

TIGRAI RURAL DEVELOPMENT STUDY

PROGRESS REPORT No. 10

SEPTEMBER 1975

HUNTING TECHNICAL SERVICES LIMITED

in association with

SIR M. MACDONALD AND PARTNERS

TIGRAI RURAL DEVELOPMENT STUDY

PROGRESS REPORT NO. 10

SEPTEMBER 1975

1. Introduction

During the month the fuel situation improved with supplies available through the Relief and Rehabilitation Commission. Field trips were made to Chercher, Hauzien, Quiha and Wikro areas.

The month was mainly taken up with consultants visits (Dr D Gibbon from 8th to 17th and Mr L H Brown from 12th to 26th), the monitoring mission from EADD (25th to 29th) and preparation of papers for these visits. Mr V C Robertson, Managing Director of Hunting Technical Services visited the Study Team from 19th to 29th.

During discussions with the EADD mission general approval to the Phase II work was given and emphasis was laid on a Development Programme with Rural Development Units as implementation units within the Programme. Illala and Agula Projects were to seen in an integrated rural development context.

No drilling occurred during the month, although a compressor on loan from LMB arrived in Makalle. The programme will not restart until end of November when all equipment should be on site.

Rainfall continued during the month - 74.2 mm compared to the 17 year mean of 49.1 mm. The total rainfall so far this year is 799.9 mm compared to the 17 year mean of 600 mm to the end of September.

During the month a further two families left to UK and the cartographer proceeded on local leave. The project manager arrived back from local leave on 12th September. Several trips were made to Addis Abeba in connection with equipment and supplies, especially drilling equipment and hydrological records. The rural sociologist and rural institutions specialist visited Addis for discussions with relevant ministries.

2. Staff

The Phase II staffing position at 30th September 1975 was as follows:

<u>Name</u>	<u>Post</u>	<u>Date Arrived</u>	<u>Date Left</u>
M.J. Morgan	Engineer/Hydrologist	4.5.74	-
A. Rendell	Hydrogeologist	8.5.74	-
T. Davies	Agriculturalist	17.1.75	6.6.75
R.T. Wilson	Livestock specialist	5.6.74	-
R. I'Ons	Project Manager	24.1.75	-
M.W. Felton	Agric.Economist	9.1.75	-
K.J. Virgo	Land Classifier	28.1.75	25.7.75
D.A. Brown	Ass.Engineer/Hydroc.	3.1.75	-
G. Edgeley	Socio.Economist	9.1.75	4.8.75
N. Schofield	Cartographer	3.5.75	-
R.N. Munro	Soil Surveyor	7.2.75	-
P. De Villez	Mechanic/driller	23.1.75	-
J.L.Cowtan	Administrator	23.2.75	18.5.75
		5.6.75	-
D. Needham	Agric. Planner	1.3.75	-
R. Jarrold	Forestry Specialist	6.4.75	2.7.75
P. Oakley	Rural Sociologist	9.5.75	-
N. Walsh	Conservationist	15.5.75	-
H. Timmins	Driller	21.5.75	10.9.75
J.B.M. Vogt	Agronomist	8.6.75	
H.Arundale	Rural Institutions Specialist	8.7.75	-
J. Lewis	Range/Livestock	9.7.75	-
D. Gibbon	Agricultural Mechanisation	7.9.75	18.9.75
L. Brown	Conservationist	10.9.75	29.9.75
<u>Supervision</u>			
H.Piper	Director-in-charge	27.2.75	6.3.75
		11.7.75	29.7.75
J.Flemming	Director-in-charge	26.1.75	4.2.75
		27.7.75	30.7.75
A.P.S. Forbes	Planning Specialist	26.4.75	14.5.75
C. Finney	Economist	4.7.75	25.7.75
V.C. Robertson	Director-in-charge	17.9.75	30.9.75
T.N. Evans	Hydrological Consultant	21.9.75	-

Locally employed monthly paid staff numbered 96 during this period.

Technical Assistants	18
Drivers	13
Clerks	2
Typists	2
Labourers and Watchmen	25
Guage readers	32
Assistant drillers	1
Mechanics	1
Others, cleaners etc.	<u>2</u>
	96

3. Accomodation & Equipment

An instruction has been issued to the effect that Aid Personnel may remain in the houses they occupy as long as their project lasts. This instruction will also apply to our rented office accomodation. Written confirmation of this instruction has not yet been received.

The replacement compressor borrowed from the Livestock and Meat Board has arrived in Makalle. A mechanical check on it was carried out by the Caterpillar agent when it passed through Addis Abeba on its way to Makalle.

The mudpump and the well testing equipment have arrived in Assab, and arrangements have been made to despatch them by truck directly from Assab to Makalle. The last consignment of drilling equipment is awaited before recommencing the drilling programme.

4. Transport

The supply of benzine in Makalle has improved during the month and supplies have been obtained both from the Relief and Rehabilitation Commission and from commercial sources. There is now have enough fuel for normal field work and for a concentrated ten days field work in Hauzien.

The vehicles are all fully servicable.

4. Hydrology and Engineering

5.1 Hdrometry

Flooding continued in the project area until the last week of September.

- (a) At Quiha satisfactory records of all floods were obtained
- (b) At May Dollo road bridge site satisfactory water level records were obtained for all floods
- (c) At Shiket (Abi Amdar) the autographic water level recorder is functioning, but access road conditions are very poor and only one supervisory visit could be made.

Suspended sediment measurements

At Bellet culvert a further 38 samples were obtained making a total of 176 samples taken at this site. All these samples have now been dried and weighed.

At May Dollo a further 27 samples were obtained. All 117 samples taken have now been dried and weighed.

5.2 Meteorological Station

All three stations are functioning.

Rainfall records were collected for non project stations.

5.3 Rural Water Supplies

Monitoring of study hafirs and dams continued.

5.4 Urban Water Supplies

Liason with NWRC planning group took place in Makalle.

5.5 Data Processing

May Dollo and Bellet flood runoff and sediment on calculations were started. Bellet culvert calibration report received from Sir M MacDonalds in Cambridge.

6. Hydrogeology

6.1 Illala Test Handdug Wells

Work continued during the month on lining and excavation of handdug test wells. More freely available petrol allowed a faster progress than during previous months.

Evaluation of the test data from Grah Kollal (Illala TW2) (see Progress Report No. 9) concluded that further ~~excavation~~ was required to be followed by testing at lower discharge. This work will be carried once the access ramp has been cleaned of slumped clay; the cleaning started on 29 September.

At May Allah (Illala TW3) no work ~~was~~ carried out. Regular observations of waterlevel (presently 3.3 metres below top of wall) will indicate whether present waterlevel is true static level or due to inflow of rainwater.

Excavation continued at Adi Bakal (Illala TW4). Static water level was 10.45 below groundlevel on 30th September and still rising. Total depth was 10.8m below groundlevel. Further ~~excavation~~ was halted on 29th and widening of the well to 4m below groundlevel to accept the masonry lining was commenced.

During the month the draft Illala Valley Handdug Wells Project proposal was produced. The proposal was discussed with the EADD mission who made comments concerning the possibility of ox drawn pumps, the advisability of keeping the irrigated area surrounding the well within one community (ie Chikashum or peasant association boundary) and the use of the project as a seed bulking scheme. General approval was given for the first three wells.

6.2 Exploratory Drilling Programme

No drilling ~~was~~ accomplished during the month.

The compressor on loan from LMB arrived in Makalle on 21 September. The mudpump and test pump were, by month's end, on their way from Assab to Addis Abeba.

Following discussions with EADD it was agreed that the drilling programme would recommence when all equipment ~~had~~ arrived in Makalle. This event would probably not occur until end of November.

6.3 Domestic Water Supplies

Monthly observation of waterlevels and salinity levels in Makalle wells continued. Surveys were made of rural water supplies in Quiha Woreda.

6.4 Ayn Alem Catchment Project

Field and office work continued on this project proposal. Geological mapping is now complete but further work is required on domestic water supplies.

7. Soils and Land Classification

7.1 Report Preparation

Revision of Annexe I (Soils and Land Classification) is being undertaken to comply with suggestions for alterations and additional sections made by A. Stobbs in July. The revision will mainly involve rearrangement of chapters, avoiding some repetition, keeping the text to the Annex and analytical data to the appendix plus a new section on crop-soil relations.

7.2 RDU Mapping

Senkata and Wikro land form mapping at 20,000 scale and transfer of this information to 50,000 photography has been completed. Field work in these two RDUs to check the mapping and to gain additional soil information along traverse lines has started. Compilation onto base maps will follow.

7.3 Phase I Mapping

Additional areas in the north, in Hauzien/Senkata RDU, and in southwest (Bora RDU) are being mapped to complete the 1:250,000 Landform/Soils, and Land Suitability Maps. Photography of the southern area was examined in Addis Abeba during August. Field checking in the southern area is planned to confirm this API.

7.4 Soil Moisture Monitoring Programme

During the rains data was collected at weekly intervals from the eight main sites. Data collection will continue at the same intervals during the dry season until moisture levels fall to their pre-rains level.

At the suggestion of A Wilson of EADD, several new sites have been started in the newly terraced areas near Quiha. The different crops are being monitored on the land adjacent to the main plots. A series of

transects on representative soils down to the Giba River are also being monitored. This work should give a wider range of soil moisture conditions at the end of the rains.

8. Agricultural and Soil Conservation

8.1 Agricultural Planning

The month has been spent in preparing an overall strategy for the Study Area. The Central Tigray Plateau has been defined as being suitable for immediate development planning and twelve Rural Development Units delineated. Two further units, Shiket and Mahoni, complete the Study Area and will require separate planning when the future of the North East Rangelands Development Project, which presently includes these areas, is known.

A close look has been given to the staff problems in the area and a proposal to conduct a widespread programme, based mainly upon simple agronomic and conservation techniques, prepared. This programme will be based upon the twelve RDUS which themselves will undergo a phased programme of intensive staffing.

8.2 Agronomy

Crop survey work in Makalle and Quiha areas continued. Information on crop storage and weeding was also obtained from the Mahoni area.

The pasture plots in the Quiha area do not show any visual treatment differences, the fertilisers seem to have had very little effect, the pasture legumes have germinated but show very little growth due to the overcast weather and shading. ~~out~~ by the annual grasses and sedges. It is hoped they will start performing better once the annuals die out.

The forage crops near Feleg Daro have finally started moving and show some growth since the end of the rains. The Lablab niger and the vetch look more promising than the pigeon peas. The vetch has started flowering, and so has the mustard. This last one was sown too thickly resulting in spindly plants with hardly any leaves. The main difference between the two

sites is the stronger weed competition on the limestone site with many plants choked out and much poorer stands than on the dolerite.

8.3 Soil and Water Conservation

No work has been done on the Quiha Catchment during the month except some investigation of weeding details and gathering of information on sub-catchment within the area. All visiting consultants were shown over the work during their visit and discussions on the implications were held. The Project was presented to the Agricultural sub-committee of the Regional Development Committee on 30th September and approved in principle. Work on the conservation annex has continued.

9. Livestock/Range Studies

Work continued on the assessment of primary production on range and grazing lands. Most of the field work for this programme will be completed by mid-October.

A project for a range management scheme was prepared during the month and discussed with Mr L.H.Brown, and with representatives of EADD. A preliminary discussion paper on a marketing project for livestock products was also written and discussed.

The vegetation study was completed and written to final draft stage: the full study will appear as part of Annex 1 of the Main Report.

10. Agricultural Economics

10.1 Economics Annex

The first draft to the annex chapters (1) The Rural Economy and (2) The Farm Economy were completed. Some suggestions were given by L H Brown (Consultant) and J Morris (EADD) and modifications will be made.

10.2 Economic Analysis

Following discussions during EADD monitoring visit, it was decided that conventional DEF techniques were only appropriate for use in analysis of discrete projects where the data base was sufficiently reliable.

The RDU plan would be analysed from a cost effective point of view, to determine what incremental output in production was required to give an IER of 0, 5 and 10 per cent. The first 5 years of probable development would not be analysed in whole, though it would be costed. Finally, the indicative long term programme would not be economically analysed or costed.

10.3 Future Programme

Field trips will be made to Abi Adi and Hauzien to supplement existing data to enable completion of the Hauzien RDU report. Information is required particularly on non-farm income sources and crop output per family.

11. Rural Sociology

Apart from a field trip to the western part of the Study Area, this month has seen the completion of field work within the rural sociology discipline. The remaining field trip will be undertaken in the early part of October.

Field work during September has been principally orientated towards the following two points:

- (a) Checking the principle findings of the rural community survey by random sample questioning on particular issues, such as internal community structure, decision making processes etc
- (b) Sample questionnaire and discussions on current and possible future sources of modernisation influences ie. Zemetcha programme, model farmer and Peasant Association leadership structure.

During September a visit was made to Addis Abeba, principally to discuss with Ministry of National Community Development proposals, which the rural sociology report will make, concerning the future involvement and deployment of community development works in a Tigrai Development Programme. It is expected that the month of October will be largely devoted to the writing up of the necessary reports.

12. Organisation and Institutions

The first draft of the Chapter for Annex IX on the suggested organisation for a regional planning and development unit was completed during the month, and preliminary discussions on it were held in Addis Abeba. Due to the irregularity of the air service, it was necessary to drive to Addis by road, which limited the amount of time available for an exchange of views with officials in the central offices of the ministries. The organisation proposed presupposes that it is the intention of government to develop planning and development functions to the regions, and this seemed to be borne by the general tenor of the comments, cautious though they were, of the officials with whom it was possible to arrange meetings.

Considerable progress was made toward reconciling the subject matter and the emphasis of the organisation and institutions chapters with the write up on planning at field level, in particular with the whole question of training, extension and the emphasis to be placed on conservation works in relation to the overall integrated development approach. Discussions with the various visitors and with the EADD team appeared to confirm that the joint approach adopted for regional level and for field level planning was correct.

The remainder of Annex IX will be concerned with institutions and their function in the overall organisation for regional development. This will be a separate chapter in the Annex and will concern itself with the problems of how institutions such as cooperatives, the Zematch, Peasant Associations, marketing etc can be slotted into the overall regional development organisation, leaving the consideration of their relationship with the rural communities to the Annex on Social Organisation.

13. Cartography and Report Illustration

Draft reports on Illala Handdug Wells Project, Giba Range Management Project and Livestock and Livestock Products Marketing Project were produced. Preparation of RDU maps and report diagrams continued satisfactorily during the month.

14. Future Programme

Assuming that the fuel supplies continue as at present then an intensive data collection and discussion session will be held in Hauzien RDU during October.

Other aspects of the future programme will include:

- (a) Preparation of an 'Indicative' Development Plan for the Study Area.
- (b) Preparation of a Development Programme and planning for RDU implementation units
- (c) Continuation of the Illala Handdug Wells and Quiha Catchment Demonstration Projects
- (d) Continuation of studies relating to livestock and institutions
- (e) Continuation of soil moisture monitoring programme
- (f) Hydrometeorological data processing
- (g) Preparation and completion of draft technical annexes.

AR/AM

2/10/75