to maintain.

REHABILITATION
(up to depth of approx. 10 metres)

A rehabilitation may consist of the following activities:
- deepening and cleaning of the well, (for hand dug and hand drilled wells)
- (re)placement of top lining (rings or block work)
- (re)placement lining by means of telescoping with smaller diameter rings
- (re)placement of a well cover with anchor bolts
- disinfection
- (re)placement of a hand pump
- repair of the slab
- cleaning of well site and fencing

USERS' SHARE
- provision of labour
- selection of fundi (if needed)
- provision of cement, sand, aggregate
- purchase of a subsidized hand pump

HAND DUG
(up to depth of approx. 10 metres)

If experience from existing wells is available it is likely not necessary to first make survey drillings. Otherwise, it is recommendable to seriously investigate the area with simple hand augering equipment or to execute geo-physical site investigations. The following activities shall be done:
- survey
- digging / de-watering
- lining construction (rings or block work)
- construction well cover
- disinfection
- installation hand pump
- cleaning of well site and fencing

USERS' SHARE
- provision of labour
- selection of fundi (if needed)
- provision of cement, sand, aggregate for slab construction
- purchase of a subsidized hand pump
- transport of concrete rings

HAND DRILLED
(up to depth of 10 metres)

In some alluvial areas it is possible to drill wells by hand. If test pumping of a survey hole delivers more than 500 litres per hour the location is suitable for a so-called tube well. In that case the survey drilling can be immediately be reamed to a larger diameter. The following work shall be done:
- survey / reaming of selected drilling
- installation of casing and gravel pack
- casting of pump foundation
- disinfection
- construction of slab
- installation of hand pump
- cleaning of well site and fencing

USERS' SHARE
- provision of labour
- selection of fundi (if needed)
- provision of cement, sand, aggregate for pump foundation and slab construction
- purchase of subsidized casing, gravel pack and hand pump
- mobilization cost contractor, that is TShs. 50,000

MACHINE DRILLED

Requires thorough geophysical site investigation by using special equipment. Water is tapped from depths exceeding 20 metres. This type of well will be made by a contractor. After he has completed drilling and installation of the casing and gravel pack the following shall be done:
- developing and pump testing to estimate safe yield
- casting of pump foundation
- disinfection
- construction of slab
- installation of hand pump
- cleaning of well site and fencing

USERS' SHARE
- site clearance
- access road to site
- safeguarding the site
- provision of labour
- selection of fundi for super structure
- provision of cement, sand, aggregate for pump foundation and slab construction
- purchase of subsidized casing, gravle pack and hand pump
- mobilization cost contractor, that is TShs. 50,000

DONOR's SHARE
- technical advise, survey, design and supervision
- tools (chissel, heavy hammer) and equipment (mould, tripod, hoisting device, de-watering pump) for fundi
- subsidized hand pump

USERS' COST
up to TShs. 120,000.-

NUMBER OF FAMILIES
50

COST PER FAMILY
up to TShs. 2,400.-

O & M
- proper use of the hand pump will minimize the cost for maintenance and repair
- adequate and regular service by trained fundi / caretaker will ensure a longer pump life
- for proper O & M it is necessary to have an account and revenue system to guarantee timely maintenance and repair

DONOR's SHARE
- technical advise, survey, design and supervision
- tools (chissel, heavy hammer) and equipment (mould, tripod, hoisting device, de-watering pump) for fundi
- pre-cast concrete rings
- subsidized hand pump

USERS' COST
TShs. 150,000 up to 200,000

NUMBER OF FAMILIES
50

COST PER FAMILY
TShs. 3,000.- up to 4,000.-.

O & M
- proper use of the hand pump will minimize the cost for maintenance and repair
- adequate and regular service by trained fundi / caretaker will ensure a longer pump life
- for proper O & M it is necessary to have an account and revenue system to guarantee timely maintenance and repair

DONOR's SHARE
- technical advise, survey, design and supervision
- tools and equipment for hand drilling
- subsidized casing, gravel pack and hand pump

USERS' COST
TShs. 125,000

NUMBER OF FAMILIES
50

COST PER FAMILY
TShs. 2,500

O & M
- proper use of the hand pump will minimize the cost for maintenance and repair
- adequate and regular service by trained fundi / caretaker will ensure a longer pump life
- for proper O & M it is necessary to have an account and revenue system to guarantee timely maintenance and repair

DONOR's SHARE
- technical advise, survey, design and supervision
- contract negotiations
- contracting out of drilling work
- subsidized casing, gravel pack and hand pump

USERS' COST
TShs. 150,000

NUMBER OF FAMILIES
50

COST PER FAMILY
TShs. 3,000

O & M
- proper use of the hand pump will minimize the cost for maintenance and repair
- adequate and regular service by trained fundi / caretaker will ensure a longer pump life
- for proper O & M it is necessary to have an account and revenue system to guarantee timely maintenance and repair

3

RAIN WATER HARVESTING

Rain Water Harvesting (RWH) systems are very difficult to introduce since they are neither for communal nor for permanent (perenial) water supply. The DWSP will construct RWH systems for the purpose of promoting RWH as supplementary water supply (especially for drinking water purposes) for both institutions and individuals in rural and urban areas. Therefore, under DWSP **only demonstration** RWH's will be constructed. Within the framework of training the private sector, contractors and fundis will be introduced to the new (ferro-cement) technology for tanks of various capacities.

300 up to 1,500 liters

1. 300 and 500 litres Thai jars can be used to stock up water at home, i.e. rain water or water collected from a well or water point.
2. Thai jars with volumes between 1000 and 1500 litres can be used to harvest and store rain water. These volumes are meant for family use only.

5,000 liters

These (segmented) tanks can be used for rain water harvesting and as a storage tank which can be connected to a piped scheme.
They can be used by individual house holds and dispensaries.
If only used for RWH and assuming a 5 months dry spell, it can supply 10 persons with 3 liters of drinking water per day.

10,000 - 30,000 liters

A standing ferro-cement tank or a ground storage tank.The latter can be provided with a cheap hand pump (suction type). These tanks can also be connected to a piped scheme.
On basis of a consumption of 3 liters per day some 65 persons can be supplied with safe drinking water during a 5 months dry spell.
Beneficiaries can be: schools, hospitals, dispensaries, training institutes, churches and offices.

USERS' SHARE
- a proper improved corrugated iron roof is a prerequisite
- provision of labour
- arrangement of fundi (if necessary)
- all required materials

DONOR's SHARE
- technical advise, survey, design and supervision
- special tools and equipment for fundi

CONSTRUCTION COST
TShs. 10,000 up to 50,000

Limited use for one family

O & M
- regular cleaning of rain water collection system, i.e. gutter, pipes and tank intake filter
- controlled use (lockable tap)
- use for drinking water only

USERS' SHARE
- a proper improved corrugated iron roof is a prerequisite
- provision of labour
- arrangement of fundi (if necessary)
- all required materials

DONOR's SHARE
- technical advise, survey, design and supervision
- special tools and equipment (mould) for fundi
- subsidized gutters

CONSTRUCTION COST
up to TShs. 500,000

NUMBER OF USERS
10

O & M
- regular cleaning of rain water collection system, i.e. gutter, pipes and tank intake filter
- controlled use (lockable tap)
- use for drinking water only

USERS' SHARE
- a proper improved corrugated iron roof is a prerequisite
- provision of labour
- arrangement of fundi (if necessary)
- all required materials

DONOR's SHARE
- technical advise, survey, design and supervision
- tools and equipmen
- cost estimates and contract preparation
- selection contractor
- subsidized hand pump (suction)

CONSTRUCTION COST
TShs. 1,000,000 up to 2,000,000.-

NUMBER OF USERS
65

O & M
- regular cleaning of rain water collection system, i.e. gutter, pipes and tank intake filter
- controlled use (lockable tap)
- use for drinking water only

4

PIPED SUPPLIES

DWSP will only consider the rehabilitation or extension of existing piped water schemes. The source should be reliable and safe. The reasons for the restriction are:

- the high percentage (80 %) of schemes not working over the last 15 years,
- surface water (e.g. dams) is unreliable and unsafe due to high cattle population and usually poor catchment area.

Crucial for future success, i.e. sustenance of the scheme, is the presence and correct functioning of a decisive users' management.

REHABILITATION and/or EXTENSION

The work may consist of or require:

- inspection / repairing of main and distribution system
- improvement of power supply and pumping system
- testing of the source capacity
- Domestic Water Point improvement (User Group organization, structure improvement, fencing, drainage etc.)
- effective management system

CONSTRUCTION

Not applicable

USERS' SHARE

- provision of labour
- provision of cement, sand, aggregate, minor fittings and pipe work
- hiring of skilled fundis (plumber)
- rehabilitation of distriution system
- strong management for O + M

DONOR's SHARE

- technical advise, survey, design and supervision
- tools and equipment for fundi
- construction of reliable ground water source (borehole)
- contracting out of major works
- purchase of equipment
- legal advise on institutional setting
- training of users and operators

USERS' COST

Depending on the condition and size of the scheme.

NUMBER OF USERS

10

USERS' SHARE

DONOR's SHARE

O & M CONSEQUENCES

- strong, respected and transparent management
- sound revenue collection system to ensure regular operation of pumps (payment for fuel or electricity bills)
- trained staff for O + M of system and pumps
- daily inspection of scheme
- regualr service of pumps and/or generator

O & M CONSEQUENCES

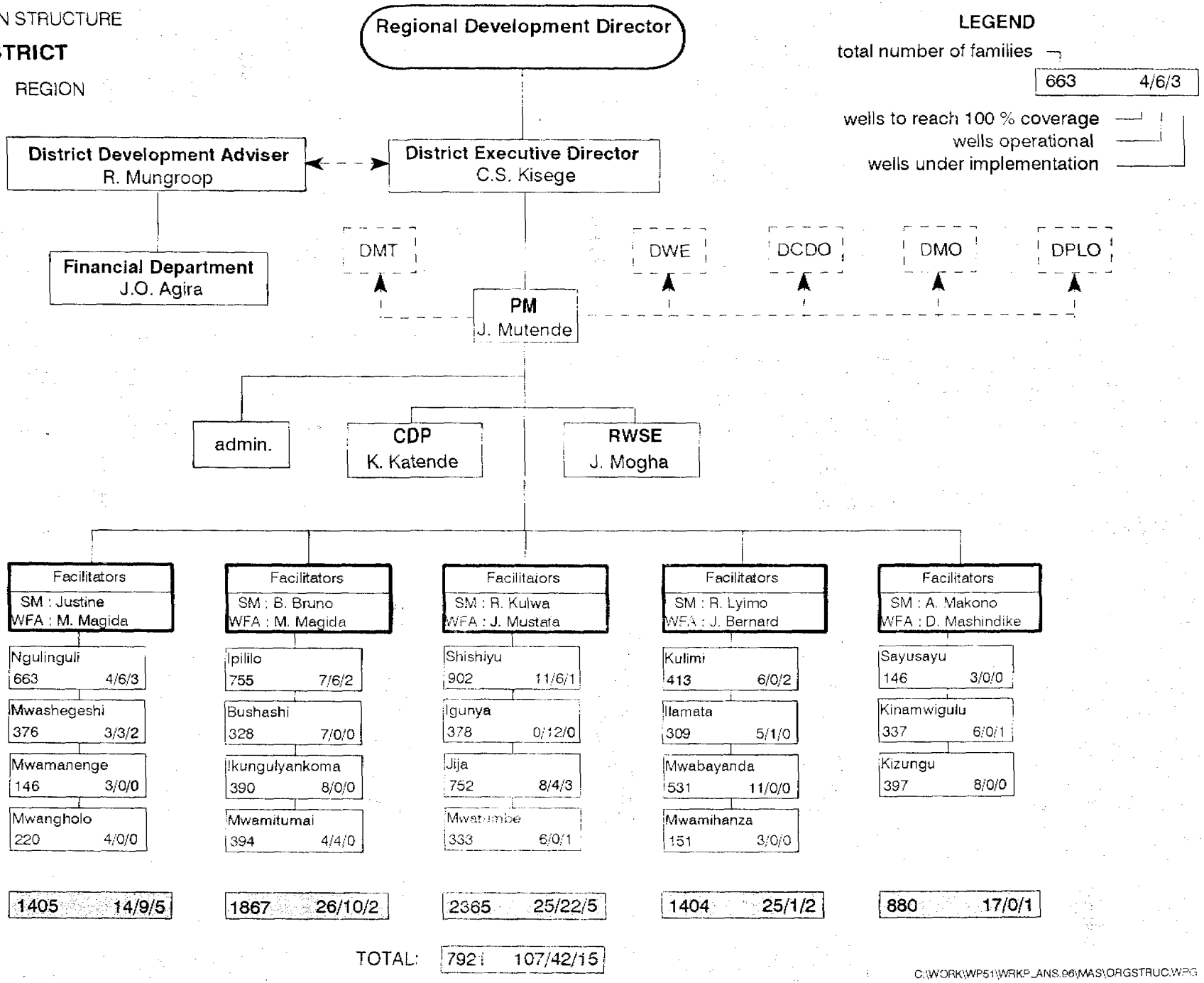
Organization structure for "water activities" Annex V

Maswa District

ORGANIZATION STRUCTURE

MASWA DISTRICT

SHINYANGA - REGION



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Job descriptions hydro-geologists

Annex VI

JOB DESCRIPTION FOR REGIONAL HYDRO-GEOLOGISTS INVOLVED IN DWSP SHINYANGA

1 HYDRO-GEOLOGIST IN CHARGE OF GEOPHYSICAL SITE INVESTIGATIONS (FULLTIME ENGAGEMENT)

(The expert reports on programme matters to the Regional Hydro-geologist as well as to the Programme Water Supply Engineer (WSE).

1.1 Planning and coordination:
responsible for planning of geo-activities and coordination with RWSEs and DWEs

- Acting secretary of monthly planning and coordination meetings;
- Planning of geophysical site investigations in coordination with DWEs and RWSEs;
- Preparation of (monthly) workplan geo-survey activities (field work, office work, training and other activities);
- Collection, compilation and use of all existing information relevant to the work (topo-maps, geological maps, borehole data, geophysical investigation reports etc.).

1.2 Reconnaissance surveys:
responsible for reconnaissance surveys

- Planning, organisation and execution of reconnaissance surveys (prior to geophysical investigations);
- Reporting on results reconnaissance surveys (by making use of reconnaissance survey forms);
- Planning and design of the approach to the geo-surveys for each site (based on reconnaissance).

1.3 Geophysical field work:
responsible for the progress, quality and good standard of the geo-survey field work

- Pay regular visits to the field to check the progress and quality of the work executed;
- In case of failure to locate suitable sites, guide the geo-team to alternative locations and approaches;
- Integrate hydro-geological information (geology, well and borehole data) into the geophysical investigations for optimizing of the results and recommendations;
- During fieldwork carry out evaluation of geo-survey results on the site and adaption of the survey approach to the results where and when required.

1.4 Data evaluation and preparation of recommendations on implementation:
responsible for data analysis

- Check the quality and completeness of all executed geophysical field investigations forms;
- Carry out computer interpretation of VES data;
- Execute site data evaluation (considering profiles, interpreted VES and site sketch), resulting in recommendations with regard to construction;
- Completion of Site Survey Results Summary Forms and handing them over to the DWE, RWSE and Programme WSE;
- Briefing of DWEs and RWSEs as and when required on matters related to implementation;
- Monitoring of construction results based on geophysical site investigations; initiate further actions where required.

1.5 Data storage and dissimination:
responsible for data handling, storage and dissimination

- Filing of all complete field survey forms and evaluated information for each individual site in village files, to be arranged per District;
- Update and improve filing system as deemed necessary;
- Preparation of copies of data files as and when requested.

1.6 Equipment:
responsible for the availability of equipment in operational condition

- Ensure the proper use, handling and maintenance of geophysical and other equipment;
- Assure the availability of spare parts and materials for field work execution as well as data evaluation;
- Forward requests for maintenance and repair of equipment as deemed necessary;
- Forward request for additional equipment, spare parts and materials.

1.7 Financial accountability:

- preparation of requests for financial requirements for field work periods.

1.8 Reporting:
responsible for all reporting of geo-survey operations and results

- Preparation of minutes of monthly planning and coordination meetings;
- Preparation of monthly progress reports on geo-investigations and results;
- Regular updating of Summary Tables of Geophysical Site Investigations per District.

2 HYDRO-GEOLOGIST IN CHARGE OF THE SUPERVISION OF BOREHOLE CONSTRUCTION AND TESTING (PART-TIME (50%) ENGAGEMENT)

(The expert reports on programme matters to the Regional Water Engineer and Regional Programme Adviser).

Overall responsibility for all activities carried out for the DWSP.
- Supervision and backstopping of hydro-geologist in charge of geophysical site investions.

2.1 Planning and coordination:
responsible for planning of borehole construction and testing activities and coordination with drilling superintendent, hydro-geologist in charge of geo-surveys, DWEs and RWSEs

- Weekly supervision of and construction with hydro-geologist;
- Secretary of monthly planning and coordination meeting;
- Planning of borehole drilling and testing in coordination with DWEs, RWSEs and Programme Water Supply Engineer.
- Collection, compilation and use of all existing information relevant to the work (geological maps, geophysical and site investigations data, borehole data etc.);
- Maintain daily communication with borehole drilling testing team(s).

2.2 Borehole drilling supervision:
responsible for quality and good standards of boreholes implemented under the DWSP

- Monitor drilling progress as well as water quality (EC, Fluoride) by radio and advise on the required borehole depth;
- Preparation of lithological sample logs, preferably on site;
- Check and monitor the availability on site of sufficient casing, screen, centralisers and gravel pack material in accordance with specifications.

2.3 Borehole design:
responsible for borehole design

- Selection of casing and screen with regard to total lengths, material, diameter, slotsize, gravelpack, clay seals and grouting;
- Design of string of casing and screen including placement of centralisers and gravelpack.

2.4 Borehole completion supervision:
responsible for borehole completion as per design

- Check the depth of the open hole;
- Supervise the preparation and installation of the string of casings and screens;
- Supervise the installation of gravelpack, clay seals and grouting;
- Provide instructions on borehole cleaning and initial development.

2.5 Borehole development:
responsible for borehole testing and recommendations with regard to future pumping

- Monitor borehole development progress and results;
- Design if applicable, step-down tests (number of steps, step yields and duration) based upon results development pumping;
- Design constant yield test (discharge and total duration) as well as recovery test;
- Pump data evaluation, determination of aquifer characteristics (aquifer type, transmissivity, permeability), well characteristics (yield potential, well efficiency, draw-down prediction) and required pumping characteristics (optimum yield, pump intake depth).

2.6 Data completion, storage and dissimination:
responsible for data handling, storage and dissimination

- Check the driller's borehole completion data form and correct where necessary;
- File all borehole drilling, completion and testing records in Regional DWSP borehole file (sub-devided by District);
- Maintain borehole file up-to-date;
- Dissiminate copies of borehole completion records to DWEs, RWSEs and Programme Water Supply Engineer.

2.7 Equipment:

- Check the availability on site and operational condition of equipment and instruments required for the supervision of borehole drilling and testing;
- Forward requests for maintenance and repair of equipment as deemed necessary;
- Forward requests for additional equipment and materials if and when required.

2.8 Financial accountability:
responsible for estimation of quarterly and annual budgets

- Preparation of requests for financial requirements for fieldwork periods.

2.9 Reporting:
responsible for all reporting on borehole construction and testing planning and results

- Preparation of monthly progress reports on borehole construction and testing;
- Regular updating of Borehole Summary sheets;
- Preparation of minutes of monthly, planning and coordination meetings, (in case of absence of Hydro-geologist in charge of geophysis).

Mailing list

Annex VII

Mailing list

1. **Ministerie van Buitenlandse Zaken**
   (2 copies through RNE)
   DAF / MF
   Postbus 20061
   2500 EB Den Haag
   The Netherlands

2. **Royal Netherlands Embassy** (2 copies)
   Att. Mrs. F. Struys
   P.O. Box 9534
   Dar es Salaam

3. **Office of the Prime Minister & First Vice President**
   Att. Mr. Mbonde
   P.O. Box 3021
   Dar es Salaam

4. **Ministry of Finance**
   P.O. Box 9111
   Dar es Salaam

5. **Ministry of Water, Energy and Minerals**
   Att. Mr. Ishengoma
   P.O. Box 2000
   Dar es Salaam

6. **Ministry of Health**
   Att. Mr. R. Kukula
   P.O. Box 9083
   Dar es Salaam

7. **Ministry of Community Development, Women Affairs and Children**
   P.O. Box 3448
   Dar es Salaam

8. **Planning Commission**
   P.O. Box 9242
   Dar es Salaam

9. **Regional Commissioner**
   P.O. Box 320
   Shinyanga

10. **Regional Development Director**
    P.O. Box 320
    Shinyanga

11. **Regional Programme Manager**
    Att. Mr. E. Chamu
    P.O. Box 320
    Shinyanga

12. **District Executive Director**
    P.O. Box 113
    Shinyanga

13. **District Project Management Team**
    Att. Mr. I.M. Lyimo
    P.O. Box 113
    Shinyanga

14. **District Executive Director**
    P.O. Box 109
    Bariadi

15. **District Project Management Team**
    Att. Mr. L.J. Bippa
    P.O. Box 109
    Bariadi

16. **District Executive Director**
    P.O. Box 170
    Maswa

17. **District Programme Management Team**
    Att. Mr. Mukila
    P.O. Box 170
    Maswa

18. **District Executive Director**
    P.O. Box 44
    Mwanhuzi

19. **District Programme Management Team**
    Att. Mr. Bilakwata
    P.O. Box 44
    Mwanhuzi

20. **District Executive Director**
    P.O. Box 50
    Kahama

21. **District Programme Management Team**
    Att. Mr. J.K.N. Mulazi
    P.O. Box 50
    Kahama

22. **Town Director**
    P.O. Box 28
    Shinyanga

23. **Town Project Management Team**
Att. Mr. R.P. Seda
P.O. Box 28
Shinyanga

24. **DHV Consultants BV - Morogoro**
P.O. Box 261
Morogoro

25. **DHV Consultants BV**
Sector W&E
Postbus 1399
3800 BJ Amersfoort
THE NETHERLANDS

26. **PANAFCON Ltd.**
P.O. Box 53147
Nairobi
KENYA

27. **Coordinator DRDP Kahama**
P.O. Box 50
Kahama

28. **Coordinator DRDP Maswa**
P.O. Box 286
Maswa

29. **Coordinator DRDP Meatu**
P.O. Box 125
Mwanhuzi

30. **JCGP**
P.O. Box 320
Shinyanga

31. **OXFAM**
P.O. Box 563
Shinyanga

32. **WVT Kahama**
c/o WVT Shinyanga
P.O. Box 78
Shinyanga

33. **HASHI**
P.O. Box 797
Shinyanga

34. **Diocese of Shinyanga**
P.O. Box 47
Shinyanga

35. **Deputy Director HESAWA**
Att. Mr. Mtui
P.O. Box 604
Mwanza

36. **Water Resources Institute**
MajiDoc Project
Att. Mr. B.P. Michael
P.O. Box 35059
Dar es Salaam

37. **PROWWESS**
Att. Mrs. R. Budimu
P.O. Box 2000
Dar es Salaam

38. **WVT Shinyanga**
Att. Mr. Kassano
P.O. Box 78
Shinyanga

– RWSG - Nairobi
WB/UNDP

– Unicef.

List of publications

Annex VIII

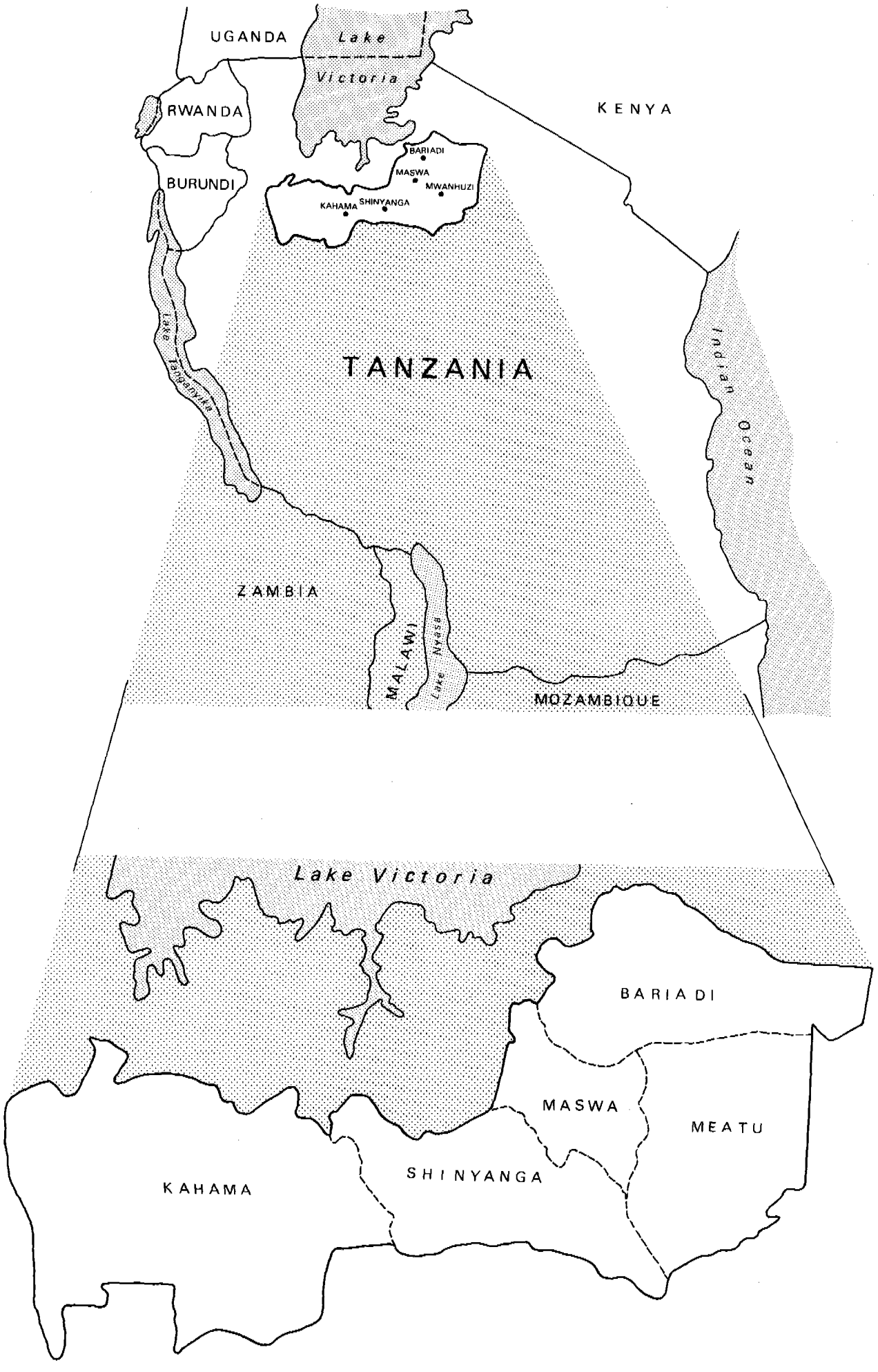
List of publications

SHY/93/01	Terms of Reference TOT for DPMT	September 1993
SHY/93/02	Workshop manual ToT DPMT	October 1993
SHY/93/03	Compiled report on workshop proceedings 25 oct-17 nov 1993	November 1993
SHY/93/04	SRU field practical report 28 oct-7 nov 1993	November 1993
SHY/93/05	Bariadi field practical report 28 oct-7 nov 1993	November 1993
SHY/93/06	Maswa field practical report 28 oct-7 nov 1993	November 1993
SHY/93/07	Meatu field practical report 28 oct-7 nov 1993	November 1993
SHY/93/08	Kahama field practical report 28 oct-7 nov 1993	November 1993
SHY/93/09	Town field practical report 28 oct-7 nov 1993	November 1993
SHY/93/10	Mwongozo kwa waraghbishi mkoa wa Shinyanga *(Handbook for animators)*	November 1993
SHY/93/11	Evaluation report ToT for DPMT 25 oct- 17 nov 1993	December 1993
SHY/93/12	Manual for seminar on finance and administration	December 1993
SHY/93/13	Case studies prepared for seminar on finance and administration	December 1993

SHY/94/01	ToR Follow-up financial management and adminstration for VWSC	March 1994
SHY/94/02	Facilitator Guide For The Training of Animators	April 1994
SHY/94/03	ToR for Training of trainers in financial administration and management at village level	April 1994
SHY/94/04	Report on follow up of financial administration and management training executed in 10 pilot villages in Shinyanga Region	May 1994
SHY/94/05	Mafunzo ya utawala wa mabo ya fedha kwa ajili ya uendeshaji na uimarishaji (A) *(Financial administration and management (A))*	May 1994
SHY/94/06	Mafunzo ya utawala wa mabo ya fedha kwa ajili ya uendeshaji na uimarishaji (B) *(Financial administration and management (B))*	May 1994
SHY/94/07	Jarida la kufundishia Taratibu za usimamizi na utawala wa fedha katika serikali za vijiji na vikundi binafsi jarida la I *(Trainers' handbook for financial administration and management at village level (I))*	May 1994

SHY/94/08	Jarida la kufundishia Taratibu za usimamizi na utawala wa fedha katika serikali za vijiji na vikundi binafsi jarida la II *(Trainers' handbook for financial administration and management at village level (II))*	May 1994
SHY/94/09	Evaluation report Training of trainers in financial administration and management at village level	June 1994
SHY/94/10	Upimaji na uchunguzi wa maji ardhini kwa ajili ya ujenzi wa visima vifupi *(Technical manual for shallow well surveyors)*	June 1994
SHY/94/11	Technical manual for Water Field Assistants	June 1994
SHY/94/12	Jarida la mafunzo ya afya Kwa maafisa afya wasaidizi vijijini	September 1994
SHY/94/13	Terms of Reference Management course	September 1994
SHY/94/14	Management workshop for programme managers from DWSP Shinyanga Region 24th-28th October 1994	October 91994
SHY/94/15	Concise manual "Setting up small library/documentation centre"	November 1994
SHY/94/16	Management workshop for District Executive Directors DWSP, Shinyanga Region	November 1994
SHY/94/17	Manual preparation reporting and monitoring workshop	November 1994
SHY/94/18	Terms of Reference: Development plan involvement private sector in domestic water supply sector	November 1994
SHY/94/19	Monitoring workshop Development of MIS and Monitoring System 5-8 December 1994	November 1994
SHY/95/01	Workshop report on improvement of district project organization and management	April 1995
SHY/95/02	Progress Report July - December 1994	June 1995
SHY/95/03	School Hygiene and Sanitation Package	September 1995
SHY/95/04	Step-by-step approach (draft revised version)	September 1995
SHY/95/05	Formation and organization of Water User Groups	October 1995
SHY/95/06	Progress Report January - June 1995	November 1995
SHY\95\07	Progress Report July - September 1995	December 1995

SHY\96\01	Progress Report October - December 1995	February 1996
SHY\96\02	Utunzaji na usimamizi wa fedha katika vikundi vya watumiaji maji	February 1996
SHY\96\03	Financial administration for Water User Groups	February 1996
SHY\96\04	Training programmes 1996	February 1996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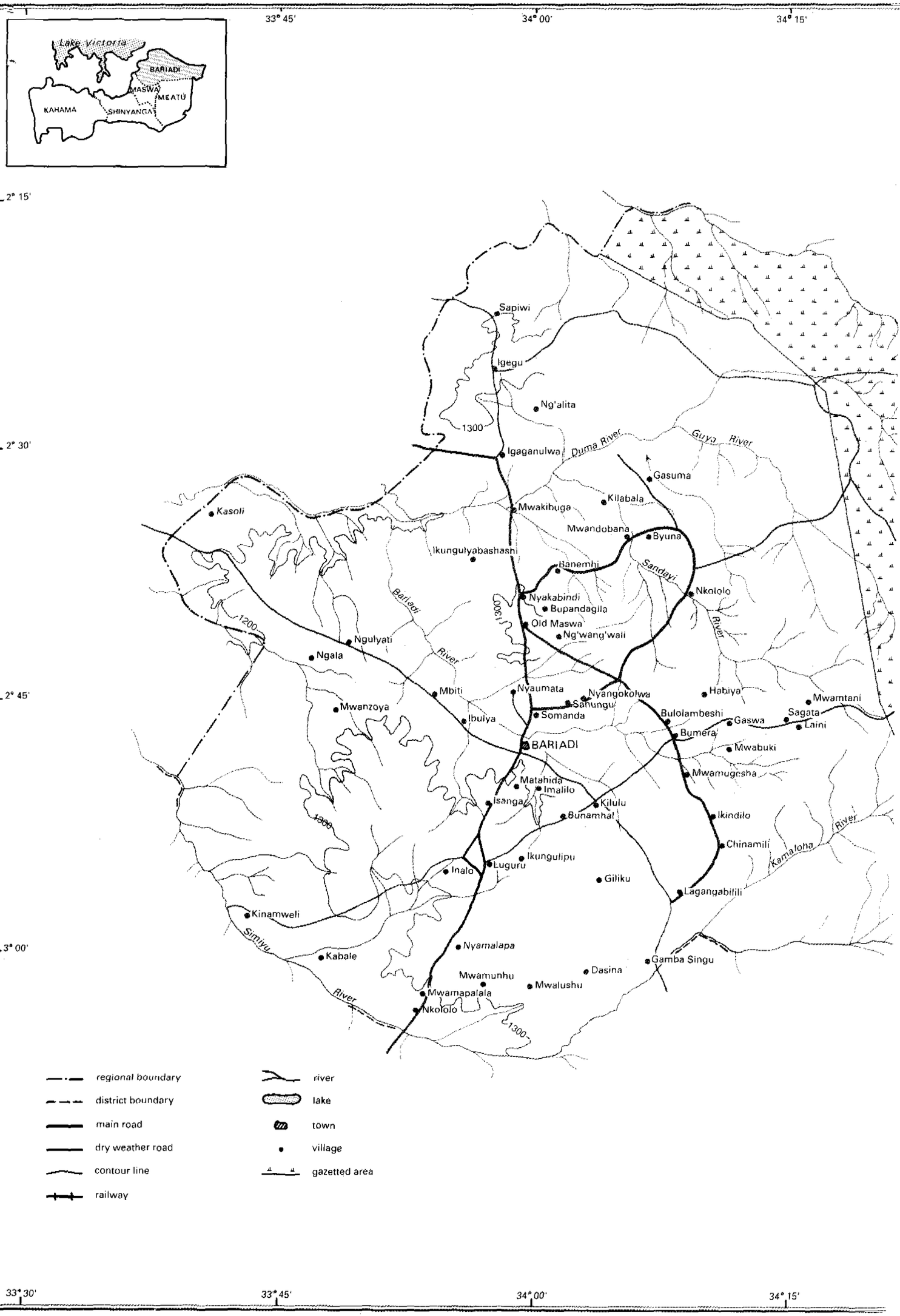
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Byuna
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Isanga
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Lagangabilili
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town
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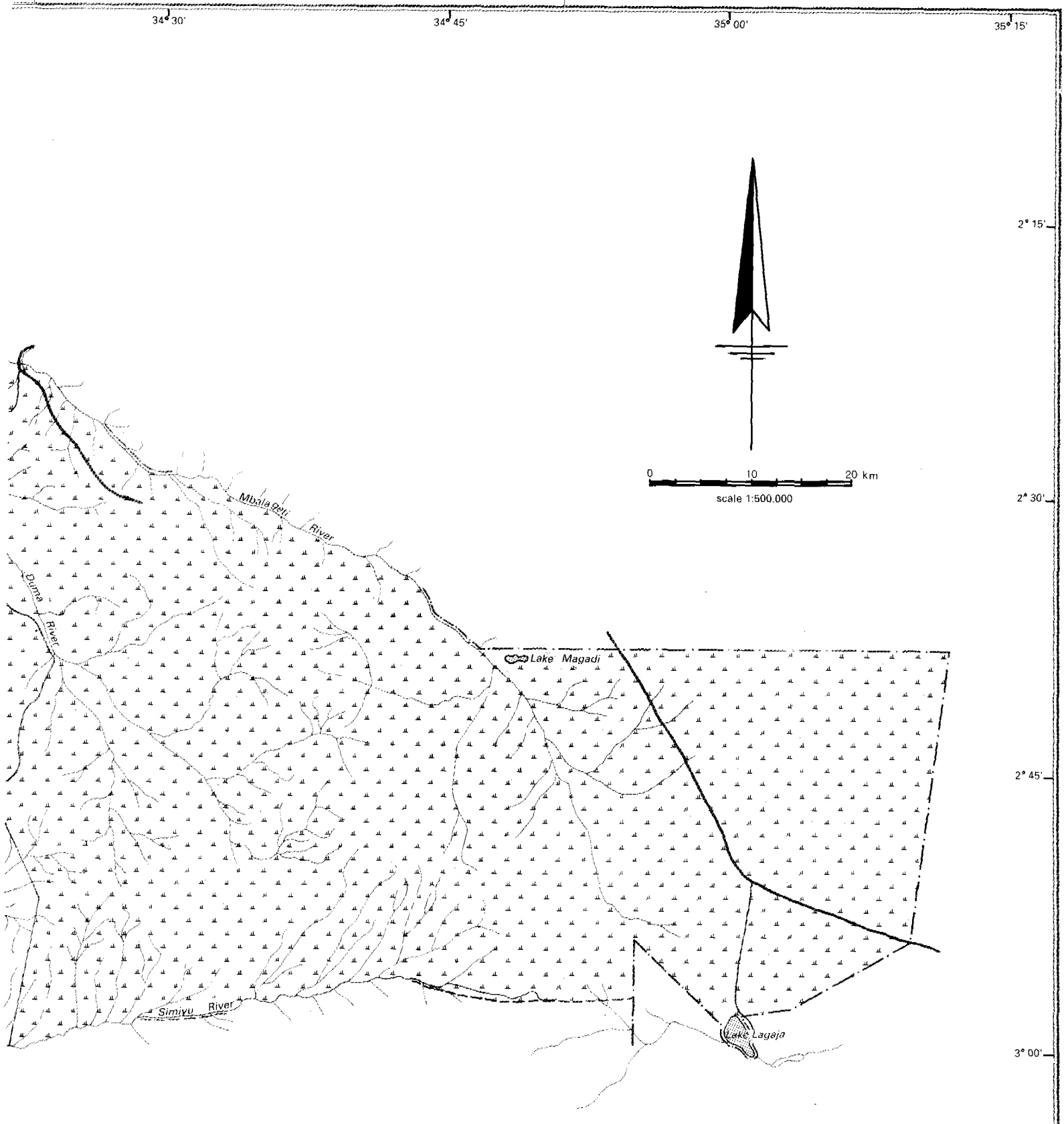
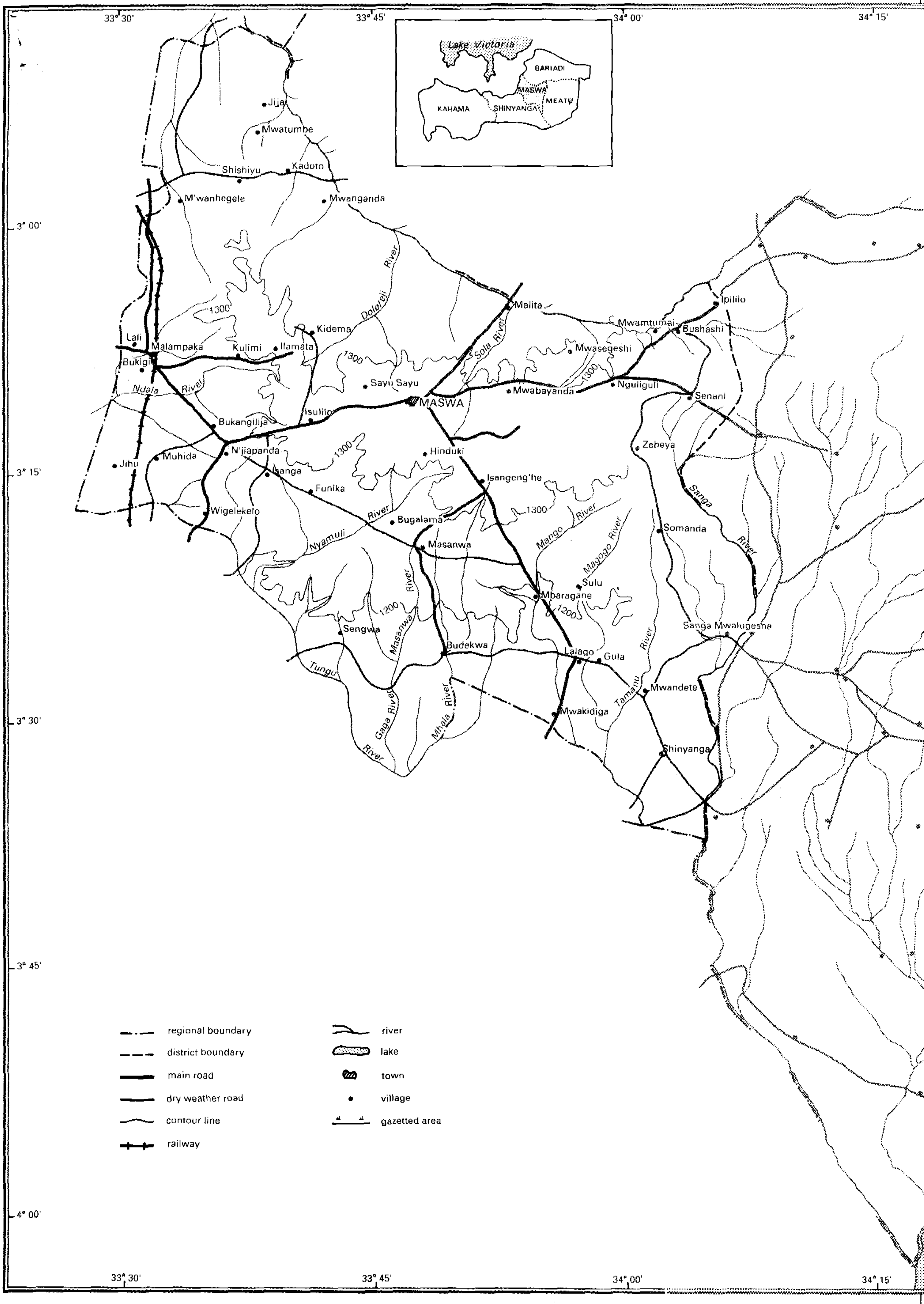


RURAL WATER AND SANITATION PROGRAMME
SHINYANGA AND MOROGORO REGIONS

BARIADA DISTRICT

DHV CONSULTANTS BV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Kidema
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Kulimi
Ilamata
Bukigi
Mwasegeshi
Sayu Sayu
Mwabayanda
Nguliguli
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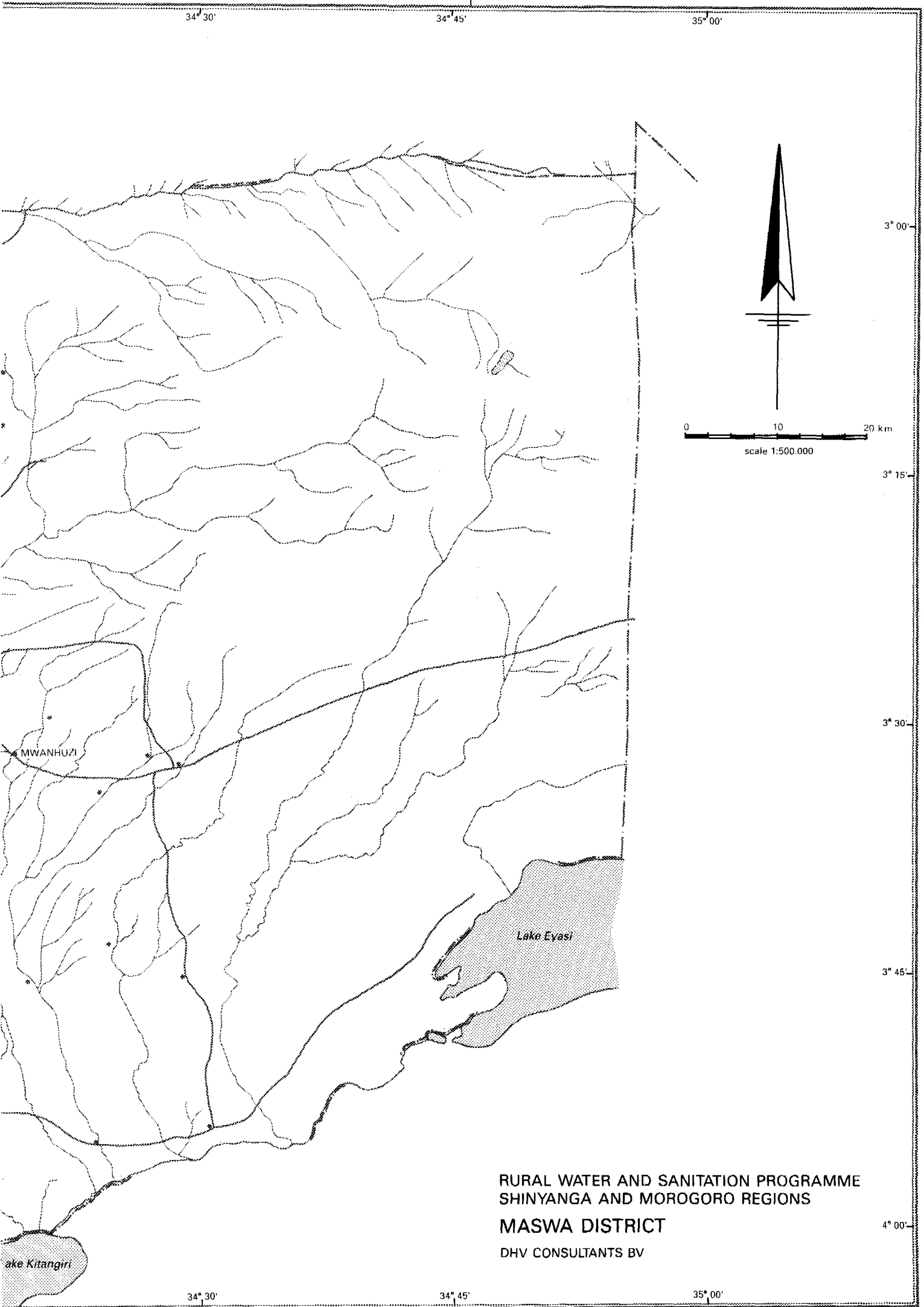
Isangeng'he
Funika
Sanga River
Wigelekelo
Bugalama
Nyamuli River
Mango River
Somanda
Masanwa
Magogo River
Sulu
Mbaragane
1200
Masanwa River
Sengwa
Sanga Mwalugesha
Budekwa
Lalago
Gula
Tungu
Tamanu River
Mwandete
Gaga River
Mhala River
Mwakidiga
Shinyanga
regional boundary
district boundary
main road
dry weather road
contour line
railway
river
lake
town
village
gazetted area



RURAL WATER AND SANITATION PROGRAMME
SHINYANGA AND MOROGORO REGIONS

MASWA DISTRICT

DHV CONSULTANTS BV