SPFS IN ETHIOPIA–IRRIGATION COMPONENT–PILOT PHASE (GCSP/ETH/057/ITA)

Tripartite Evaluation Mission

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FINAL REPORT

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ACRONYMS

ABoA	Amhara Bureau of Agriculture
TBoANR	Tigray Bureau of Agriculture and Natural Resources
CA	Cover Agreement
CIDA	Canadian International Development Agency
COSAERAR	Commission for Sustainable Agriculture and Environmental Rehabilitation for Amhara Region
COSAERT	Commission for Sustainable Agriculture and Environmental Rehabilitation for Tigray Region
DA	Development Agent
EU	European Union
ESRDF	Ethiopia Social and Rehabilitation Development Fund
FAO	Food andAgriculture Organization of the United Nations
FAO/AGLW	FAO Division for Agriculture and Land and Water activities
FDRE	Federal Democratic Republic of Ethiopia
FFW	Food For Work
GoE	Government of Ethiopia
GoI	Government of Italy
IA	Irrigation Agronomist
IFAD	Internation Fund for Agricultural Development
LIFDC	Low-Income Food-Deficit Country
MoA	Ministry of Agriculture
MoWR	Ministry of Water Resources
NPC	National Project Coordinator
NTE	Not To Exceed
O&M	Operation and Maintenance
PA	Peasants‘ Association
Pro-Doc	Project Document
PSC	Project Steering Committee
RM	Revision Mission
SPFS	Special Programme for Food Security
SSC	South-South Cooperation
TEM	Tripartite Evaluation Mission
ToR	Terms of Reference
TRM	Tripartite Review Mission
UNDP	United Nations Development Programme
WFP	World Food Programme
WHIST	Water Harvesting & Institutional Strengthening Tigray Project

EXECUTIVE SUMMARY

1. This is the report of the Tripartite Evaluation Mission that visited Ethiopia from 1-17th February 2002 to review project progress and achievements and to make recommendations for the future. A summary of the Mission's conclusion and recommendations were discussed and provisionally endorsed by the Vice-Minister of Agriculture at a wrap-up meeting held in Addis Ababa on 15th February 2002.
2. The project was formulated in 1996, with the overall objective of improving household food security, within the framework of the Special Programme for Food Security (SPFS) of the Food and Agriculture Organization of the United Nations (FAO) and the National Food Self-Sufficiency Programme of the Government of Ethiopia (GoE). It was designed to raise output through expanding the area and productivity of irrigated lands in Amhara and Tigray Regions. The total cost of the project was US$ 2,027,197, of which US$ 1,866,110 was provided by a Trust Fund grant from the Government of Italy (GoI). The project was to have been implemented over a period of three years, by regional authorities under overall direction of the Ministry of Agriculture (MoA). The Head of the Extension Department of MoA was initially designated as the National Programme Coordinator (NPC) and a National Steering Committee was to have overseen project implementation.
3. Specific objectives and activities of the project were to rehabilitate, or expand, two irrigation schemes in Amhara and four schemes in Tigray, and to introduce, through a programme of demonstrations, improved irrigated crop production practices: use of better seeds, appropriate fertiliser application methods and rates, efficient use of on-farm water management, and improved crop husbandry. In total the project was to have improved output from some 600 ha farmed by over 2000 farmers. In addition the project aimed at capacity building/human resources development within the agencies responsible for irrigation system design, construction, the Commissions for Sustainable Agriculture and Environmental Rehabilitation (COSAERAR and COSAERT), and within the agencies responsible for agricultural extension, the Bureaux of Agriculture in Amhara & Tigray Regions (BoAs).
4. In addition the project provided funds for the local operational costs associated with the South-South Cooperation (SSC) programme. This programme was also seen as an SPFS activity in Ethiopia, supported under a contemporaneous Tripartite Agreement (SPFS/4501/ETH), through which Chinese experts were to assist the two regional Commissions design medium scale (>2.0 million cubic metres) storage dams, and to provide related experiential staff training.
5. The project has been beset with delays from the start. Differences of opinion between FAO and the GoE over details in the project formulation document delayed the signing of the project agreement for three years. Subsequently it did not become fully operational until early in 2000, some 18 months after the project document was signed. This delay resulted from difficulties in establishing fund release procedures, difficulties associated with fielding the Chinese experts, disruptions arising from decentralization of some of FAO's administrative functions and procedures, transfer of project implementation responsibility from the centre to the regions, and the

conflict between Ethiopia and Eritrea (1998–2000) which prevented operations being carried in Tigray. There were also major problems associated with the work programmes and Terms of Reference of the Chinese team in Amhara, which led to the withdrawal of the Chinese team from that Region.

6. Even allowing for these delays and difficulties however, the project achievements to date have been disappointing. In Amhara, two schemes have been rehabilitated, but only one is being fully used. In Tigray, only one scheme has been rehabilitated, with minor contribution from project funds. The main diversion weir was in fact constructed with funds from another source due to the delays in project fund release. The completion of these schemes will result in a modest increase in crop production, and may be considered to meet the project overall objectives. Moreover, only a limited number of demonstrations of improved irrigated technology have been undertaken by the BoAs, and there is no evidence either of farmers' adoption of such improved technologies, or of their leading to an increase in output. There has been some staff training through workshops and an overseas study tour. Some equipment was provided to the Commissions and some inputs (tools, seed and fertiliser) were supplied to BoAs. The SSC programme in Tigray has been suspended for all the elapsed project period so far. The Chinese team in Amhara has produced a pre-feasibility study for interventions in three sites in the Upper Mille River watershed. However this has yet to be adopted and approved by the responsible agencies (Bureau of Agriculture and COSAERAR). At the time of the Tripartite Evaluation Mission (TEM) visit in February 2002, less than half the project funds had been spent.

7. The Mission, in the light of the above, has seriously considered all possible alternatives, from closing the project at the present NTE date, 31 March 2002, to the continuation of activities with minor adjustments to accommodate the new Ethiopian institutional setting, to an extension of NTE date, within present budget limits, linked to the detailed formulation of a revised work-plan for the irrigation agronomy component. The latter being the recommended alternative.

8. The Mission recommends that the project be to allow for the completion of all outstanding engineering works, the implementation of the on-farm irrigation technology transfer component, adjusted to the new institutional devolution of responsibilities down to Woreda level and the completion of the present Chinese Team's work in Amhara. The extension of the project is linked to the detailed formulation of a revised work-plan by a Revision Mission (RM), which will focus activities on the on-farm irrigation technology component. Terms of reference for the RM are given in Annex 4.A Tripartite Review Meeting (TRM) in May-June 2003 will review results and budget at that point in time and will decide on actions to be taken. More particularly:

   a) The Mission considers that the limited amount of outstanding engineering works, and the training programme for Commission staff could be completed within a period of 15 months from the beginning of March 2002.
   b) The Mission considers that a period of four months from approval of the present report, should be allowed for the Revision Mission, and to recruit an international Irrigation Agronomist, followed by one year of demonstration programmes. This will provide enough time for the irrigation technology transfer/demonstration programme and the training of Bureaux of Agriculture staff, to be implemented. If

necessary, and subject to availability of funds, this component may be further extended upon the recommendation of the TRM in May-June 2003.

c) The Mission recommends that the project continues to support only the operational costs related to the conclusion of the study work carried out by the Chinese SSC team presently in Amhara until the end of July 2002.

9. The Mission recommends that no new irrigation sites are introduced in view of the difficulties experienced with scheme rehabilitation to date, and the shift of emphasis towards on-farm irrigation technology transfer.

10. The Mission considers that there is no need for any further backstopping mission from FAO/AGLW to approve the designs of the outstanding project engineering works in Tigray, but that a national consultant engineer be recruited for the task. The Mission has confirmed that such consultants, who have done similar work for IFAD in the recent past, are available.

11. The Mission considers that the unspent funds planned for Commissions' staff training in Tigray and Amhara should be divided between the two Regions and used for staff training and study tours over the next 18 months. It is further recommended that the details of the study tours and selection of short courses should be worked out by the respective Commissions in conjunction with the regional CIDA supported Technical Assistance teams. Also, the Mission recommends that all outstanding equipment and technical publications be provided to COSAERAR.

12. The Mission suggests that the work-plan Revision Mission re-allocates the remaining funds initially ear-marked for on-the-job training and study tours for BoA staff, mainly for in-service training of BoA Development Agents (DA), and Woreda staff in the two Regions.

13. The Mission considers that, in spite of the Project being under regional responsibility, the NPC still has a role to play in terms of overall coordination of project activities, reporting on project progress, feed-back, etc. Given the complexity of the issue and the in-coming devolution of responsibilities to Woredas, the Mission suggests that the RM attentively analyses and discusses in depth with all concerned stakeholders the possible professional profile, role and ToR for the NPC during the final phase of the project. It is important to ensure that the NPC will have sufficient resources to enable him/her to travel regularly to the Regions, and these resources will need to be clearly identified in the revised budget.

14. The main lessons learned from the project implementation experience are:

a) separate projects components with different objectives and implementation mechanisms, even within an overall programme framework such as the SPFS, should not be linked financially;

b) a project involving more than one implementation agency needs a dedicated management, whose mechanism should be clearly detailed in the project formulation document and for which adequate provisions should be made in the budget;

c) a project formulation document should detail the intended fund release procedures to be adopted during implementation;

d) SSC may play an important role in strengthening bilateral links and in the capacity building process of the host Country. However, adequate attention should be given to identify the fields of cooperation where maximum comparative advantage lies for both parties.

1 INTRODUCTION

15. The Project Document of GCSP/ETH/057/ITA[1], section 11.2, calls for an annual review and evaluation of progress. The first review and evaluation was not however undertaken until a Tripartite Review Mission (TRM) visited Ethiopia in April 2001[2]. This mission recommended *inter alia* an independent tripartite evaluation, to be fielded before the scheduled NTE date, in order to undertake an overall assessment of the project and to put forward proposals for a possible extension and budget revision. It was not possible to arrange the Tripartite Evaluation Mission (TEM) before the project closing date (December 2001), which was then extended under special provision until March 2002.
16. A TEM consisting of Mr Charles J.Bevan (Mission leader), Ms Tullia F.Aiazzi, and Mr Hussein Kebede representing FAO, the Government of Italy and the Government of Ethiopia respectively, visited Ethiopia from 1-17th February 2002. Following briefings from the FAO Representative in Ethiopia and senior staff from the Extension Department of the Ministry of Agriculture (MoA) the Mission spent nine days on field visits to the regional headquarters of the project implementing agencies, and visited almost all project sites in Amhara and Tigray Regions. The Mission presented a summary of its draft report to the Government of Ethiopia and the FAO Representation on 15th February 2002. The Mission Terms of Reference (ToR), detailed itinerary, and list of persons met are provided in Annexes 1 and 2.
17. The Mission would like to record its appreciation of the support received from the FAO Representation in Ethiopia, from the staff of the regional implementing agencies and the MoA in Addis Ababa, all of whom were generous with their time, provided much information, and discussed the issues surrounding the project frankly and constructively.

2 PROJECT BACKGROUND AND CONTEXT

18. In recognition of a widening gap between food supply and demand, Ethiopia was identified as one of the Low-Income Food Deficit Countries (LIFDC) eligible to participate in the FAO Special Programme for Food Security (SPFS). Accordingly an Exploratory Mission visited Ethiopia at the end of 1994, to ascertain the Government's commitment to the objectives and strategies of the SPFS. A first pilot-phase project was initiated in two regions (Tigray & Amhara) during the main cropping season in 1995 (May-November). Improved production practices for teff, wheat, sorghum and maize were demonstrated on some 600 half-hectare plots: yields everywhere were substantially higher than those achieved by average farmer practices. At the same time, a similar GoE programme was being implemented on a total area of 16,000 hectares all over the Country.
19. Encouraging results from both interventions, together with those stemming from the Italian supported and FAO executed National Fertilizer and Inputs Project (GCPF/ETH/039/ITA) led the GoE to launch a National Extension and Production

[1] Reference document: Ethiopia, Special Programme for Food Security (SPFS), Irrigation Component, The Pilot Phase, Plan of Operations, October 1997, with budget revised by Mr Chanduvi (FAO/AGLW) in June 1999.
[2] N.van Leeuwen (FAO), L. Raffi (GoI), Abebe WoldeAmanuel (NPC)

Packages Programme (1995-2000). This was based upon a two-pronged strategy: the demonstration of new technologies in high rainfall areas would be encouraged, whilst in drought prone areas small-scale irrigation coupled with the adoption of improved technologies would be promoted. Previous projects had indeed highlighted *inter alia* the potential to increase crop production by the use of improved technologies and a critical national shortage of expertise in irrigated agriculture, especially in small-scale irrigation, as well as the need for a programme of demonstrations of improved irrigation techniques.

20. In this frame, the GoE asked FAO assistance to re-orient the Pilot Phase of the SPFS in order to improve national skills and diffuse technology for the development of small-scale irrigation. The present project was therefore jointly formulated by the Department of Extension of the Ministry of Agriculture and FAO in September 1996. To further support the National Food Programme, an FAO Reconnaissance mission visited Ethiopia in October 1996, and recommended strengthening the irrigation component of the SPFS Pilot Phase with a number of Chinese experts, under a separate, but linked South-South Cooperation (SSC) initiative.
21. GCSP/ETH/057/ITA became effective in May 1998: a Cover Agreement (CA) was signed in order that funds could be released to finance operational costs incurred by the first Chinese experts under the South-South Cooperation Agreement to arrive in Ethiopia. The CA was signed on the clear understanding that a number of revisions would be made to the original project formulation document. These were made and the final ProDoc was signed in December 1998. During the first semester of 1999, an FAO/AGLW mission eventually brought some further modifications to the budget and identified sites for intervention (see Annex 3 for Project Chronology).
22. During the time elapsed between the first elaboration of ProDoc, its signature and initial implementation, important changes have taken place in Ethiopian political and institutional setting, and are still underway. The focus of decision-making processes on strategic and operational issues has been gradually transferred to governmental institutions at regional level and a major devolution of responsibilities down to Woreda (district) level is taking place at the time of writing the present TEM report. This will imply the dismantling of Zone level Bureaux and the assignment of staff to Woreda offices, so as to improve professional capacities at the nearest level as possible to end-users. The Regional level will maintain policy-making and overall coordination responsibilities. In this respect, another step toward better coordination and use of resources is the grouping of all institutions operating in the context of rural development under the umbrella of the Ministry of Rural Development and its Regional and Woreda level branches.

3 PROJECT OBJECTIVES AND DESIGN

3.1 Justification

23. In Ethiopia, even if drought-prone areas are mainly concentrated in the lowlands, erratic rainfall patterns and insufficient precipitation are common also at higher altitudes, and variations along the years in the same site can be extreme. Under these

environmental conditions small-scale irrigation is supposed to have the double objective of protecting farmers against the consequences of drought spells during the rainy season, as well as being a tool for increasing productivity and income through double cropping. Double cropping might also reduce the pressure on fragile and marginal lands, releasing them for agro-forestry and soil-and-water conservation works. According to the Ethiopian policy of national effort for self-development, the future beneficiaries of the schemes should contribute to construction works with their labour force, provided partly free and partly against payment in the form of Food for Work (FFW) schemes. Once the schemes are completed, a Water Users' Associations should be set-up, responsible for the ordinary Operation & Maintenance (O&M) activities.

24. The governmental institutions responsible for small-scale irrigation schemes are two: the Commissions for Sustainable Agriculture and Environmental Rehabilitation (COSAER), with structures at regional and zone levels for study, design and implementation of construction works of the schemes, and the Ministry of Agriculture, at federal, regional, zone, Woreda and Development Centres levels, in charge of agricultural extension and regulatory activity. Both organisations, as mentioned above, needed to improve their technical skills, in particular concerning irrigation agronomy.
25. According to the ProDoc, the rehabilitation of a few existing schemes and the possible construction of new ones in Tigray and Amhara Regions were to be instrumental and preparatory for the irrigation agronomy component. The schemes were to become demonstration sites for the improved irrigated agriculture practices introduced through external technical assistance, on-the-job training and on-farm demonstrations. Project implementation was to be entrusted to the national institutions, as part of their plan of activities, so as to incorporate into routine practice the new skills acquired through the project training and demonstration activities.
26. The Mission considers therefore that at the time of formulation, the Project had an important role to play: it aimed at providing direct support to food security at household and local level, if still on a limited but demonstrative scale, and at enhancing national capacities on an important aspect of agricultural production.

3.2 Project objectives

27. The overall objective of the SPFS/Irrigation Component-Pilot Phase in Ethiopia is "*to introduce improved irrigation techniques, which would be replicated on a wide scale as more small-scale irrigation schemes are developed, in order to increase both productivity and income on sustainable basis and to reduce production variability on account of changes of weather conditions*"[3]. Further, the ProDoc sets similar specific objectives for all pilot demonstrations identified at the time of project formulation, which can be summarised as follows: "*to ensure efficient, adequate and reliable supply of irrigation water and to enhance sustainable farm productivity and income of the small farmers working on the land; to avoid problems of water*

[3] ProDoc, page 5

logging, salinity and alkalinity". At the same time, a capacity building component had as an objective the improvement of the technical capacities of Commissions' and BoAs' staff.

28. The Mission considers that the stated objectives were coherent with the overall SPFS approach in the Country, they conformed to national policy on food production, and gave due emphasis to the role the project should play in contribution to food-security. However, as explained below, inconsistencies between objectives, activities and relevant budget provisions may have contributed to some of the implementation difficulties and have allowed the engineering aspects to predominate.

3.3 Project design

29. On the whole, the Mission considers that the project was not well formulated, and that the ProDoc provided little guidance for project implementation. As the agency largely responsible for producing the ProDoc, FAO must take most of the responsibility for this failure. In particular:
    a) No rationale was given for the sites selected for rehabilitation, or methodology for further identification.
    b) No indication was given of how funds would be used to support the irrigation demonstration programmes: type of on-farm demonstrations recommended, number of demonstrations to be undertaken, correlation between demonstration activities and quantity of inputs to be provided, etc.
    c) There were no indications on how funds would be utilised for all foreseen training activities, from Commissions' and BoAs' staff down to DAs and farmers, in terms of responsibilities, methodology, contents, etc.
    d) There were no references to national guidelines on Water User Associations, or suggestions for the improvement of the set-up mechanisms.
    e) There was minimal guidance on how a complex project involving four regional and one national agency would be implemented and managed.
30. Apparently, it was implied that most of the above would be worked out by the short-term (6 months over a three-year period) input of the internationally recruited Irrigation Agronomist (IA), with no contingency provision in the event that the consultant was not recruited (which actually was the case).
31. Other weaknesses were a number of small errors and discrepancies between the text, tables and annexes (e.g. the text 7.1.1.4 refers to the project providing on the job training and study tours for both BoAs and COSAERs, but in fact there was no budgetary provision for all the agencies), the failure to include Terms of Reference for all proposed consultants, and the absence of an overall project management structure and implementation mechanism. Undoubtedly, the difficulties and delays experienced by the Project were also partially rooted in the poorly conceived project design.
32. Insofar as the project strategy was concerned, the "Rationale for the Development of Small-Scale Irrigation" contained in the ProDoc raised a few important issues worth noting. In the first place, the need to integrate the small-scale irrigation schemes into overall farmers' practices and the need for shifting gradually the approach from irrigation to wider catchment development including soil & water conservation and

afforestation practices. In fact, this has turned out to be the main activity of SSC (see below), if only at a study/design level and at the same time rural development strategies in both Regions are moving in this direction.

33. Secondly, the ProDoc underlined the need for an accurate market analysis and constraint analysis to identify potential outlets and actual bottlenecks, which may determine and possibly limit the range of sustainable cropping-patterns available to farmers in Tigray and Amhara. Unfortunately, so far only the constraint analysis has been carried out, quite late in the project's life (November 2001) and it has been allocated limited resources, all the more so in consideration of the role it might play in the overall project success. The Mission considers therefore that the last two aspects should have been considered much more crucial "inputs" for project implementation since its formulation, and not be mentioned simply as background thinking and general considerations as it apparently was.

34. Lastly, the ProDoc made very minor reference to SSC and no provisions were made accordingly in the budget. Surprisingly it was subsequently agreed (Cover Agreement /MoU of May 1998[4]) that "The equipment required in support of the Chinese team and their local counterparts was to be funded from GSCP/ETH/057/ITA, which also funds the field activities of the pilot phase of the SPFS".

4 PROJECT IMPLEMENTATION

4.1 Implementation performance

35. It is widely acknowledged that there were considerable delays in signing the project agreement. The reasons are complex, but an attempt can be made at identifying at least two main causes of the initial delay.
    - Despite clear indications from the GoE of their dislike of the formal connections between GCSP/ETH/057/ITA and SSC, FAO insisted on linking the two SPFS components, which required at least 3 missions from FAO headquarters over a period of more than a year to reach a compromise agreement. The latter eventually stated that some 057 funds could be used for local operational costs of the SSC initiative and that SSC staff would collaborate to the implementation of the Italian funded project.
    - The ProDoc was signed a few months after the first skirmishes at the Ethio-Eritrean border had started. In fact, since then security reasons in Tigray prevented any project implementation in the Region until mid 2000.

36. Once the ProDoc was approved (December 1998) and soon afterwards again revised by an FAO/AGLW Mission in June 1999, there were no objective reasons for activities not to start, at least in Amhara Region. However, implementation did not actually start until January 2000, and ever since then the rate of progress has been

[4] In fact, even more surprisingly the referred Cover Agreement/MOU was entered between GCSP/ETH/057/ITA and the Ethio-Chinese-FAO South-South Cooperation, it was signed by the Ethiopian side and FAO, but it contains no mention whatsoever of the Italian Trust Fund, which finances 90% of the SPFS/Irrigation Component in Ethiopia.

very slow. Apparently, major issues hindering full-fledged implementation were as follows.

37. FAO/AGLW was supposed to provide technical backstopping to the regional Commissions for the approval of the design of the planned small-scale irrigation schemes. In this context, the change of staff member responsible for back-stopping led to different interpretations of the FAO regulations that call for all engineering designs to be formally approved by technical experts before funds can be released. The Mission is of the firm belief that FAO must, at all times, take all necessary steps to minimise the risk of damage to people, property or the environment from the construction of irrigation facilities. However at the same time it is essential that a pragmatic approach is adopted, and wherever possible the confidence and capability of national experts must be trusted as part of the process of transfer of knowledge and experience. The Mission considers that as many of the works supported were relatively simple, with the possible exception of some river training in Tigray, it would have been preferable if a simpler system of approval could have been used, at least for most of the schemes.
38. The disbursement procedures of operating costs to regional institutions were complex and lengthy. These were partly the result of the nature and size of the sums involved which, in aggregate for some of the schemes, would have required approval from FAO Headquarters, and partly due to complications arising from decentralisation of some of FAO's administrative procedures to the Regional Office in Accra. In the event the office of the FAO representation in Ethiopia together with colleagues from Accra were able to establish fund release procedures that worked well. It is also the case that staff from the FAO office in Ethiopia have provided extensive and regular support to the project, effectively managing it, in addition to their other regular duties.
39. During project implementation the close association of the SSC initiative with the project resulted in a considerable expenditure of project resources and FAO staff time to address issues and problems raised by the Chinese teams. These resources and efforts might have been better used to address the problems and issues of the project itself.
40. The ProDoc called for regular quarterly reporting by the NPC, for an annual review and evaluation of progress and for technical reports arising from consultants' inputs. It also recommended the preparation of a terminal report towards the end of the pilot phase. A number of quarterly reports have been prepared, and financial reports were submitted twice a year to the Ministry of Planning. It appears however that the participating agencies within the Regions were not provided with copies of the financial reports. They thus had no way of knowing what resources were available to them. Given that neither a national nor regional Steering Committee (SC) was operational for most of the project period, there has been little or no public record of the project and it is not surprising that it has almost no profile amongst either government or the donor community.
41. On the whole, the Mission suggests also that the complex institutional set-up of the project may have influenced negatively overall implementation, as no single agency had sufficient ownership of the project and felt a need to get things started and on-going.

4.2 Government participation

42. The ProDoc stated that the SPFS "*is implemented by the Government through its institutions and staff at different levels of the Administration*", and that the Extension Department inside the Ministry of Agriculture had the overall responsibility for programme coordination with the regional institutions mandated with the "*day-to-day implementation activities*". The National Project Coordinator (NPC) was identified in the Extension Department Head. Inputs by the Government were supposed to include office and supplementary communication facilities, and to cover costs relating to the Steering Committee and regional Task Forces activities. ToR for both NPC and SC were given in the ProDoc Annexes.
43. As mentioned above, the Ethiopian institutional set-up has changed considerably during project's life. As a direct consequence, the institution of a national Steering Committee has been abandoned along the way. However, at the time of the April 2001 TPR, no regional SC had been established. Following recommendations stemming from that mission, Tigray Region established by mid-2001 its Project SC, but not Amhara Region. The set-up of the Regional Bureaux for Rural Development might automatically meet the need for a Regional Project Steering Committee, but the Mission considers that it might still be useful to call for a wider working session on annual basis, including FAO and possibly the Donor, for discussing problems and achievements.
44. Correspondingly, the role of the NPC at central level has been modified and split in two: one Irrigation Engineer from Extension Department of MoA, "focal point" for small-scale irrigation schemes, and one staff from the Planning Department of MoA, focal point for SSC. There is good evidence that even under the new definition, the task for small-scale irrigation has not been carried out at its full potential: budget problems[5] have been invoked, but mostly the major reason is that Regions are reluctant to be coordinated by the Federal level on what they consider to be their projects.
45. Finally, the GoE has never given written reasons for refusing the acceptance of the proposed CV of the expert submitted by FAO in 1998 for the international consultant post of Irrigation Agronomist. At the same time, FAO does not seem to have submitted other CVs as alternative candidates.
46. Given the delays and constraints referred to earlier, the overall performance of the GoE is considered to be good.

4.3 South–South Cooperation

47. The ProDoc acknowledges that the South-South Cooperation between the Governments of Ethiopia and China was to come in support of the project implementation. However, there is clear evidence in the Project files that since the very beginning, there was no common understanding between the GoE and FAO about the linkages between the two components. As mentioned above, eventually an agreement was reached on paper.

[5] This is however very surprising, in consideration of the existing provisions in the budget for this task.

48. CoSAERT in Tigray requested for Chinese experts in medium-scale dams to be fielded, in order to undertake gournd surveys and the design of two such works in the Illala Valley in the vicinity of Mekelle. In 1997 a Chinese Advance Team identified these potential sites, and was followed by the definitive team. The Chinese started collecting data in the Illala catchment, specifically on the two sites of Kuihen and Feleg Daero, but due to the start of the Ethio-Eritrean war, the experts were evacuated to Bahir Dar in Amhara and eventually repatriated. The Chinese were never involved in any of the activities planned under the GCSP/ETH/057/ITA. In August 2000 the authorities in Tigray invited the Chinese SSC experts back, on the understanding that they would complete the survey investigations and design studies for the two medium dams already identified. The Chinese Ministry of Agriculture was unable to field the original experts, and COSAERT rejected 10 of the 15 new Chinese experts proposed because these were not enough experienced. Since then the priorities of COSAERT have moved away from medium scale dams to smaller structures, and they would be prepared to consider a new initiative from the Chinese based on watershed studies, similar to the work done in Amhara.
49. In Amhara Region, the lengthy approval procedures of the Chinese experts' CVs resulted in the fielding to Dessie of a team of seven, six experts and one interpreter, by end of December 2000, with a one-year contract. In July 2001 two more experts and one interpreter joined the team, and are still in the Country. In spite of the principle of collaboration between Project 057 and SSC, the Chinese team has been involved exclusively in the elaboration of a Watershed Development Plan in the food-deficit Upper Mille River, within a catchment area of 15,000 ha. The plan aims at addressing and overcoming social and economic constraints related to food insecurity of the area. The study and planning phase was due to be completed by December 2001, when a seminar was held in Dessie for the presentation of results. Eight sub-projects have been prepared, to be implemented in Ketie, Kekewa and Jari, three different sites of the catchment area. Proposed interventions include: i) improvement of land and water resources; ii) afforestation and protection of natural forests water and soil conservation; iii) cropping intensification; iv) construction of small- scale irrigation schemes; v) livestock development project; vi) participatory constraints analysis and construction of enhancing mechanisms; vii) sustainable fishery development in lake Hayk and viii) construction of rural infrastructure. Several comments have been formulated by the Amhara Regional institutions, to be taken into account before any final implementation budget can be estimated and approval can be granted, as in their opinion the Chinese study is still at the pre-feasibility stage. It should be noted that among the Chinese there was no agro-forestry expert. During their activities, the Chinese team was supposed to collaborate strictly with Ethiopian counterparts. This holds true for BoA, but much less so for COSAERAR. In both cases, however, difficulties of communication have been a serious obstacle to a fruitful collaboration. Finally, a part of the accommodation costs for the Chinese Team has been covered by the Ethiopian Social Rehabilitation and Development Fund in Amhara Region.
50. The Mission has carefully assessed the contribution of the Chinese SSC experts to the SPFS pilot phase in Ethiopia, as well as its relations with GCSP/ETH/057/ITA. It considers that, even if in principle the efforts for its organisation might have been worth the resources it has consumed, results are rather disappointing. Furthermore it

is quite evident that the links with the Italian funded project are virtually non-existent, except for the use of funds for operational activities which were not foreseen in the original ProDoc. The Mission understands that this linkage was proposed by FAO and that the Ethiopian side reluctantly agreed on a link between the two projects[6]. The Mission considers that it would have saved time and resources to keep them firmly separate from the very beginning, and that the 057 funds used for SSC do not compensate at all for the efforts deployed for getting them, and that on the whole a much thorough attention should be given in the future to similar initiatives.

51. In terms of sustainable achievement or contribution to the objectives of GCSP/ETH/057/ITA, the Mission considers the contribution of the Chinese SSC to have been of almost no significance. In Tigray, apart from a little initial hydrogeological survey work, nothing was achieved. It is however recognised that in this Region one major external factor, the Ethio-Eritrean war, has jeopardised the whole initiative and no conclusions can be drawn. In Amhara there were major differences of opinion at the start to what the Chinese were expected to do. The authorities wanted help in designing medium scale dams, but the Chinese experts were however not qualified to do this kind of work. Eventually it was agreed that they would undertake feasibility work for interventions in three sub-watersheds of the Upper Mille River, but what work the Chinese have done, was not in close collaboration with the regional authorities. Therefore there has been little or no transfer of skills from the Chinese. The quality of this output is moreover questionable, and the regional authorities have not accepted it yet.

52. It is also doubtful that better use could have been made of the Chinese experts. Knowledge transfer has been poor, reportedly mostly due to difficulties in translation, as even the experts with valuable skills had to work through an interpreter. But there is also evidence that the working method of the Chinese as a team did not fit with the approach of the Ethiopian authorities, a case in point the procedural and sequential steps in the design of engineering works. And further, the Chinese analysis of land-tenure issues, or identification of production bottle-necks, and consequent proposed solutions, indicate that their understanding of the local social and cultural environment has been rather weak[7].

53. Finally, it was suggested by FAO[8] and by some representatives of the regional authorities that the Project 057 should partially fund the implementation of the Chinese proposed plan in one of the three sites under study. In the light of its findings, the Mission is unable to support this proposal. In fact, to do so would presuppose a positive outcome of the additional feasibility study work, something that is by no means certain, as in all three sites there are major technical and social issues that need to be resolved. The Mission further concurs with the advice received from federal authorities, that it is against policy to partially fund construction from one project, as it is almost impossible to secure funding for any remaining works from other donors.

[6] Back-to-Office Report to TCI Director from TCIR Chief, 12 May 1998

[7] By its talks with the Chinese experts, the Mission had the feeling of jumping backward by 15 or more years in time, when teams of young and energetic European volunteers were invading African villages "teaching" everybody what to do and how.

[8] FAO/AGLW backstopping mission in 2001, FAOR in Ethiopia.

4.4 Rate of disbursement

54. The Mission was provided with the most up to date financial records in the form of a project status report, and transaction listing for the period 1999- 2001. The table below shows the status of project expenditure and the balance outstanding at the end of November 2001. Since then there has been very little expenditure and mostly associated with the present TEM, estimated at no more than US$ 25,000. Including this latter cost, the total expenditure to date is estimated at US$ 780,000, or 41% of the budgeted total amount of the project of US$ 1,866,110, leaving an unspent balance of US$ 1,086,000.

BUDGET AND EXPENDITURES 1999-2001

Item of expenditure	**Budget**	**Expenditure[1]**	**Total**
Professional staff and Int.nl consultants	121,046.00	6,877.00	114,169.00
General Service staff[2]	-30,942.00	16,544.00	-47,486.00
National consultants	54,147.00	14,359.00	39,789.00
Contracts[3]	0.00	18,740.00	-18,740.00
Overtime	65,101.00	41,562.00	23,539.00
Travel	272,455.00	63,035.00	209,419.00
Training	246,640.00	55,875.00	190,765.00
Expendable procurement[4]	563,647.00	253,953.00	309,694.00
Non expendable procurement[4]	247,216.00	139,627.00	107,589.00
Technical support services	31,990.00	21,118.00	10,872.00
General operating expenses	98,221.00	84,637.00	13,584.00
Support costs	196,589.00	86,843.00	109,746.00
TOTAL	**1,866,110.00**	**803,170.00**	**1,062,939.00**

Notes
1 - Expenditures incurred prior to 1999 were related to the operational costs of the SSC Programme. The expenditure to date refers to the period up to and including November 2001. Since then there has been some limited expenditure on SSC and the TEM. In total, this sum is estimated at US$ 50,000
2 - Not originally budgeted, funds initially supplied by FAO own contribution, used to pay drivers and secretarial staff working with Chinese SSC experts.
3 - A payment for rehabilitation works at the irrigation sites of Tilkit and Merssa, probably wrongly debited to this budget line
4 – Mainly costs associated with irrigation scheme rehabilitation

55. From an analysis of the transaction listing, the Mission has made an assessment of what the money has been spent on. Of the actual expenditure, US$ 301,000 (37%)

was spent on rehabilitation of irrigation schemes, US$ 143,000 (18%) on general operating expenses and support staff costs, US$109,000 (14%) on equipment and supplies, mainly for the Commissions, US$ 87,000 (11%) was incurred as FAO overhead support costs, US$ 63,000 (8%) was spent on internal and international travel, US$ 41,000 (5%) was spent directly on technical backstopping and evaluation, and only US$ 55,000 (7%), was spent on training.

56. Most of the SSC support costs were provided from general operating expenses, but some support was also provided from the travel, expendable and general service salary budgets. Allowing for the international travel associated with missions from FAO HQ to resolve the problems associated with SSC and vehicles purchased for the Chinese teams, it is estimated that the total expenditure on the SSC was not less than US$ 100,000 nearly 13 % of total expenditure to date.

57. It is estimated that the cost of the outstanding irrigation works in Tigray will not cost in excess of US$ 205,000, which together with US$ 10,000 for pipes to be supplied for the hydraulic ram pumps in Amhara, makes a total outstanding financial commitment of US$ 215,000. This leaves a balance of US$ 845,000 to be spent during the project extension period on irrigation technology transfer.

5 PROJECT OUTPUT, RESULTS AND EFFECTIVENESS

5.1 Project output and results in Amhara Region

58. At the time of initial project formulation two sites were identified, i) Alewuha, a run-of-river, diversion weir scheme of 360 hectares in the Northern Wollo Administrative Zone, and ii) Merssa, where it was proposed to demonstrate the use of 5 hydraulic ram pumps to raise water for irrigation of 5 small sites (10 ha) from the Merssa river. As a result of delays associated with signing the project agreement, the scheme at Alewuha was completed using other funds, and was replaced early in the project life by a site at Tilkit. This is another run-of-river scheme with a command area of 45 hectares. In addition a second run-of-river diversion scheme was included at Merssa, with a command area of 65 hectares, alongside the hydraulic ram pump schemes.

5.1.1 Rehabilitation of the diversion weir at Merssa

59. *Background*: Merssa diversion weir was constructed in 1995-96 to divert the water to the adjacent irrigation scheme of 65 ha, benefiting approximately 260 farm households. A DA is permanently assigned to the scheme.
Output: the rehabilitation works of the diversion weir consisted of weir crest repairs, fixing new steel gate, which was not in place at the time of visit, construction of an apron, downstream-boulder filling and side retaining walls. The works were completed in October 2000 and the management of the scheme was then transferred to the Bureau of Agriculture, which has helped constitute a Water Users'

Association. No demonstrations of improved practices for irrigated crops have taken place so far.
Results: in spite of the rehabilitation works, the scheme is only partially in being mainly employed on maize, sorghum, teff as double cropping, plus some vegetables and some fruit trees. Further, the farmers seem reluctant to clean canals.

5.1.2 Installation of ram pumps at Merssa

60. *Background*: given the typology of rivers and streams in Merssa area, the ProDoc proposes to introduce and test hydraulic pumps for small-scale irrigation schemes, as demonstration site for the Region.
Output: the project has supplied four ram pumps to COSAERAR, which are stored at their premises in Bahir Dar. Pipes and fittings are still to be purchased.
Results: there seem to be different opinions about the feasibility of using these pumps for irrigation purpose as it was initially planned. Apparently, the most recent decision is to install the four ram pumps for domestic water supply purposes, and report on the outcome by the end of the current year.

5.1.3 Diversion weir, irrigation command area development and drainage infrastructure construction works at Tilkit

61. *Background*: in Tilkit site, farmers were already practising irrigated agriculture by diverting the river stream by their own means. The major irrigated crops of the area are maize, onion, sorghum, pepper, chickpeas and potato. A DA is assigned to the area, but he did not receive any specific training. He is supposed to follow up 2006 households, the great majority of which exploiting only rain-fed agriculture.
Output: the technical studies for the construction of the weir and the irrigation and drainage system were approved by FAO. Some modifications were further agreed upon during the backstopping visits by FAO/AGLW in 2000 and 2001. Even though the construction works were somewhat behind schedule, they were completed by the end of 2001. However, the scheme is not handed over yet to the Bureau of Agriculture, due to delays in some technical procedures.
Results: a traditional Water Users' Association is in place, but apparently most of the beneficiary farmers are not registered as members so far. However, the Mission considers that this intervention meets SPFS main objective: the availability of supplementary irrigation during the rain-fed cropping season and the possibility to enter a double-cropping production pattern should play an important role in terms of increased food security at household and local level.

5.2 Project output and results in Tigray Region

62. At the time of the original formulation three sites were identified, i) Birki, a run-of-river scheme of some 70 hectares, ii) Genfel, another run-of-river scheme with a potential command areas of 100 hectares, and iii) Gum Sellasa, a micro-dam with a

downstream command area of 130 hectares. Subsequently two additional micro-am sites were added at Sewhi Meda and Ruba Feleg with a total command area of 110 hectares. These two sites were however dropped later, for technical reasons, following detailed investigations by COSAERT. Instead two earth-dams at Hizat Wodi-Cheber with an irrigable area of 70 hectares and Miela with an irrigable area of 80 hectares were included, the latter being rejected however for technical reasons following the visit of an FAO/AGLW backstopping mission in February 2001.

5.2.1 Birki diversion weir rehabilitation

63. *Background*: the whole construction was supposed to be financed under project's funding, but due to the long delays in project's approval and implementation, the permanent diversion weir was constructed with NGO assistance. However, due to some design errors, there was a need of protection walls to remedy severe erosion upstream and downstream of the weir. A traditional Water Users' Association is in place.
Output: major works are riverbed stabilisation and construction of drain infrastructure and some masonry work. At present the envisaged rehabilitation works have been completed accordingly. BoANR, with project funds, has trained 50 farmers and carried out some demonstration of improved irrigated agronomic practices. A DA is permanently assigned to the scheme to give technical assistance to the beneficiary farmers.
Results: there is visible evidence that most plots all over the command area, approx. 70 ha, are being exploited. However, farmers are predominantly following traditional irrigated practices. They have purchased seeds for horticultural crops and composite maize varieties by cash or credit from local Woreda BoA office, but they have apparently serious problems with market outlets for their produce.

5.2.2 Diversion weir at Genfel

64. *Background*: this scheme depends on a diversion weir and should command about 20 ha of land. Cereals are grown during the rainy season and horticultural crops during the dry season, under gravity irrigation methods. The following rehabilitation works were planned to be executed: gate replacement, rehabilitation of the downstream apron, specially the left side which is damaged by flood action, main canal lining, approximately 600-700 m. Further, also hydrological studies and raising of weir side walls were planned.
Output: according to agreements with FAO/AGLW, study and design work was undertaken and submitted to FAO for approval, which has not been granted so far. BoANR, with project funds, has trained 50 farmers and carried out some demonstration of improved irrigated agronomic practices.
Results: none visible concerning improved practices for irrigated crops.

5.2.3 Hizaiti Wedi-Cheber

65. *Background*: this scheme was proposed by COSAERT as a substitution for Sewi Meda and it consists of an earth dam and irrigation water structures in a command area of approx.70 ha. Works consist of rehabilitation and extension of the canal system, spillway repairs, further energy dissipater, design and expansion of further 20 ha of the command area. The whole area is under exploitation by farmers, who are taking care of canal clearing and overall management.
Output: the study and design work was completed and submitted to FAO for approval, which has not been granted so far, hindering the overall rehabilitation works in general.
Results: the Mission considers that there is a considerable risk that if repairs are not done before the next rainy season, further undercutting damage at the end of the spillway could lead to a breach in the pipe-feed to the canal system from the dam, which is buried at the end of the spillway.

5.2.4 Gum Selasa

66. *Background*: this scheme is supported by a micro-dam built by COSAERT, which does not present major seepage problems except for a small wetting of the right downstream embankment. Masonry lining to critical stretches, in-depth design study for energy dissipater and revision of spillway-canal crossing were to be carried out.
Output: The study and design work was completed and submitted to FAO for approval. No approval has been received so far. BoANR, with project funds, has trained 50 farmers and carried out some demonstration of improved irrigated agronomic practices.
The Mission could not visit the site because of time-constraints.

5.3 Support to the Commissions for Sustainable Agriculture and Environmental Rehabilitation and to the Bureaux of Agriculture for Tigray and Amhara Regions

67. In both regions Commissions' staff were to receive on-the-job training, and experience through overseas study tours. The agencies were also to receive a certain amount of basic laboratory and field equipment needed to design and construct irrigation schemes. It was assumed that external consultants would provide training, but no financial provision was made for the activity.
68. In both regions, BoA staff was to receive on-the-job training in irrigation agronomy and short visits to countries with similar agro-ecologies to study irrigation extension methods. Training was to be provided by an internationally recruited Irrigation Agronomist (IA) who would also supervise a programme on on-farm demonstrations, and who would be assisted by National Professional Expert. A limited quantity of inputs was to be provided for the demonstration programmes. As the IA was not recruited, the BoA staff received no on-the-job training under the project

69. The project document had provision for capacity building and a total of 6 technical staff attended the study tour to China for three weeks. One Water-Harvesting Workshop was organised in September 2001 in AA for 35 experts from both Regions. The Mission was advised by both Commissions that staff training remains a priority.
70. The constraint analysis foreseen by the ProDoc as part of the overall SPFS approach has been carried out recently by a national consultant. It was focused on the adoption and diffusion of the improved technological packages in modern small- scale and traditional irrigation schemes in both regions. The final document was still under elaboration at the time of TEM.
71. In Amhara Region the Mission was advised by COSAERAR that there are not likely to be any additional schemes, suitable for rehabilitation under the project in the foreseeable future. In Tigray it might be possible to include one or two additional schemes. However the Mission considers that in view of the length of time it has taken to approve and commission engineering works in Tigray to date, and given the considerable number of donors[9] supporting irrigation in the Region, this is not a priority.

5.4 Impact of project outputs against project objectives: food security, demonstration effects, and institutional capacity

72. In the light of the meagre outputs and results above, the Mission considers that the impact of the project has been very modest. Of the three constructed small-scale irrigation schemes, out of the five initially planned, Merssa is only partially utilised and in Birki, where irrigation was already farmers' practice, there are no signs of improved irrigated agronomic practices being adopted. On the other hand, the third scheme, Tilkit, seems to meet the objective of increasing food-security at household and local level, as it will allow supplementary irrigation in the rain-fed crops and double cropping during the dry season. It is however too early to know if improved practices will be adopted once BoA will take over its full responsibilities for extension activity.
73. Insofar the strengthening of institutional capacity, the ProDoc did not provide any indicator against which evaluate its performance. It is also true that the single activity carried out under this component was the study-tour to China, but the Mission could not assess directly any impact on BoAs and CoSAER staff's capacity.

5.5 Sustainability, environmental impact and gender issues

74. In consideration of the little progress in project activity so far, the Mission is not in the position to express any informed judgement on the sustainability of any of the project components or on its impact on gender issues. Further, the Mission considers

[9] These include: An Indian initiative of some US $500,000 involving a company called WABCO, the anticipated second phase of the World Bank supported Ethiopian Social Rehabilitation Development Fund, the IFAD funded Special Country Programme- Phase II, a large national Agence Francaise de Development programme, and the CIDA supported Water Harvesting and Institutional Strengthening in Tigray

that any environmental impact, due to the size of the constructed and planned irrigation schemes, would be negligible, either in positive or negative terms.

5.6 Cost effectiveness

75. The project total expenditure to date is estimated at US$ 780,000, and tangible outputs are that a maximum incremental area of 200 hectares of land is being irrigated as a result of the project. As no other consistent achievements has been reached, this may be considered as equivalent to a cost of nearly US$ 4,000 per hectare, which is about one and a half times the per hectare cost of the construction of new irrigation schemes in Asia. Furthermore such a high capital cost can never be fully recovered from the benefits deriving from incremental output. The Mission considers this very limited quantitative achievement as a further argument in favour of the project revision, in order to provide some added value to farmers in terms of production alternatives and better perspectives of income increase through the use of irrigation.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

76. This is a project with some lost opportunities. At the time of formulation its objectives exactly mirrored government priorities and policies for food production and household food security. This contrasts with a very poor ProDoc that gave little or no indication of how the project should be implemented. Not surprisingly implementation has been very disappointing and the project's achievements in terms of outputs are very modest. To date a maximum incremental area of 200 hectares of land (65 ha in Tilkit, 65 in Merssa and 70 ha at Birki) is being irrigated as a result of the project. The project interventions to improve the output of irrigated lands by introducing better irrigation technology have achieved nothing sustainable. To a large extent this is attributable to poor project design, which predicated this activity on the recruitment of an international expert, who was never hired. However both FAO & the GoE were remiss in not insisting on the recruitment of this expert, or in developing alternative ways to use the project funds for irrigation technology transfer. The SSC cooperation initiative has achieved nothing in Tigray and as yet has made no quantifiable sustainable contribution to improving food security in Amhara.
77. Against this disappointing background the Mission has carefully considered three options for the future. The first of these would be to close the project and cancel the remaining funds. This option has however been disregarded as the need for improving irrigation technology transfer remains as great, or even greater than it was at the time of the project original formulation. The second option would be to simply extend the project period without changing the mode of operation or the management

procedures and mechanisms. This option has also been rejected on the grounds that the Mission considers that the participating regional agencies have lost confidence in the project, and simply extending it would not have any effect on performance. The third, and recommended option, is to postpone by 18 months present NTE date, within present budget limits, and to revise in detail the project work-plan, in order to revive the emphasis towards irrigation technology transfer, as was initially intended.

6.2 Recommendations

6.2.1 Project Extension Period.

78. The Mission recommends that the project be extended for a period of about eighteen months, with a postponement of the project NTE to 31st August 2003, with no extra funds required. This will allow for the completion of all outstanding engineering works, the implementation of the on-farm irrigation technology transfer component, adjusted to the new institutional devolution of responsibilities down to Woreda level and the completion of the present Chinese Team's work in Amhara. The extension of the project is linked to the detailed formulation of a revised work-plan by a Revision Mission (RM), which will focus activities on the on-farm irrigation technology component. Terms of reference for the RM are given in Annex 4. A Tripartite Review Meeting (TRM) in May-June 2003 will review results and budget at that point in time and will decide on actions to be taken. More particularly:

d) The Mission considers that the limited amount of outstanding engineering works, and the training programme for Commission staff could be completed within a period of 15 months from the beginning of March 2002.

e) The Mission considers that a period of four months from approval of the present report, should be allowed for the Revision Mission, and to recruit an international Irrigation Agronomist, followed by one year of demonstration programmes. This will provide enough time for the irrigation technology transfer/demonstration programme and the training of Bureaux of Agriculture staff to be implemented. If necessary and subject to the availability of funds, this component may be further extended upon the recommendation of the TRM in May-June 2003.

f) The Mission recommends that the project continues to support only the operational costs related to the conclusion of the study work carried out by the Chinese SSC team presently in Amhara, until the end of July 2002, when the contracts of the present team come to an end. Furthermore, that no additional contracts are given for SSC using 057 funds.

6.2.2 Acceleration of Approval of Engineering Designs

79. The Mission considers that there is no need for any further backstopping mission from FAO/AGLW to approve the designs of the outstanding project engineering works in Tigray, but that a national consultant engineer be recruited for the task. The Mission has confirmed that such consultants, who have done similar work for IFAD in the recent past, are available. The Mission further proposes that the Terms of

Reference for a national engineer, as prepared by the backstopping mission in February 2000, can be modified to incorporate this new responsibility (See Annex 5).

6.2.3 Inclusion of New Schemes

80. The Mission recommends that no new irrigation sites for rehabilitation are introduced in view of the difficulties experienced with scheme rehabilitation to date, and the shift of emphasis towards on-farm irrigation technology transfer.

6.2.4 Capacity building and staff training

81. The Mission considers that the unspent training funds allocated for the Commissions in Tigray and Amhara should be divided between the two Regions and used for staff training and study tours over the next 18 months. Funds will be allocated with reference to similar support from the CIDA funded WHIST project in Tigray and its possible replication in Amhara. It is further recommended that the details of the study tours and selection of short courses should be worked out by the respective Commissions in conjunction with the regional CIDA supported Technical Assistance teams and FAOR. Also, the Mission recommends that all outstanding equipment and technical publications be provided to COSAERAR.
82. The Mission suggests that the Revision Mission re-allocates the remaining funds initially ear-marked for on-the-job training and study tours for BoA staff, mainly for in-service training of BoA Development Agents (DA), and Woreda staff in the two Regions.

6.2.5 Institutional Set-Up

83. The Mission considers that, in spite of the Project being under regional responsibility, efficient implementation may require more management resources than foreseen so far. There is in fact a role for the NPC as focal point at federal level, inside MoA, but the priority is to establish an effective regional management structure. In consideration of the complexity of the issue especially under the in-coming devolution of responsibilities to Woredas, the Mission suggests that the Revision Mission attentively analyses and discusses in depth with all concerned stakeholders the possible professional profiles, role and ToR for the NPC and the regional management during the final phase of the project. Enough resources will have to be allocated to for implementation in the revised budget.

6.2.6 Transfer of FAO Backstopping Responsibility.

84. To date the emphasis of the project has been on construction of engineering works, and it has been appropriate that FAO/AGLW has provided technical backstopping by irrigation engineers. In the re-formulated project the emphasis will move towards on-farm irrigation agronomic considerations, and the Mission recommends that the technical backstopping responsibilities should change to reflect this shift in emphasis.

6.2.7 Marketing Analysis Consultancy

85. The Mission considers that there is a strong need for a marketing study to help assess and guide farmers and extension staff in the choice of crops to grow in irrigated lands, particularly to try and avoid the problem of gluts, and to introduce new possibilities. It therefore considers that the marketing consultancy, as originally proposed, should be carried out as soon as possible, and that the Revision Mission should prepare Terms of Reference for this input.

7 LESSONS LEARNED

86. Separate projects components with different objectives and implementation mechanisms, even within an overall programme framework such as the SPFS, should not be linked financially.
87. A project involving more than one implementation agency needs a dedicated management, whose mechanism should be clearly detailed in the project formulation document and for which adequate provisions should be made in the budget.
88. A project formulation document should detail the intended fund release procedures to be adopted during implementation.
89. SSC may play an important role in strengthening bilateral links and in the capacity building process of the host Country. However, adequate attention should be given to identify the fields of cooperation where maximum comparative advantage lies for both parties.

ANNEXES

ANNEX 1

TERMS OF REFERENCE
FOR
JOINT EVALUATION MISSION OF THE GOVERNMENTS OF ETHIOPIA/ ITALY/FAO OF SPECIAL PROGRAMME FOR FOOD SECURITY IN ETHIOPIA-IRRIGATION COMPONENT - PILOT PHASE - GCSP/ETH/057/ITA

8 BACKGROUND

The Special Programme for Food Security in Ethiopia- Irrigation Component- Pilot Phase is a Trust Fund Project Symbol GCSP/ETH/057/ITA. The project document was signed between the Government of Ethiopia and FAO on 02 December 1998. The project became operational in early 1999, was scheduled to end in May 2001 but was extended for the time being until December 2001. The Ministry of Agriculture is the national implementing agency at the Federal level with the Regional Bureaus of Agriculture and Commissions for Sustainable Agriculture and Environmental Rehabilitation for Amhara and Tigray Regions. The total cost of the project is estimated at US$ 2,061,996 with the donor contribution being US$ 1,866,110.

The aim of the Government is to introduce, in a pilot phase; improved irrigation technologies which could be replicated on a wide-scale as small-scale irrigation schemes are developed. The ultimate objective is to increase both productivity and income on a sustainable basis and to reduce production variability on account of changes of weather conditions. The assistance requested in the form of pilot activities is in the following fields:

1) Demonstration of improved irrigation agronomy as well as on-farm water use and distribution
2) Demonstration of construction and maintenance of appropriate irrigation infrastructure to avoid irrigation related problems such as salinity, alkalinity and water logging
3) Supply of minor equipment to strengthen the capacity of local teams to undertake technical feasibility studies
4) On-the–job training to technical staff as well as to farmers and
5) Offering technical irrigation staff short-term visits to other countries with experiences in water harvesting and small-scale irrigation.

The immediate beneficiaries would be the small farmers that participate in the project with town people and the locality benefiting from the intervention.

Progress achieved until now include 1) Irrigation works- Amhara Region- Irrigation and drainage infrastructure for the two sites in Amhara Region i.e. Tilkit and Merssa practically completed. In Tigray Region the major accomplishments focused on the

preparation and submission of technical documents (designs, bill of quantities, work plan) and feasibility reports besides the construction of farm infrastructure in some sites and the rehabilitation of irrigation schemes. Construction and laboratory equipment and transport vehicles were provided to the two Regions.

Experts from Tigray and Amhara Regions participated in a study tour programme to China. A workshop on water harvesting for agricultural production was conducted for Regional irrigation experts. Farmers in Tigray were also trained in water harvesting.

In support of the SPFS the SSC fielded a team of Chinese to study and prepare a development plan for an Integrated Watershed Management in Haik. Most of the Chinese candidates for Tigray to undertake feasibility studies and technical design for the construction of two small dams were not accepted by COSAERT.

The main constraints of the project included the initial delay in the signing of the project document; the Ethio-Eritrean conflict that led to the evacuation of the Chinese Team from Tigray; the misunderstanding between COSERAR and the Chinese team in Amhara which was solved with an amendment of the TPA in an Addendum; the rejection of technical documents by AGLW because of not meeting required technical standards; and the non-acceptance by COSAERT of most of the Chinese experts to Tigray.

8.1 Purpose of the Evaluation

8.2 Even though the project document does not envisage the setting up of a Tripartite Evaluation Mission the Representation considers it important for the future of the project ,which has available funds for operations in the coming year, and hereby initiates the formation of a Tripartite Evaluation Team to be composed of independent consultants representing the Government of Ethiopia, of Italy and FAO. The Tripartite Review Mission that visited the country between 3-7 April 2001 also recommended that an independent tripartite evaluation mission of the project be undertaken possibly by November 2001 and hence the urgency of the matter. The revised programme and work plan of the project envisages the extension of the project until 31/12/2002 without incurring any additional cost outside the amount stated in the Agreement document signed on 02 December 1998 between the Ethiopian Government and FAOR.

8.3 The purpose of the Tripartite Evaluation Mission would be to review the progress made toward achieving the objectives of the project and the problems encountered during its implementation and to submit to the Donor its conclusions and recommendations for the smooth continuation or proper termination of the project as at 31/12/2001. In the process the Mission will discuss with Government authorities and visit project sites.

8.3.1 Scope of the Mission

The Tripartite Evaluation Mission will evaluate the project implementation, outputs, constraints and the strategies adopted. More specifically the Mission will:

(i) Assess the effectiveness of the project in realizing its immediate objective(s) and the extent to which it has strengthened the technical and institutional capacity of the host government and other organizations concerned in contributing towards the long-term development objective;

(ii) Assess efficiency in the implementation and management of the project, including support given by the Government, donor and FAO;

(iii) Identify major factors that have facilitated or impeded the progress of the project in achieving the intended outputs and its effects (planned and unplanned) on direct beneficiaries and on the ultimate target group(s);

(iv) Based on the above, make specific recommendations for any reorientation of the project or follow-up measures, taking into account the sustainability of project results.

In particular, the evaluation mission will pay special attention to the following aspects;

(i) Examination of the continued relevance of project's immediate and long-term development objectives to government priorities, needs of the target group(s), and environmental considerations;

(ii) Adequacy of the project design in the light of identified needs, local conditions, project setting and critical constraints facing the sector/sub-sector/discipline and target group(s) to which the project refers. Clarity in the definition of the immediate objectives, outputs, and the target group. Balance between the immediate objectives, time and resources as well as amount outputs (activities) inputs. Adequacy of institutional set-up for project implementation, and the validity of key assumptions;

(iii) extent to which the project is integrated with other related projects and into the national development programme;

(iv) Overall efficiency of project management and implementation, including adequacy (in the formulation of work plans for the various disciplines covered by the project;

(v) Extent to which the project has been supported by the Government, donor and FAO during its implementation;

(vi) Implementation progress, especially in producing targeted outputs (including their quality), and in involving of each category of target beneficiaries in the project activities;

(vii) Achievements of results (including unplanned effects and results) in terms of:

- Strengthening the technical, operational and management capacity of the national institution,
- Training of national staff and development of local capabilities,
- Use being made of outputs (effects),
- Prospective impact of the project on the final target group(s) (rural) poor, women, youth, small farmers,…),
- Impact of project activities on the natural environment (if any);

(viii) Factors, which has promoted or impeded the effectiveness and efficiency of project implementation including availability of human resources and direct participation of the beneficiary group;

(ix) Probable conditions at the end of project vis-à-vis the immediate objectives, including prospects for sustaining results achieved;

(x) Identification of any potential areas, which require further technical support from external sources;

(xi) Any significant lesson learned that can be applied in similar programmes or projects.

(xii) Based on findings recommend continuation or closure of project.

8.3.2 Composition of the Mission

The Mission will comprise nominated representatives from FAO, the Government and the Donor. The FAO mission member will serve as the Team Leader.

Mission members and their qualifications shall be as follows:

FAO: Expert in agricultural development with experience in project evaluation

Government: Agricultural development expert with experience in irrigated agriculture

Donor: Specialist in agricultural development especially in developing countries preferably in Ethiopia.

Duration of the Evaluation

The fielding of the Tripartite Evaluation Mission to the country is tentatively scheduled for 1-15 February, 2002 with the following time table.

8.3.3 Timetable and Itinerary

Day 1- Arrival in Addis Abeba and Briefing by FAO and MoA

Day 2- Preparation for field visit

Days 3&4- Flight to Mekele, visit sites and discuss with BoA and CoSAERT

Day 5 – Drive to Weldiya, discuss with authorities and visit site(Merssa)

Day 6 –Visit site(Tilkit) and drive to Dessie

Day 7&8- Discuss with SSC and visit Haik

Day 9- Flight to Addis Abeba

Days 10&11- Meetings in Addis Abeba

Days 12&13 preparation of report

Day 14- Return to Rome

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ANNEX 2

ITINERARY

31/01/02	Ethiopian Airlines flight to Addis Ababa Participation to the FAO workshop on the presentation of the Constraint Analysis of Small-Scale Irrigation Schemes Analysis of project documents
1/02/02	Meeting with FAO Resident Representative Meeting with the Agricultural Extension Department, Ministry of Agriculture Organization of field-trip, security measures, document analysis, elaboration of check list for field visits
2/02/02	Journey by car to Dessie, South Wollo Meeting with the Chinese SSC Team
3/02/02	Field visits to Upper Mille Watershed (South Wollo) and to Merssa small scale irrigation scheme (North Wollo).
4/02/02	Field visit to Tilkit small scale irrigation scheme, journey by car to Bahir Dar (capital town of Ahmara Region)
5/02/02	Meetings in Bahir Dar with CoSAERAR, BoA, ESDRF
6/02/02	Meetings in Bahir Dar with BoA and ESDRF, car trip to Lalibela
7/02/02	Journey by car to Mekelle (capital town of Tigray Region)
8/02/02	Meetings in Mekelle with WHIST (CIDA funded), CoSAERT, BoA. Field visit to Hizat Wodi Chebar and other dam sites
9/02/02	Field visit to Genfel and Birki small scale irrigation schemes
10/02/02	Flight to Addis Abeba
11/02/02	Study of project files at FAOR; meeting with IFAD project Coordinator
12/02/02	Study of project files at FAOR; initial report writing
13/02/02	Report writing; meeting with Head, Extension Department at MoA
14/02/02	Report writing
15/02/02	Report writing, debriefing meetings with FAO Resident Representative and with the Vice-Minister, MoA
16/02/02	Report writing, end of the TEM
17/02/02	Ethiopian Airlines flight to Rome

LIST OF PERSONS MET

Mr George Mburathi, FAO Resident Representative, Addis Abeba
Mr Sintayehu Gebre Mariam, National Project Officer, FAOR in Ethiopia
Mr Adrian Buchanan-Brown, Administrator, FAOR in Ethiopia
Mr Getane Yemane, FAO consultant
Mr Ibrahim Mohammed, Head, Agricultural Extension Department, Ministry of Agriculture
Mr Getaneh Yiemene, FAO consultant, Addis Abeba
Mr Abebe WoldeAmanuel, NPC
Mr Dejene Habesha, Extension Department, MoA
Mr Lee Petersons, Staff Security Advisor, UNECA, Addis Abeba
Mr Zacharias Mohammed, South Wollo Zone BoA Coordinator
Ms Leyuwaric H/Mariam, Secretary
Mr Yao Jianguo, Water and Soil Conservation Expert, Chinese Team in Amhara Region
Mr Pan Xin, Soil Improvement Expert, Chinese Team in Amhara Region
Mr Wang guibin, translator, Chinese Team in Amhara Region
Mr Tesfaye Guta, South Wollo Zone, representing Deputy Adiministrator
Mr Zelalem Zerjhun, North Wollo Zonal Officer, CoSAERAR
Mr Geta Agaze, Woreda Expert, Merssa
Mr Wondater Dejene, DA, Tilkit
Mr Yaicob Wondimkun, Commissioner, CoSAERAR
Mr Bisrat Alemu, Head PPS, CoSAERAR
Mr Aklilu Woldu, Head M&E, CoSAERAR
Mr Alemayehu Tekle, A/Head, Study and Design Department, CoSAERAR
Mr Dereje Biruk, Head of BoA, Ahmara Region
Mr Getachew Ali Beshir, Regional Manager, ESRDF, Ahmara Regional Office
Mr Begashaw Molla, SSI and Environmental Rehabilitation Team leader, ESRDF/Ahmara Regional Office
Mr Tesfaye B., Rural Water Supply Team leader, ESRDF/Ahmara Regional Office
Mr Yirdaw Mekonnen, BoANR, Ahmara Region
Mr K.G. Wetterstrand, Project Director, WHIST Project
Mr J.L. Hovdestad, Field Director, WHIST project
Mr Leul Kahsay, D/Commissioner, CoSAERT
Mr Mohammed Abdul-Kadir, CoSAERT
Mr Tesfay Hagos, BoANR Head, Tigray Region
Mr GebreMedhin Berhee, Irrigation Agronomist, TBoANR
Mr Adugna Jebessa, IFAD Programme Co-ordinator, Ministry of Water Resources
Mr Belay Ejigu, Vice Minister, MoA
Mr Volli Carucci, Programme Officer, WFP, Addis Abeba

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ANNEX 3

Project Chronology

1994	November/December	Exploratory Mission
1995	May/November	First phase of SPFS Pilot-Phase, 600 demonstration sites
	December	Formulation Mission
1996	October	SSC Reconnaissance Mission
1997	October	First Draft of Formulation Report for GCSP/ETH/057/ITA submitted
1998	February	SSC Tripartite Agreement (SPFS/4501/ETH) signed
		Chinese experts fielded, but work did not start in Amhara because of differences of opinion over activities and in Tigray because of worsening of security situation
	May	Project Document for GCSP/ETH/057/ITA (October 97 draft); Memorandum of Understanding/Cover Agreement signed, subject to project revision
	December	Progress Review Mission SSC and SPFS, FAO/TCOS
	December	Revised project document for GCSP/ETH/057/ITA signed

1999	May	Backstopping mission to revise sites for implementation and budget, FAO/AGLW
	July	SSC Review Mission, FAO/ESAF and TCOS
	October	Visit to China of 6 Ethiopian experts
	November	Joint FAO/Chinese Mission to Ethiopia: SSC activities in Amhara refocussed towards watershed development studies, Tigray still off-limits and no changes at the programme of work
	December	Addendum to Tripartite Agreement on SSC signed
2000	January	FAO/AGLW+CPO mission to review/address delays in project implementation
	December	Chinese SSC experts return to Amhara Region
2001	February/March	FAO/AGLW backstoping mission
	April	Tripartite Review Meeting FAO/Government of Italy/Government of Ethiopia
	June	Origina project NTE date
	November	Constraint Analysis
	December	Tigray Authorities reject 10 CVs out of 15 submitted for Chinese experts
	December	Second NTE date
	December	Workshop in Dessie for the presentation of the Upper-Mille Watershed Development Study by the SSC/Chinese team
2002	January/February	Tripartite Evaluation Mission
	March	Third NTE date

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ANNEX 4

Terms of Reference for the Revision Mission of the Project Work-Plan

Background

This project, which became operational in 1999, was originally designed to rehabilitate a selected number of small-scale irrigation schemes in Amhara and Tigray regions; and to train farmers in the use of improved irrigation technology. During implementation the project concentrated on scheme rehabilitation, and at the time of the original project NTE date (Dec 2001) an estimated amount of US$ 845,000 remained available for farmer training and related activities.

It is generally agreed that there remains a great need to train farmers in the use of better irrigated crop production technology, and that the remaining funds should be used for this. One of the main reasons why this component was not implemented is because the original project document provided no guidelines on how and when the regional responsible agencies for farmers' training should implement it. The detailed revision of the work plan for this project component is considered necessary in order to develop effective implementation guidelines. In addition, since the project was formulated there have been a number of administrative reforms affecting the operations of the Bureaux of Agriculture, in particular the transfer of increasing responsibility for extension to its Woreda offices and staff. The revision of the work plan is also needed to align the project activities with these changes, and if necessary strengthen the capacity of the Woreda offices.

Scope of the revision exercise

The Revision Mission will consist of a team of international and national consultants who will visit the country for about three weeks in Spring 2002 to detail and discuss the project work-plan with the concerned authorities, such as the regional Bureaux of Agriculture, the regional Commissions for Sustainable Agriculture and Environmental Rehabilitation, the Ministry of Agriculture at federal level, other donors and UN Agencies involved in the

sector, and staff of the FAO country office. They would be joined by representatives from the two Regions for the fieldwork in Ethiopia. A limited number of site visits would be needed to assess the overall nature and scope of the farmer training needed. On completion of fieldwork the mission would write its report in Addis Ababa and discuss it with GoE institutions before submission to FAO and the Government of Italy. Approval from all concerned parties should be given within a period of not more than three weeks from the end of the mission.
It is anticipated that the revised work-plan will provide for a substantial amount of farmer training, through the use of carefully supervised demonstrations, field days, that it will provide for training of Development Agents and their supervisors, and will also look at institutional strengthening needs of the regional agencies.

The tasks of the Revision Mission would include:

a) Define with Tigray and Amhara BoAs the qualitative and quantitative objectives, the activities and the sites of intervention for the project extension period.
b) Take stock of existing experiences in the Country and in the two concerned Regions on on-farm irrigation technology transfer and related lessons learnt (WFP, CIDA, SIDA, EU, etc.).
c) Define, in the frame of the present extension approach, a strategy for the on-farm demonstration component.
d) Determine the appropriate training method for Regional and Woreda staff, DAs and farmers on subjects related to on-farm irrigation technology transfer.
e) Review and define the most effective institutional set-up for project implementation, including roles and function of the NPC, and define project management and implementation procedures.
f) Revise the Terms of Reference for the long term Irrigation Agronomy consultant to conform to the revised plan of work, and formulate ToR for the Market Analysis consultant.
g) Determine monitoring and evaluation indicators for the project extension activities and define an adequate system for collection and analysis.
h) Adjust the project budget to reflect the revised work plan, including irrigation rehabilitation works as well as irrigation technical transfer, and the other on-going activities.
i) Review funds release procedures with the FAO Representation and provide clear instructions in the revised work-plan for the fund release mechanism.

It is envisaged that the Revision Mission would consist of expertise in irrigation agronomy, economics, and rural sociology.

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ANNEX 5

Terms of Reference for the National Engineering Consultant

Background

The captioned FAO executed Italian Government funded trust fund project contains provision for the rehabilitation of three small scale irrigation schemes, Genfel, Gum Selassa and Wedi-Chebir in Tigray region. FAO regulations require the technical approval of the designs associated with such works before funds can be released in order to minimise any risks associated with such works. To date there have been problems associated with securing the necessary approval from FAO's technical unit (AGLW) because of differences of opinion as to the detail of the study and design work needed. The authorities in Tigray consider that the works needed are mainly routine repairs to existing structures for which detailed engineering plans are not required. FAO appears to be insisting on very detailed plans, such as those that might be required for a new, large-scale scheme.

The Tripartite Evaluation Mission that visited Ethiopia from 1-17th February 2002 visited two of the sites in Tigray, and generally concurs with opinion of the responsible Authority in Tigray (COSEART) that the works concerned are very modest in scale and do not need detailed plans. The mission is however aware of the benefit of having the plans reviewed by an independent technical expert, if only to ensure that extent and scale of the proposed works is in line with anticipated costs. It has therefore recommends that a national consultant engineer reviews the current plans and that based on his report funds would be released for the works at the three sites.

These Terms of Reference supercede the earlier Terms of Reference prepared by the backstopping mission that visited Ethiopia in February-March 2001.

Scope of Work

The work will consist of a technical and financial evaluation of the proposed civil works planned by COSAERT at the three named sites. The work will be done on instruction from the FAO Representation in Ethiopia which will provide administrative support and supervision.

Specific tasks will include:

- Review all plans, drawings and designs prepared to date by COSAERT for the three sites.
- Make suggestions for any essential modifications

- Review all bills of quantity, including labor needs, in relation to the amount of the work proposed, and indicate any substantial over or under estimates
- Assess the proposed work plans, in particular with regard to estimated labor availability and advise whether target dates can be reached
- Review all proposed cost estimates, and assess whether they need to be augmented or reduced.
- Agree with COSAERT a timetable and action plan for any modifications called for as a result of the review.

Reporting

The consultant should write a short report for each site covering the activities listed above. The report should contain a conclusion and recommendations section in which either approval or rejection of the current plans is given together with the main reasons. In the case of rejection the report must also indicate the modifications. The report should be submitted in hard copy and electronically to FAO not later than 45 days after issue of the contract.

Duration and location of assignment

The work is expected to take no more than 45 days in total, and will be undertaken at the home duty station of the consultant, with provision for up to two short site visits, for which FAO will pay the standard local DSA and travel charges.

Start Date

It is anticipated that the work will start after adoption of the Tripartite Evaluation Mission report, which is expected around the beginning of March 2001.

Qualifications

The consultant must have civil engineering qualifications and at least seven years professional experience in civil works design and construction. Some of this experience must have involved irrigation structures.