

**SOURCE PROTECTION ACTIVITIES.****IN IRINGA REGION.****INFORMATION PAPER TO THE REVIEW MISSION OF THE MAJI/DANIDA WATER PROJECT.**

SEPTENBER 1992.

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**1.0 INTRODUCTION:**

Source Protection is an Activity in the Plan of Operation of the Phase III of the MAJI/DANIDA Rural Water Supply programme. In Iringa like Mbeya Region the activity started before the phase actually Commenced in 1989.

A study was carried for all the sources in the region which were handed over were then proposed to be implemented between 1990 and 1994. In this study the existing types of vegetation, land use practises, sizes of catchments and type of water sources were identified.

A team of experts comprising of Forester, hydrologist and land planners took part in the preliminary study. From the study some recommendations were put forward regarding a number of measures to be takecup to ensure that the sources were protected for quantities and qualities of the water resources in the studied catchments. Types of species of trees to be planted, sizes to be planted, other measures regarding land use practices were among the proposals. Catchment area maps were produced .

A second thorough study was done in 1990 on the sources which were been tapped or were confirmed to be tapped during phase III. Tentative budgets were made and programmes were proposed after this.

**2. ACTIVITIES INVOLVED:**

2.1 Protection of existing vegetation in the catchment areas by making sure that District Councils had enacted by - laws to this effect were made and by enforcing the existing laws. In some areas fire breaks were constructed.

**2.2 Nursery Work:**

Seedlings are raised in the villages where the catchments are. Four nuseries have been establisheds. It was proposed to have one nursery for Iringa District at the Regional Foresters Gardens in Iringa town. More nurseries are planned for the on going project in other Districts.

2.3 Tree Transplanting in demarcated areas.

2.4 Tending planted trees.

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- 2.5 Water resources management aspects - (the Water Law) issuing of the Provisional and final water rights to DED's on behalf villages for all water uses in the catchments.
- 2.6 Identification of land use practiser in the catchment areas and in the neighbourhood. Giving suggestions on land use patterns for cases in some instances people have been resettled from inside catchment areas to residential areas down stream.
- 2.7 Demarcation of areas to be protected.
- 2.8 Education regarding sources' protection.
- 2.9 Monitoring of other water uses in the catchment areas.
- 3.0 Actual STATUS OF THE PROTECTS - covered by source Protection Activities.

SOURCE NAME	SCHEME	MEASURES TAKEN	PRESENT STATUS
1. Mgera River	Iamani Group	(i) Catchment men prepared	. Scheme partly handed over
		(ii) District Authorities mobilised	. People have resettled with catchment area.
		(iii) People in the catchment area initially removed	. Water quality still poor
		(iv) Water right provided.	
2. Kigasi Spring	Iamani Group	(i) Area demarcated & mapped.	. Catchment widely vegetated with
		(ii) Water right provided	Natural water weed
		(iii) Cultivation in sub-catchment restricted	
		(iv) Species to be planted identified.	
3. Kiponzelo stream	Kiponzelo	(i) Catchment map made.	Scheme handed over
		(ii) Species to be grown identified	
		(iii) Water right provided.	
4. Tanangozi spring	Tanangozi /Kalenga	(i) Area demarcated and mapped.	The planted trees are surveying.
		(ii) Part of catchment planted with Grevillea robusta by District and villagers during MAJI WEEK.	Scheme is handed over
		(iii) Cultivation restricted.	

SOURCE NAME	SCHEME	MEASURES TAKEN	PRESENT STATUS
5. Ididiga stream	Tanangozi /Kalenga	(i) Catchment area mapped.	. People have vastly resettled into the catchment.
		(ii) Water Right provided	. Stream polluted. . Catchment area. . Cattle grazing increasing.
6. Kinata stream	Image /Ibumu	(i) Catchment mapped	. Scheme handed over
		(ii) People informed	. Grazing minimised
		(iii) Fire breakers by Forest department	. Upper part - forest
7. Maṭari stream	Image /Ibumu	(i) Catchment mapped	. Trees surviving
		(ii) People informed Forest breakers-	. Cutting of trees in the forest reserve
		(iii) Tree planting by villagers - from their own efforts	restricted. . Area is in HIMA
		(iv) Water right provided for the two.	
8. Nzihi stream	Magubike	(i) Catchment mapped	. Area more vegetable now
		(ii) People made among though meetings	with natural vegetation . Scheme handed over
		(iii) People moved out of the upper part of the source.	
		(iv) Cultivation close intake stopped.	
		(v) Water right provided.	
9. Kloba river	Nyamahana	(i) People were moved from intake and cultivation stopped.	. Tree cover in the catchment now over 75%. . No grazing in the
		(ii) Provisional to villagers on	. Scheme to complete in 1992.

SOURCE NAME	SCHEME	MEASURES TAKEN	PRESENT STATUS
		(iii) Education to villagers on Fire protection	
		(iv) Intake area fencing	
10. Mapngoro stream	Tungamalenga	(i) Education on Fire protection to villagers	Catchment area almost wholly covered with covered with woodland - Acacia combretum
		(ii) Provisional water right	Crown tree cover is about 75% of total area
		(iii) Nurseries for enrichment planting Established in the region - also for Nyamahana.	Scheme under construction.
11. Nzivi springs	Mbalamaziwa	(i) Areas demarcated and mapped	Natural vegetation preserved.
		(ii) Nursery established at Nzivi village	The planted species are surviving.
		(iii) Species planted Pinus patula, Grevillea robusta.	Not all the area is planted with trees. Scheme Handed over.
		(iv) Provisional Water Right.	
12. Muhokolo	Boimanda	(i) Area Demarcated and mapped	The planted trees are serving
		(ii) Nursery established at the grass.	Planted is on going. Group cover with Gravity in the
		(iii) Planted Acacia Mearusi Pinus patula, Grevillea robusta Lencsena Lencoccephalus.	catchment still continues.
13. Mpando River	Imalinyi	(i) Area Demarcated and mapped	
		(ii) Nursery has been established	
		(iii) Provisional water right provided.	

SOURCE NAME	SCHEME	MEASURES TAKEN	PRESENT STATUS
		(iv) Trees planted are Pinus patula Hakea saligna, Grevillea robusta Lencaina - Lenco- phalus.	. The trees are surviving, to some extent . Grass cover in the unplanted ground extensive.
		(v) Part of catchment planted Pinus patula by individuals	. Upper part of catchment is Agricu- ltural land. . Scheme planned
14. Ibonde stream	Kifanya	(i) Mapped the catchment. (ii) People are planting own trees.	Scheme planned
15. Fukulwa stream	Mlowa Group	(i) Catchment are mapped.	Scheme planned
16. Ipugu stream	Itundu Group	(i) Nursery established (ii) Tree planting with Pinus patula,  Grevillea robusta and Lencaina Lenco- phalus.  (iii) Water right provided	. The trees are surviving . Scheme Handed over.
17. Jongojongo stream	Lupande	(i) Area visited and mapped.	Scheme under con- struction
18. Mikanjavula forsted	Lupande	(ii) Area mapped	. Source in a area. Scheme planned
19. Vombwi	Ludende	. Area visited and mapped.	Scheme planned
20. Mbilliwilli	Lugarawa	. Area visited, not mapped	Scheme planned
21. Mdandu	Madilu	. Area visited & mapped	Scheme planned
22. Ikata stream	Bulongwa Complex	. Area demarcated and mapped  . Direct sowing of Acacia mearnsii seeds . Intake is fenced . Local and District authorities feced on the problem of grazing in the catchment area.	Scheme partly handed over.  Nursery planned Heary grazing area

SOURCE NAME	SCHEME	MEASURES TAKEN	PRESENT STATUS
23. Ikenja	Usagatikwa	. Area visited . People made aware . People have started . planting Pinus patula.	Scheme planned
24.	Matenga	. Area visited and mapped	Scheme planned
25. Kimani	Mbuyuni	. Mbeya team has met our team on cooperation on source protection measures.	Scheme under construction.

#### 4.0 Mode of Execution:

All Nursery Work until recently have been executed by employing paid labour and utilising the service of foresters in the divisions where one is available.

Tree planting has been carried by villagers on participatory basis. Villager also do the fending of trees. Transport and allowances has been provided by the project. The Regional Forester supervision the work.

#### 5.0 CONSTRAINTS:

- 5.1 The use of unpaid labour on Nursery Work has rendered the activity quite difficult to handle.
- 5.2 Day to Day supervision of nurseries and expert advise on the day of planting has been difficult because of lack of - extension workers in the villages we have put up nurseries.
- 5.3 Reluctance of people moving away from protected areas or minimising human activities in the catchment area is a problem yet to be solved.
- 5.4 Sometimes resources are not available at the time when required.
- 5.5 Sometimes intervention of human activities especially agriculture begin as soon as we put up intake works in the catchment areas This is the problem with the Lupande scheme source (The Jongajonga stream).

#### 6.0 CONCLUSIONS:

There is evidently quite alot to be done as far as tree planting and sources protection is concerned. The participation approach for Nursery Work has to some extent been a stumbling block to the speed of implementation and quality of the execution. The general assessment however made in June 1992 by the Regional Forester has indicated a survival rate of at an average of 60% of all the trees plannted. The death rates are attributed to droughts, carelessness on the part of villagers during transplanting, poor workmanship and/or lack or little expert supervision during day to day nursery work and during transplanting.

#### 7.0 RECOMMENDATIONS:

- 7.1 Some extent of paid labour should be allowed for Nursery work. and people should be mobilised for this activity as early as



possible to ensure active involvement throughout the period.

- 7.2 District councils which have not worked out by - laws on the source protection should be advised to do so.
- 7.3 Efforts to utilize the catchment foresters (officers) under the HIMA Projects should be enhanced. (In Iringa, Njombe and Makete Districts)
- 7.4 Positioning approached employed by HIMA should be applied by this project.
- 7.5 In an area like the Jongojongo stream where people have encroached into the catchment, the village and the District authorities should be asked to intervene.