

TRIANGULAR INSTITUTIONAL CO-OPERATION
II Phase- 2003-2005

EXTERNAL EVALUATION

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Preface

The Triangular Institutional Cooperation Project (TCP) seeks to promote South-South cooperation with the support of Northern partners and to strengthen the capabilities of NGOs in the management of natural resources in semi-arid areas. It rejuvenates development by being complement to development. From 1997 onwards it has been implemented in two phases (1997-2002 and 2003-2005). Field based initiatives, research studies and training programmes have been undertaken in India and Ethiopia by the partners in Ethiopia (REST and MU), India (IRMA and SWDF) and Norway (DF and NORAGRIC). Development Fund played the effective role of coordinating and co-financing the project. TCP remains as a model for NGO-Research synergy in development.

In the first phase focus was increasingly on research and training programmes alongside the larger objective of networking. In the second phase more field based activity orientation was envisaged. As a result, a number of post harvest technologies and cooperative initiatives have been implemented in addition to the bottom line of networking and capacity building among the partners. SC has been revitalized to monitor the project. The project reached the stage of performing by successfully passing the forming and norming stages. Major learning from the project *inter alia* includes the public-private partnership in development, proactive in post harvest technology development, NGO-Research Institution synergy, promotion of people's institutions for socially inclusive development and relevance of networking among South-South-North partners for development of semi-arid regions.

The primary goal of evaluation as NORAD believes is to improve development work by providing greater insight into development process and promoting more result oriented development policies and more efficient administration of development cooperation. The evaluation of TCP (second phase) made sincere efforts to address all the above mentioned components. In this whole process, Ms.Alice Ennals has effectively coordinated the evaluation from the beginning to organize the logistics for the field visits and finalizing the report after getting the concurrence from partners. In a sense, this evaluation should be treated as a joint study with Ms.Alice Ennals. I acknowledge wholeheartedly her effective coordination, efficiency in communication through email (even three emails in a day) and insightful comments on the first draft. I also thank Mr.Knut Nyflot for giving his incisive comments and suggestions on the draft report. The support of partners in the whole evaluation process has been quite encouraging. I like to thank them all for extending warm hospitality and arranging field visits. The professional support of Prof. Vashwani, Prof.Vishwa Ballabh, Dr.Shylendra, Prof.R.S.Deshpande, Prof.Katar Singh, Mr.Harnath Jagawath, Ms.Sunitha Chaudhary, Dr.Mulugeta Berhanu, Mr.Dagnev Menon, Mr,Yemane Solomon, Prof.Fossil Kebede and others included in the list of persons with whom discussions were held has been timely and unassuming. I can only thank all of them from the bottom of my heart. At last I thank my daughter Ms.Shelly and wife Dr.A.Jothy for their cooperation. I also put on record my thanks to many others who contributed to the evaluation in one way or other.

N. Rajasekaran

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List of Abbreviations

CROPWAT	Irrigation Scheduling Software
DF	Development Fund
ECDC	Economic Cooperation among Developing Countries
ERAD	Environmental Rehabilitation and Agricultural Development
FVIH	The Future in Our Hands
IRMA	Institute of Rural Management, Anand
MoU	Memorandum of Understanding
MU	Mekelle University
NDDB	National Dairy Development Board
NGOs	Non Governmental Organizations
NORAD	Norwegian Agency for Development Cooperation
NORAGRIC	Centre for International Environment and Development Studies, at the Agricultural University of Norway
NRM	Natural Resource Management
REST	Relief Society of Tigray
SCM	Steering Committee Meeting
SDBm	Soil Data Base management
SWDF	Sadguru Water and Development Foundation
TCDC	Technical Cooperation among Developing Countries
TCP	Triangular Institutional Cooperation Project
TOR	Terms of Reference
TPLF	Tigray People's Liberation Front
UNDP	United nations Development Fund
UN	United Nations

Executive Summary

1) Goal of TCP

Akin to the UN's policy initiative of triangular cooperation between South-South-North for technical cooperation as complement to development, NORAD has brought together one NGO and one support institution¹ from India, Ethiopia and Norway to promote effectiveness in the utilization of development aid, natural resources and capacity building in the developing countries. The Triangular Project has brought together relevant institutions for South-South collaboration in management of natural resources in semi-arid areas of Ethiopia and India, in order to see if there was an untapped potential for experience sharing and for strengthening capabilities within natural resource management between the continents. Partners include REST and MU from Ethiopia, SWDF and IRMA from India and DF and NORAGRIC from Norway.

The overall objectives of the project seek:

- To promote South-South Co-operation of NGOs in management of natural resources and improvement of rural livelihoods in semi-arid areas through experience sharing and joint project activities.
- To develop capabilities in support of project activities and to make successful NGO efforts in natural resource management and South-South co-operation more widely known.
- To promote and facilitate the flow of knowledge and information among all partners in the collaboration.

Based on the experiences gained and the positive outcomes of internal and external assessments of the first phase (1997-2002), the focus of the second phase (2003-2005) was to continue with even stronger emphasis on field activities. Research organisations were to support the NGOs in their field-based actions.

2) ToR of the External Evaluation

Assess if and how the NGOs have been/will be able to use the knowledge, solutions, pilots and skills from the Triangular Project in their work with their beneficiaries.

- 1) Assess the organization of the project
- 2) Assess the project administration and management (something about partnership and participatory focus?)
- 3) Assess the cost /benefit part of the project in the second phase
- 4) Assess if and how the recommendations from the 2002 evaluation have been followed.
- 5) Give recommendations on how the South partners can continue their collaboration
- 6) Give recommendation on parts of the projects that should be considered to continue in the Africa Network Project of DF.
- 7) What is the main learning from the Triangular Project to be highlighted?
- 8) To what extent have women been involved in the project, at beneficiary level and organizational level.

¹ Support Institution refers to Training and Research institutions providing technical support to NGOs.

9) Has HIV/AIDS been a dimension taken into consideration- is it an issue?

3) Methodology

It is a product-cum-process evaluation. Since the project activities are not completed still, the impact would be visible after few years only. The evaluation is based on both reviewing the documents, field visits and discussions with all the stakeholders. The internal evaluations done by the organizations and the synthesis report of all the evaluations are rich materials for the external evaluation.

Intensive field visits have been conducted to understand the field realities in all partner organizations. Field initiatives in SWDF, REST and MU have been visited. In the case of IRMA, discussions were held with all senior professors involved in the project including the current director. Over and above, incisive discussions were held with responsible persons in the organizations and the Triangular Project.

Information available in the documents made available, field observations and discussions with responsible persons to triangulate the information assisted in bringing clarity to many of the complicated questions and enriching the report.

4) Findings

1) Perceptible progress in capacity building could be noticed in the partner organizations. The participants of trainings and exposure visits were exposed to different cultures and different perspectives on development. They are also able to distinguish why one policy work in one place in a similarly endowed region while it is not so in another region. This realization makes the staff to identify critical determinants for effectiveness of development interventions. In the capacity building initiatives, NORAGRIC provided the high end technical trainings to all the south partners on SDBm and GIS data analysis. In addition it has also developed an educational video film on water users' association.

2) Networking and group formation among the partners has reached the stage of performing by successfully treading the stages of forming and norming. Now notable understanding and mutual respect for the cultures and knowledge have been established among the partners. Even the partners began to approach the other South partners to provide technical and management trainings outside the purview of the TCP. Even some partners expressed interest to continue the SC meetings and the association in the last SC Meeting even in the case of the withdrawal of donor (Minutes of SCM 2005).

3) Organization of the project has been around Steering Committee. Though SC has the mandate to run the project, it has been reduced to a level of annual planning and stock taking structure in the project. DF played an effective role in coordinating the partners and activities though SC was expected to play the role. Administration of the project also shows that there was no full time member or team for the project. It was always an additional charge with least priority. The core member of the team is also changed more than once in REST, MU and SWDF. The frequent shifts in core team members bring discontinuity in the realization of the project goal. In NGOs, though the leader is the

operational head for all the projects in the organization, the core team leader plays the pivotal role in the implementation and monitoring the development process. Hence, the core team members should be encouraged and facilitated to continue in the project for longer term.

4) Details of the activities carried out during the second phase indicate that the role of support institutions has been reduced significantly. Since three of the four partners are support institutions, judicious balancing of NGOs and Support Institutions would have increasingly contributed towards realizing the larger objective of the project and implementation of some field activities in India. Though SWDF was identified as an NGO in the TCP, it played the role of support institution by involving more in trainings and exposure visits. Though a workshop was organized in 2002 at Oslo to plan activities for the second phase, it appears that SWDF did not show much interest in activities though the second phase was expected to show interest in field based activities at the recommendation of the First phase evaluation. Thus, the actual activities in the second phase were increasingly directed at strengthening REST.

5) Gender sensitivity was very feeble whether it is in the selection of participants or forming core team. At present DF and SWDF have women core team leaders. Nevertheless, the activities undertaken at the field level are meant for women and majority of the beneficiaries of the activities implemented through the project are women such as milk cooperatives, alternative energy sources and post harvest technologies.

6) Quite substantial research and documentation have been done through the project. Sound data base is created on the NRM and post harvest technologies. Now it is time for the researchers to make use of these documents to take it to the wider public through popular research publications.

7) Cost benefit of the project shows that little more rationalization could have been possible in the expenditure on capacity building and manual preparation. All the partners have surplus budget at the end of the project period. This indicates the generosity of the donor in providing the funds.

8) Spin off effects transcend the boundaries of the project area and objectives. The spill over effect of solar energy and capacity building has crossed the physical boundaries of the project. The alternative energy source installed in Tukul village in Tigray has put the people in the village on the top of the development map. Similarly, the benefits of capacity building spill over to other organizations and development community in the region as a whole as the staffs who had exposure visits to India were in good demand in the development sector. The intangible benefits of these have multiplier effect.

5) Recommendations

1) Steering Committee should be made a permanent body even in the event of withdrawal of the donor in order to continue the discussion among the partners with the formation of consolidated corpus fund. All the partners could put in some money as membership fee to make a corpus for this purpose. Even some activities like training programmes could be

arranged among the partners and the training fee could be partially contributed and pooled in the corpus fund.

2) Establishment of more grassroots institutions in the development constituency becomes exceedingly essential component for the sustainability of the initiatives. More financial commitment on the part of the reference group in the form of user charges, membership fee and savings could strengthen the institutions.

3) The triangular cooperation could be extended to other equally critical areas like education and health, for these sectors complement the effectiveness of the NRM initiatives and post harvest technologies. More proactive measures in health and education could improve the quality of life of people in the highly HIV prone semi arid regions. Community based organizations could be established to help the HIV patients. This could be followed in the African Network. In the African Network some of the Indian partners could be retained or new partners could be included for creating more synergy and effectiveness.

4) Gender sensitivity could be created among the staff in the partner organizations and administration of the project. More women members should be included in responsible positions in the team to gain gender perspective. Even the field activities should be increasingly oriented towards women. Even the male members should be trained to be sensitive to women in work place and in identification of beneficiaries, for the development programmes bring better effectiveness with the participation of women.

5) Infrastructural development should be scaled up substantially to create market for the value added agricultural produces. Otherwise the initiatives of post harvest technologies would be counter productive. Therefore a public private partnership model of development should be established as it is delivering better results in SWDF development context.

6) The research outputs generated in the form of manuals and data base should be utilized for future publications and wider impact of the project so that others need not invest more on reinventing the wheels. As DF was planning to develop a website to facilitate the communication between the partners, all the manuals could be made available in the website. More proactive steps towards development communication could be carried out using the manuals as promotional materials.

Conclusions

Triangular cooperation invigorates development in semi-arid regions by being a complement to development. It accesses development through a software approach of promoting capacity building and diverse appropriate technology available to the vulnerable sections of the society in the Semi-arid region. It sponsors horizontal cultural exchange among south-south partners. It has provided opportunities to many development workers and academicians to understand the vitality of development stages in similarly endowed semi arid regions vis-à-vis deviants in socio, economic, political and cultural indicators. The bottom line of TCP is capacity building and establishing network among the southern partners through exposure to similar development context. TCP began to deliver and now the real challenge is how to sustain the novel initiative.

Chapter I

Introduction

1.1: Goals of the Project

In line with the United Nation's Basic Concepts such as Technical Cooperation among Developing Countries (TCDC), Economic Cooperation among Developing Countries (ECDC), South-South Cooperation and Triangular Cooperation (South-South collaboration supported by partners in the North), the Triangular Institutional Cooperation Project between India, Ethiopia and Norway has been designed by NORAD/DF to promote effectiveness in the utilization of natural resources and capacity building in the developing countries. The importance of South-South Cooperation as conceived by the UN is that it is a complement to development. Using triangular cooperation arrangements, the Special Unit of UN has launched an initiative to develop institutional capacities for management of water demand in the Middle East and North Africa region. This initiative is aimed at strengthening the capacity of policy-makers to deal with water-management issues. The most important lesson drawn by UNDP from existing examples of triangular cooperation is that when facilities in developing countries have adequate resources, they can become centres of excellence.

Most of the developing countries have broad based experiences in economic development and appropriate technical expertise to utilize the scarce natural resources for developing alternative livelihood opportunities, which can be widely shared with other developing countries. Given similar natural resource endowment, agro-climatic conditions and level of development, this expertise can be easily adapted. However, most of developing countries are financially constrained and lack resources to execute collaborative activities. Hence, triangular cooperation with financial support from developed countries comes into play a catalytic role to generate synergy in the collaboration.

Akin to the UN initiative, the Triangular Institutional Cooperation Project (NORAD/DF) has brought together relevant institutions for South-South collaboration in management of natural resources in semi-arid areas of Ethiopia and India, in order to see if there was an untapped potential for experience sharing and for strengthening capabilities within natural resource management between the continents. In addition to bring value addition in capacity building and implementation of field based activities two Northern partners were also included from Norway.

The overall objectives of the project have been:

- To promote South-South Co-operation of NGOs in management of natural resources and improvement of rural livelihoods in semi-arid areas through experience sharing and joint project activities.
- To develop capabilities in support of project activities and to make successful NGO efforts in natural resource management and South-South co-operation more widely known.
- To promote and facilitate the flow of knowledge and information among all partners in the collaboration.

1.2.3: SWDF

SWDF was established in 1974 with the objective to improve the living conditions of rural and tribal people by developing environmentally sound land and water resources programmes in the semi-arid region in three states in India, viz., Gujarat, Madhya Pradesh and Rajasthan. SWDF facilitates the growth of local institutions that support and sustain the NRM programmes. The Organization is receiving funds from the State and Central governments, national and international funding agencies. It is a replicable model of public-private partnership in development. Now it is emerging as a centre for capacity building for development practitioners in both NGO and government.

1.2.4: IRMA

IRMA was founded in 1979 at the initiative of the National Dairy Development Board with the support of - among others - the Government of India to contribute to professional management of rural organisations. It works closely with co-operatives, NGOs and regional and national authorities as well as international agencies. The basic activity is training, research and consulting services.

1.2.5: DF

The Development Fund is an independent NGO founded by The Future in Our Hands (FVIH) in 1978. It has defined its supportive “membership” base to approximately 1800 persons. DF is a genuine partnership organisation working exclusively through partners abroad. In 2002 it has partners in 16 countries in Latin America, Africa and Asia. DF gets the financial assistance increasingly from Norad.

DF played the effective coordination and co-financing² role in the TCP. It brought together the partners and played the critical role of coordinating the project.

1.2.6: Noragric

Noragric was established in 1986 as part of the Agricultural University in Norway. It brings together research, education and development related assignments with a focus on developing countries and countries with economies in transition. The annual income is largely earned through assignments in research, advisory activities and training. It provides high end technical cooperation on GIS database and trainings.

1.3: ToR of External Evaluation- II Phase

The main goal of the final external evaluation is to assess whether the aims of the project has been reached. It shall explore the final results, both tangible, intangible as well as unexpected results. And finally, what are the lessons learnt that all partners can bring with them to other networks and donors, now that the project is being finalised?

In light of the project ending, special emphasis should be given to “sustainability” in terms of continuation of the implementation at ground level, as well as continued

² Co-financing refers to funding the partner organizations and overseeing the effective utilization of it by acquiring fund from different donor agencies. In the case of DF, it routed fund from NORAD for the TCP and effectively coordinated the utilization of it among the partners.

collaborative work between organisations involved at institutional level. The full length TOR is given in Appendix No.1

1.3.1: Concrete questions to be answered:

- Assess if and how the Triangular Project has been able to meet the overall objectives of the project (based on MoU for the second phase).
- Assess if and how the Triangular Project has been able to meet the objectives under each areas in the MoU for the second phase; Water Harvesting Technology and Management, Common Pool Resources Management, Pre and post harvest technologies assessment and piloting, Training and Human Resource Development.
- To what extent has each of the activities met the overall objectives of the project?

Assess if and how the NGOs have been/will be able to use the knowledge, solutions, pilots and skills from the Triangular Project in their work with their beneficiaries.

- 1) Assess the organization of the project
- 2) Assess the project administration and management (something about partnership and participatory focus?)
- 3) Assess the cost /benefit part of the project in the second phase.
- 4) Assess if and how the recommendations from the 2002 evaluation have been followed.
- 5) Give recommendations on how the South partners can continue their collaboration
- 6) Give recommendations on parts of the projects that should be considered to continue in the Africa Network Project of DF.
- 7) What is the main learning from the Triangular Project to be highlighted?
- 8) To what extent have women been involved in the project, at beneficiary level and organization level.
- 9) Has HIV/AIDS been a dimension taken into consideration- is it an issue?

1.4: Major Findings and recommendations of the External Evaluation- I Phase

The main areas to be assessed are: the institutional collaboration between Ethiopia and India; experiences with the projects related to: Common Pool Resources, Water Harvesting, Training in Rural Management and Dairy Industry; Recommendations for the future.

1.4.1: Findings

- On co-operations: The co-operation between the partners has found a basis that reflects a reciprocal respect for each others competence and special challenges.
- On research: The studies that have been carried out stand out as major research work with specific relevance to both the Indian and Ethiopian partners.
- On dissemination of new knowledge: Partners have used the knowledge and experience from the project in advocacy and policy work with regional and national authorities on topics of natural resource management.

1.4.2: Recommendations

1. The future programme must be more activity oriented.
2. Goals and expected outputs must continue to be improved.
3. Internal and external reviews should be followed-up thoroughly.
4. DF and Noragric should become full (primary) members of the SC.
5. Male-female ratio in project work and administration must be improved.
6. Core personnel should be identified for long-term involvement.
7. DF should play a stronger role in negotiating funding from other donors than Norad.
8. Communication strategy should be formulated.

1.5: Methodology

The evaluation process started with project management (Development Fund) defining the goals of the evaluation and the intended use of the findings. The evaluation was expected to understand the project in its dynamic context, to seek learning and to identify unexpected outcomes. Evaluation was also expected to focus on the effectiveness of the project, issues that are of interest to donors, stakeholders and beneficiaries. It is process-cum-product evaluation. Since the project activities are at the verge of completion, it would be complex to assess the outcomes of the project, for it would take some more time for the benefits of capacity building to percolate down on the field initiatives. Hence largely the organization and administration of the project, cost effectiveness and the outputs of the collaborative intervention have been assessed in the process and product evaluation.

The evaluation is based on reviewing the documents available, intensive field visits and discussions with all the stakeholders. The documents made available to the evaluator subsume

- 1) External Evaluation Report – I Phase (1997-2002)
- 2) Minutes of Steering Committee Meetings (2003 and 2004)
- 3) Internal Evaluation Report of all the Partners and the Synthesis Report of all Internal Evaluation Reports by Prof.Katar Singh
- 4) Annual Reports for the last two years (2003 and 2004)
- 5) Manuals prepared during the Second Phase
- 6) Concept Paper on the Second Phase (REST)

In addition some documents about the profile of the partners and documentation of the trainings and exposure visits have also been obtained from the concerned partners. The internal evaluations done by the organizations and the synthesis report of all the evaluations are rich materials for the external evaluation. The Synthesis Report prepared by Prof.Katar Singh is given in Appendix No.3 . The minutes of the Steering Committee meetings also gave the comprehensive picture of the functioning of the project. The minutes of two SCM held during the second phase of TCP are given in the Appendix 4.

Intensive field visits have been carried out to understand the field realities in all partner organizations. Field initiatives in SWDF, REST and MU have been visited as part of the evaluation. Over and above, incisive discussions were held with responsible persons in

the organizations and the Triangular Project. The complete list of persons with whom discussions were held is given in Appendix No.2.

The information available in the documents made available, field observations and discussions with responsible persons to triangulate the information assisted in bringing clarity to many of our questions and enriching the report.

The evaluation study was started sometime in December 2005 and the field work was carried out in January 2006. The first draft of the report was circulated among the partners for their feedback and comments. Their comments and suggestions have been incorporated wherever necessary.

The report is organized in seven chapters. The first two chapters provide the background of the project, preamble of evaluation and the activities undertaken along with the budget. Third chapter dwells on the administration and organization of the project. The fourth and fifth chapters analyse the cost effectiveness of the project through the tangible, intangible benefits and the spin off effects of the project. The sixth chapter seeks to assess the sustainability of the project after the withdrawal of the Northern partners. The seventh and final chapter enumerates recommendations from the findings and draws the conclusions.

Chapter II

Activities and Budget of Partners

2.1: Activities Undertaken by Partners

As given in the objectives of the TCP, the activities hover around capacity building through trainings, exposure visits and knowledge creation with the help of manuals. Details of the activities presented in the following Tables explicate the role played by different South Partners during the second phase. The role of support institutions has been considerably low. It could be increasingly due to the focus shift towards field activity orientation during the second phase at the recommendation of the First Phase Evaluation. The activities undertaken during the year 2005 among the partners are deplorably minimal in comparison with the first phase initiatives. Even some of the planned activities were not carried out.

REST has brought out some visible impact on the post harvest technology and alternative solar energy installation. The interventions in water resource management and alternative livelihood systems have been very effective and sustainable. The core initiatives of REST gained further effectiveness to have long term sustainability with the exchange of knowledge and capacity building through the TCP. Substantial capacity build up has taken place on NRM, Dairy development through cooperative approach and post harvest technologies.

The field visits to the SWDF revealed that Public-Private partnership in development could deliver better results than the adapted response from the private or public separately. The synergy generated due to the participation of all stakeholders in development could be noticed in the water resource management, crop diversification, dairy development and functioning of institutions. Though the intervention is thinly spread over three states, the replicability of the model remains unchallengeable. Exposure to these initiatives could be a learning to the development practitioners. Hence, exposure visits to SWDF was a practical training to the Ethiopian partners. The water harvesting structures like check dams and other percolation ponds have perceptible difference between SWDF and REST. This could be seen in the photo pictures no 1 to 4.

IRMA exposed Ethiopian partners to diverse post harvest technologies available around Anand in Dairy development like Amul model, NDDDB and women dairy cooperatives. The involvement of Barefoot college buoyed the exposure to high end alternative energy sources at the low cost. The post harvest technologies obtained through the TCP initiatives could be seen in the Pictures.

In the case of MU, the activities completed are too general and the specific outputs are limited to the Solar work station construction at Tukul, one manual on agronomic aspects of major crops and another on area enclosure at the verge of completion. Now the drip irrigation activity is also going on. However we were told that it has created the data base and secondary materials to pursue quality research in future on various aspects of South-South Cooperation. The solar work station along with the female solar engineer could be seen in the picture.

The inclusion of NORAGRIC in the TCP has guaranteed high end technical trainings and high quality documentation of the TCP interventions. To say a few, the educational video films, GIS data analysis trainings and SDBm trainings were highly appreciated.

2.2: Major Activities undertaken in the Second Phase

The following sections 2.2.1 and 2.2.2 provide separately the number of trainings conducted and the number of manuals and other documentation during the second phase of TCP.

2.2.1: Consolidated details of trainings conducted during the second phase

No.	Training Title	Facilitators	Duration	Participants	
				Male	Female
1	Pre & Post Harvest Technology Training – REST	IRMA and SWDF	25 days	2 REST 2 MU	
2	Watershed Development and Field based Management trainings- REST	Watershed experts	6 days	10	
3	Facilitation of study tour to REST from Indian partners	IRMA & SWDF	6 days	8 from India	2
4	Alternative Energy Assessment and Piloting	Barefoot College	Five months	2 people	
5	Training on Cooperatives and Agricultural Produce Marketing –REST	Cooperatives Formation – IRMA	12 days	8	
6	Training on Cooperatives and Agricultural Produce Marketing	At REST by IRMA	5 days	25	
7	Roof Rainwater Harvest Model to REST	Barefoot college	Nov. 2004		
8	Exposure visit of REST to Sadguru in November 19, 2005	Post Harvest Technologies	6 days	9	
9	Training on Design of Water Harvesting Structures for REST Engineers	At REST by SWDF	One week, November 1 to 6, 2004	25 Engineers	
10	Exposure visit of REST to Sadguru	Post Harvest Technologies	6 days , 2005	9	
11	Training in Soil database management (SDBm Plus)-NORAGRIC	At MU and REST and SWDF	14	5	0
12	Field training on mapping local soil quality indicators.-NORAGRIC	At MU and REST and SWDF	10	5	0
13	Training of irrigation scheduling software	To MU and REST	2	2	

	(CROPWAT). NORAGRIC				
14	Software established and GIS training- NORAGRIC	At REST and SWDF	10		

Note: Major trainings were included. In addition some visits were made as part of manual preparation study tour. They are not included here.

2.2.2: Research and Documents Prepared

- 1) 'A Manual for Promotion and Management of Sustainable Water Users' Associations in Tigray (Ethiopia)' . – REST and IRMA – Translation of it into Tigrinia is going on and at the verge of completion -2005
- 2) Educational Video Film on Water User's Associations by Noragric as an outcome of the field work for the manual- 2004
- 3) Jordforsk/Noragric prepared a training manual for SDBm plus and two compendiums of relevant literature titled "Soil Quality and Local Knowledge for Improved Soil Management (Volumes 1-3), and "Water User's Association in Irrigation Management (Volumes 1 and 2). -2004
- 4) Manual on "An assistance to Agronomical Field Manual" prepared by Mekelle University provides agronomic details of 17 major crops in the region – in 2005
- 5) Manual on "A Synopsis of Area Enclosure Management in Ethiopia" prepared by Mekelle University provides information analysis of land degradation and forest management by the community. – 2005
- 6) A Brief Report on Cooperatives and Agricultural Marketing Training and Experience of India in the Ethiopian Context – prepared by the Trainee team drawn from REST, Bureau of Agriculture, Cooperatives and Mekelle University. July 2004
- 7) A brief report on Post Harvest Technologies Assessment in India and Ethiopia, and Progress made on the Technologies Implementation – prepared by REST in December 2004.
- 8) Concept Paper on the Second Phase 2003-05- Programme Components of the Triangular Cooperation Project- prepared by REST

2.3: Activities Organization wise

2.3.1: REST

Sl. No.	Activities	Highlights	Number of days	No of People	
				Male	Female
1	Pre & Post Harvest Technology Training – Exploring the maintenance of produce quality, Value addition, improve shelf life of seeds/ planting materials	2 Butter churners, rotary type- 53, Fixed type- 50 Groundnut Decorticators- 30, Low cost evaporative cooling vegetable storage	25 days	2 REST & 2 MU	
2	Irrigation water Users Association Manual	Visit to NGOs, Govt. department in India	10 days visit and 3 days		

	development		workshop		
3	Watershed Development and Field based Management trainings	Watershed experts	6 days	10	
4	Facilitation of study tour to REST from Indian partners	Manual preparation study tour by IRMA & SWDF	6 days	8 from India	2
5	Alternative Energy Assessment and Piloting	1) Farmer trainees 2) Solar Energy Installed 3) Installation responsibility MU 4) 30 HHs, 1 school and 1 health post	Five months in Barefoot College	2 people	
6	Watershed Management and Monitoring	1) Delineation of Boundary 2) Digitization of Contours for DEM	Two watersheds in Ahferom Woreda		
7	Training on Cooperatives and Agricultural Produce Marketing	Cooperatives Formation –IRMA	12 days	8	
8	Training on Cooperatives and Agricultural Produce Marketing	At REST by IRMA	5 days	25	
9	Roof Rainwater Harvest Model	Barefoot college	Nov. 2004		
10	Exposure visit to Sadguru in November 19, 2005	Post Harvest Technologies	6 days	9	

Pending work –

- 1) Manual work for Common Pool Resources Management at Tigray
- 2) Translation of Water users Association manual to local language

Other works

- 1) Groundnut decorticators technology has been modified to suit the local conditions
- 2) River diversion programme has been taken up
- 3) Document on Post Harvest Technologies Assessment in India and Ethiopia and Progress made on the Technologies Implementations – December 2004.

2.3.2: SWDF

Sl No.	Activities	Highlights	Number of days	No of Participants	
				Male	Female
1	Exposure visit to REST	Field visit to REST and MU	6 days (29 September to October 4, 2003)	8	
2	Ethiopian Team Visited Sadguru	As part of training in IRMA	2 days , October 8 to 10, 2003		

3	Training on watershed development programme to REST		6 days December 1 to 6, 2003		
4	Participated in discussion for Manual on Irrigation Water Use	Workshop to finalize manual	2003		
5	Exposure visit of Participants of Training on Cooperatives and Agricultural markets and Post Harvest technology	As part of IRMA training	Two days, July 8 to 10, 2004		
6	Training on Design of Water Harvesting Structures for REST Engineers	Conducted at REST by SWDF	One week, November 1 to 6, 2004	25 Engineers	
7	Exposure visit of REST to Sadguru	Post Harvest Technologies	6 days , November 19, 2005	9	

Note: Sadguru did not participate in the workshop on the manual for Water User's Association and African Network Meeting.

Pending work

1) Manual on Common Pool Resources

2) One training on Development of GIS data base on Environmental indicators was proposed in November 2005 but not conducted. Noragric has organized the first training on GIS Data base

2.3.3: IRMA

Sl.No,	Activities	Highlights	Number of days	No of People	
				Male	Female
1	Manual for Water User's Association	Visit to REST	October 28 to November 7, 2003		
2	Manual for Water User's Association	Visit of all Partners to Gujarat	December 6 to 15, 2003		
3	Exposure visit to REST	Field visit to REST and MU	6 days (29 September to October 4, 2003)	2	
4	Exposure Visit of REST team to IRMA and institutions in Anand	Watershed training in Sadguru	One day in December first week 2003		
5	Post Harvest Technology workshop in Mekelle		December 28-29, 2004	One	
6	Pre and Post Harvest Technology Development at REST		December 25, 04 to January 5, 2005		
7	Training on Cooperatives and Agricultural Marketing	REST, MU and Govt.	July 5 to 16, 2004	8	

		dept.			
8	Workshop on WUA Manual at Mekelle	To discuss the findings	November 3 – 4, 2004		

Note: 1) Based on the training and workshop on Post harvest technologies, an interim report was prepared.
2) IRMA also conducted a ten day Training Programme on Development Management to 8 Senior staff of REST during October 2005. The programme was conducted outside the Triangular Project or a spin off effect of TCP.
3) One person participated in Africa Network Meet held at Nairobi, Kenya during October 2005 on the invitation of DF

2.3.4: MU

Sl.No,	Activities	Highlights	No. of days/ Year	No of People	
				Male	Female
1	Data and Literature Collection		2003		
2	Photographed the Technologies in Soil and Water conservation, micro dams, area closures etc.		2003		
3	Preliminary Manual Drafts produced*	Area Closure and Major crops	2003 to 2005		
4	Construction of the Solar Panel Work Station in Tukul Village	With the help of Barefoot college	2004		
5	Yield potential of various crops in Aferom Woreda calculated and major yield determinants identified		2004		

Note: Drip Irrigation structure is being installed for cultivation of vegetables and other horticultural crops and fencing for the meteorology unit of the department has been done

* Manual on Area closure has been completed but not finalized

* Manual on major crops has been completed but not finalized

2.1.5: NORAGRIC

Sl.No,	Activities	Highlights	No. of days	No of persons	
				Male	Female
1	Visit for the preparation of Manual on Water User's Association.	Conducted at IRMA &SWDF	10	3	0
2	Software established and GIS training was given to a REST professional.	Conducted at REST and SWDF	10		
3	Remote sensing and GIS based field activities and analysis work was	Conducted at MU and REST	7		

	carried out for Zata watershed.				
4	Training Manual prepared for Soil database management (SDBm Plus).	Distributed to MU and REST	14		
5	Training in Soil database management (SDBm Plus)	Conducted at MU and REST and SWDF	14	5	0
6	Field training on mapping local soil quality indicators.	Conducted at MU and REST and SWDF	10	5	0
7	Preparation of compendium of Water User's Association in Irrigation management (volume 1 and 2) and distributed with MU and REST.	Distributed to MU and REST	10		
8	Training of irrigation scheduling software (CROPWAT) to the participant from Mekelle and REST.	Distributed to MU and REST	2	2	
9	Contributed in the Manual preparation for irrigation water use in Tigray.	Together with IRAMA and entire group	10	2	
10	Field soil surveys including four more profile sampling was done in Zata watershed.	Done together with MU	5		
11	Preparation of literature compilation on Soil Quality and Local Knowledge for Improved Soil management (volume 1 and 2) and distributed with Mekelle University and REST.	Distributed to MU, REST and SWDF	5		
12	Production of Educational Video film on Water User's Association and distributed to the partners.	Distributed to MU, REST and SWDF	15		
13	Participated in the workshop for discussing the Manual for establishing Water User's Association for irrigation water uses in Tigray.	Shared experiences and shown the video film	4		

Note: Noragiric has developed one Educational Video Film on Water user's Association

2.4: Budget Utilization by Partners

In the case of REST, all the expenditures are incurred on training and technology assessment only. It has incurred very little expenditure on the activities such as monitoring water and watershed programmes. Since most of the post harvest technologies and instruments have been obtained from India and in use among the farmers as well as women members, it indicates the integration of the learning through TCP in the core development interventions. The investment on solar lantern has brought real qualitative change in the village and it put Tukul village in the development map. UNDP has visited the project and appreciated the intervention.

Drip irrigation work in Mekelle University campus through TCP is at the finishing stage at the time of visit. The use and impact could be seen only next year. Solar lantern work station is another tangible contribution of the Mekelle University. Two manuals have been completed but yet to be finalized.

In the case of SWDF, though GIS training is planned for 2005 it was not conducted as per the activities given in the internal evaluation but finds a place in expenditure column of the budget. It was learnt that Development fund agreed in principle to conduct the programme in the beginning of 2006. Since both the Indian partners are training institutions, cost appears to be higher than the regular training charges. As the participants of these programmes are foreigners even though they are from one of the undeveloped countries, the training charges are at the rate of international charges. Since planned activities are not carried out in 2005, balance amount with the partners tends to be considerably high. There is a need on the part of steering committee chairperson to expedite the work and rationalize the budget.

Most of the participants of the training programmes from the Ethiopian partners expressed in their training evaluation report that food and accommodation are quite costly in India. It means that even the training participants have been charged for their boarding and lodging. If it is so, then the budget for trainings appears to be at the very high end.

2.4.1: Budget of SWDF during the II phase TCP (in Rupees)

Activities	2003		2004		2005	
	Budget	Spent	Budget	Spent	Budget	Spent
Total budget / Spent	1730490	1133982	1284792	878140	1202237	768505
1.SCM	0	6355	0	137864	0	0
2.Exposure visit of SWDF staff	0	773260	0	0	0	0
3.Ethiopian participant exposure visit	0	94930	0	78729	0	0
4.Training on water shed management	0	27540	0	0	0	0
5.Technical training on water harvesting	0	0	0	329043	0	281119
6.Manual development	0	0	0	2336	0	0
7.GIS training / software packages	0	0	0	330178	0	440000
8.Over head and contingency	0	231888	0	0	0	47386
Amount Received	1262790	0	1284792	0	664629.3	0
Balance (Rs.)		669541		459345		433732

Note: Exchange rates during the period in terms of USD were Rs.46.77, 45.56 and 45.56 respectively.

2.4.2: Budget of IRMA during the II phase TCP (in USD)

Activities	20040	2005
Manual for Water Use and Management	6500	2200
Pre and post harvest technology	8000	
Training on cooperatives and agr. Marketing	12797	
SCM	4800	2200
Manual Development for CPR Management		14500
SUM including all	32097	18900
SUM in NOK including all	227889	
Balance		12879
Net Required		6021

Source: Minutes of .SCM for the respective years. The finance figures refer to the planning amounts not actual expenditures.

2.4.3: REST budget for 2003 (in BIRR)

Sl. No.	Activity	2003		2004		2005	
		Total Fund	Total Expense	Total Fund	Total Expense	Total Fund	Total Expense
1	Manual for Water Management - Assessment of relevant Experience**	34458.70	36862.41	47538.15 @46016.9 #82111.35	49009.05 48661.95 36885.90	46,452.98 217,964.99 © 52,952.93 23,645.95	53,760.00 224,987.09 19,133.50
2	Pre & Post harvest Technology -Technology Assessment & Alternative Energy	244816.00	273960.67	264969.00	246683.33		
3	Training on integrated watershed development**	199703.28	199703.28	200956.73	203947.24		
4	Study visit arrangement to partners (Indian)	17120.00	17000.00				
5	Watershed management and monitoring	21400.00	21030.00	24608.25	23292.74	21,666.50	
6	Steering Committee Meeting	37492.80	37364.50	17286.60	16278.17	37,959.71	15,414.38
7	Purchase of Solar lantern equipment ***	71690.00	71690.00	51859.80	47243.90		

Total Project Cost	626680.78	657610.86					
Administration cost @10%	45624.80	45624.80	56463.97	56422.54	37,699.71	31,329.50	
Grand Total	672305.58	703235.66	788830.77	730624.82	438,342.77	344,624.47	
Balance		-30930.08		58205.9		93,718.30	

Note: * The budget deficit of BIRR 28526 (\$3307) is to be covered from the FY2004 budget which is agreed to by DF

** REST contribution of BIRR77342.78 is made towards manual for irrigation and training for watershed management.

*** This is directly transferred to India from DF for purchase of solar lantern equipment

@ row for 2004 indicates expenditure on design and assessment of water harvesting structures

row for 2004 indicates roof rain water harvesting expenditures

© row shows the expenses on the CPR manual preparation

2.4.4: Mekelle University (in BIRR)

Sl. No.	Activity	Total Fund	Total Expenditure	Balance*
1	Amount Received BBF from December 31, 2003	196,216.68		
	Transferred Amount	0.00		
	Total Amount	196,216.68		
2	Expenditures			
	Per diem		22,055.75	
	Stationary and communication		1,147.32	
	Transportation and Extra package		10,268.50	
	Bank charges		13.76	
	Vehicle running Cost		8,368.53	
	Part time		4956.00	
	Salary		3,150.00	
	Salary for practical Attachment		19,425.00	
	Coordination Fee		8,500.00	
	Miscellaneous		159.40	
	Construction material		52.00	
	Soil analysis		45,080.35	
	Rural Solar Workshop		43,375.96	
	Wage		1150.00	
	Total Expenses		167,702.57	
3	Remaining Balance			28,514.11

Note: MU has received the grant of \$14700 (USD) for 2005 at the end of the year. The total balance thus comes to around \$18000 (USD).

2.4.5: NORAGRIC

	Activity	2004	2005
1	Incoming balance from 2003	-164	
2	Manual for Water Use and Management	10500	
3	Watershed Management and Monitoring	40164	
4	Project Follow up	20000	

5	SUM including all	70500	83700
6	SUM in NOK including all	500550	
7	Balance		50
8	Total	70500	83650

Note: Budget details were taken from the minutes of SCM 2004 and 2005. The 2003 does not contain item wise budget

REST has made available budgets for all the years. Mekelle University has given only consolidated budget for the year 2005. SWDF has given the budget for all the years. In the case of IRMA and NORAGRIC, budget details were taken from SCM minutes. The balance with the partners has been reasonably huge even after the completion of the project life.

Since it is a software project³ of capacity building and knowledge sharing for building up network, most of the expenditure incurred is on research, documentation and training-cum-exposure visits. It gave opportunities to many staff members to have exposure to different cultures and development experiences. Though very little pertinent has happened towards long term networking for south- south cooperation, the impact on capacity building and knowledge of different environments is perceptibly high.

2.5: Follow up of First Phase Recommendations

As presented in the synthesis report of the internal evaluations, it is sufficiently clear that there was sincere effort to implement the recommendations of the First Phase External Evaluation. There was substantial reduction in the documentation and trainings in the second phase though it is not meant when emphasis was made more on action orientation. However, the recommendations on continuance of the core staff and gender sensitivity aspects have not been sincerely attempted. Detailed discussion could be found in the synthesis report of internal evaluation given in Appendix 3.

Table 2.4.1: Follow up of First phase Recommendations

Partner	Relevant recommendation	Follow up	How	Outcome
Sadguru	To initiate field-based action for integrating various components such as water harvesting, horticulture, CPR, and dairy	Yes	Integration of projects of water harvesting and horticulture	Successful Appreciated by partner organizations
IRMA	The future programme must be more activity oriented	Yes	Substituted an action – oriented activity for a research activity	Successfully done

³ By software project what we mean is the project provides the technical support and technical cooperation (capacity building) to the partner organizations and it does not provide for any field based activity directly. The opposite hardware refers to the direct field activities implementation.

REST	The future programme must be more activity oriented	Yes	All of the activities taken up involved field-based action	Successfully done
MU	Take up projects to alleviate poverty and food insecurity.	Yes	Farmers helped in taking care of their fragile ecosystem	Successfully done
Jordforsk /Noragric	To enhance the capacity of staff of REST and Sadguru in collecting and analysing spatial data relevant to watershed management	Yes	Training in collecting, managing and analysing spatial data	Successfully done
DF	<p>1. DF and Noragric should become full (primary) members of the Steering Committee.</p> <p>2. A communication strategy should be formulated by DF</p> <p>3. DF should play a stronger role in securing funds from donors other than Norad*</p>	<p>Yes</p> <p>Yes</p> <p>No</p>	<p>1.As per a decision taken in the SCM in Anand in February 2003</p> <p>2.An internet-based strategy was developed and tested</p> <p>3.The Partners did not formally request the DF to do so. Hence no action by DF</p>	<p>1.Successfully done</p> <p>2.The strategy was not launched</p> <p>3. No action, no outcome</p>

Source: Katar Singh, Internal Evaluation Synthesis Report, II phase, p.15

Chapter III

Organization and Administration of TCP

3.1: Organization of the Project

Steering Committee is the apex structure in the organization of the Triangular Institutional Cooperation Project. Members of Steering Committee comprise of the heads of six Partner Institutions or their nominees. The Steering Committee elects the chair person on rotation on a yearly basis between the Indian and Ethiopian partner Institutions. It has the mandate to prepare the project proposal with a corresponding budget and design annual action plans. In addition, it has the authorization to coordinate implementation of action plans and monitor the progress of implementation of action plans. It also has the directive to network with other institutions engaged in similar work.

The steering committee has met regularly on annual basis to finalize the budget and action plan for the following year. In the first phase of TCP, SC met more than one time in some years. During the meeting the next chairperson is identified. It appears that the activities carried out during the year and the proposed activities have been approved without critiquing by keeping in mind the larger objective of networking among the South partners. It appears that what ever is given in their respective annual reports have been generally approved. Though the chairpersons have been systematic in organizing the next annual meet, the other mandates of monitoring the progress in implementation of the partners and networking have not been judiciously attended to. The coordination of the implementation has been effectively carried out by the Development Fund. The networking with other institutions has been very minimal excepting the identification of Barefoot college as one of the significant resource centres for the post harvest technology and alternative energy sources. The impact of the participation of Barefoot college in solar energy is tangible and replicated in the whole region.

3.2: Administration

Project Administration has been very loosely knit. Like any project in the development sector, the Director or Leader of the NGO is the administrative head of the project but the operational head of the project is a staff. It is true in the case of TCP too. There was no full time team as such in the partner organizations for the implementation of the action plans. Though it is a common practice in NGOs to expect the staff play multiple roles, the priority given to the project appears to be marginal. This project has been generally treated as a software project of capacity building and knowledge sharing. Even the nominees of the team leader in both REST and SWDF have been changed more than one time due to unavoidable circumstances. The change in core team members has brought gender balancing in SWDF and DF. In SWDF, the presence of Prof.Katar Singh as consultant since the beginning of the project has given the continuum in the event of change of guard. In the identification of trainees to various programmes, due attention has been given in accordance with the objective of the project. The participants have been picked up from different departments or units. Certainly it helped in building up the capacity in the organization as a whole. As a result more spin off effects could be seen for the project than directly realizing the objectives.

In REST, the objectives of the Triangular Institutional Cooperation project have been integrated into the other hardware projects very systematically. The participants have been identified from each of the programmes like watershed programmes, dairy cooperatives, water resource management and post harvest technology. All these things are carried out by the ERAD unit. Even some of the government department people were also given the opportunity to have exposure and training in India. This multi-stakeholder participation in the project has facilitated in influencing the policy making, particularly the cooperative policy.

The initiative of the Chair Person to prevail upon the partners to complete the proposed activities was minimal. As a result, every year the preparation of manuals and even planned visits got postponed. Even after completion of the project period, many activities are still pending. Particularly in the year 2005, the enthusiasm was not there after hearing about the likely non-continuance of the project in the present form. As a result most of the works are pending or done perfunctorily.

The administration of the project would have been little more effective had there been at least one full time staff with total responsibility for the project. Since it is a software project with largely intangible and inseparable benefits, a senior person with multiple responsibilities being in-charge has pushed the project to least priority one. In the Annual Report of some of the partner institutions it does not even find a place. In SWDF Annual Report for 2005, it finds a place in the financial statement only. In MU, it is found among the list of on-going projects. From other organizations, I could not get the annual reports of their organization.

3.3: Gender Sensitivity

The gender sensitivity received insufficient consideration in the project administration and organization. In IRMA, REST and even SWDF, the representation of women in the trainings or exposure visits has been inadequate to gain gender perspective or gender equity. Though SWDF has a woman as coordinator now, the participation of women so far has been even less than 20 per cent. In the Mekelle University more women got benefited through the TCP. Many women members visited India for both trainings and exposure visits. In SWDF, discussions were held with two women members. In Mekelle University, discussions were arranged with three women beneficiaries and one man other than the Head of the Faculty. In IRMA and REST, discussions could not be arranged with women staff beneficiaries. In REST, all the field programmes undertaken through TCP emphasize increasingly on women. In Tukul, discussions were organized with the woman solar engineer and some women beneficiaries. In Hegere Selam village discussions were held with women members running dairy cooperatives during the field visit for this evaluation. Even area enclosures and post harvest technologies target increasingly the women. Thus, the field initiatives provide priority to women as the primary stake holder. In India and Ethiopia women participate in the people's institutions like dairy cooperatives, water user's associations, micro credit groups and so on.

Chapter IV

Cost Benefit of the Project

4.1: Realization of the Objectives of the Project

Discussions with the partners and participants of the trainings and exposure visits revealed that Ethiopian partners could learn how semi arid regions in India has developed and synergized the partnership of government, donors, NGOs and training institutions. Exposure trainings are more effective in learning on water harvesting and dairy cooperatives. Similarly, understanding the African situation helped in preparing effective case studies for the trainings. Networking between different cultural situations provided an opportunity to understand the constraints in development. In the second phase the role of IRMA was reduced to facilitation due to more activity orientation. Noragric reduced its role relatively. It facilitated one high end training on GIS data base and produced an educational video film.

Pre and post harvest technology and marketing training cum exposure visit culminated in providing milk churners, cream separators, groundnut decorticators and cold storage for vegetables. Similarly, drying of tomato during the season for future use as post harvest technology has been appreciated by the Indian partners. Exposure to India helped Ethiopian partners understand the relevance of regulated markets and cooperative formation. Development of market infrastructure in Ethiopia as an important area of relevance for invigorating the economy is realized. Increasing the effective demand for vegetables and fruits in Ethiopia has been another realization through exposure visit to India. Similarly Indian partners appreciated the functioning of area enclosures in Ethiopia in comparison with the Joint Forest Management in India.

Low public investment in agriculture and rural development is observed to be one of the lacunae for the backwardness of the rural economy. The relevance of Public- private partnership for the integrated development of the villages is learnt through the exposure visits to SWDF. Particularly the visit to the check dams and nursery development in Sadguru field areas transpired the relevance and effectiveness of public-private partnership for the holistic development of the semi-arid regions. Diversification of crop is observed to be another area of significance for the rainfed areas of Tigray region. Some photo pictures could be seen in the annexure (p41 to p42) in both the development contexts.

Drip irrigation is followed in some regions, particularly Raya Valley region. Low cost structures are developed for this. Linking of tanks or micro dams is observed to be another area of relevance for the development of agriculture and water resource management. The micro political economy of Nile river catchments area in Tigray region, and large versus small dam controversy aggravate the poor harvest of rain water in the region. More intensive intervention is necessary in the water sector, Indian partners observed. Community based institutions are the strength in SWDF's work on NRM. Exposure to these institutions enabled the Ethiopian partners understand the value of institutions in community participation and sustainability of the initiatives. Indian partners particularly SWDF felt that Ethiopia and India particularly the Dahood region are similarly endowed geographical regions excepting for the public investment and

peoples participation. Hence, southern partners have more to learn something of practical applicability with labour intensive technology from relatively developed southern partners than capital intensive Western options.

Forestry regeneration work is far superior in Ethiopia, particularly the area enclosure programme. The institutions developed and the roles of REST as well as the government are exemplary and replicable in comparison with the Joint Forest Management (JFM) practices followed in India. Area Enclosure programme has been increasingly admired by the Indian partners visit after visit. The regeneration and survival of species has been quite impressive to the extent that some people began to worry about the wild animals.

The speed of communication and decision making is very slow due to inadequate delegation of power and responsibility among the Ethiopian partners, some Indian visitors observed. The middle and low level people wait for the orders and focus (Opinion of other partners and some staff of the organizations). This could also be attributed to the lack of full time team with total responsibility for the project.

Project documentation both data collection and best practices has been a weak spot for both REST and SWDF. The inclusion of IRMA, MU and NORAGRIC in the intervention helped partially overcome this lacuna. Through TCP, considerable documentation of the best practices, a host of manuals on relevant themes and the baseline data have been created and this has reiterated the relevance of documentation in development intervention among the partners.

The feeling of knowledge sharing and mutual respect for culture was built up steadily but slowly among the NGOs, particularly REST and SWDF. It could be because both the Indian partners were training institutes and played the same role in the TCP. This made Ethiopian partners to feel that Indian partners are teaching them to develop the capacity. The mutual learning approach was lacking there. Conversely, the technocrats were more open to learn, Indians observed. The technocrats from REST and MU appreciated the high cost but best possible appropriate technology of check dams and lift irrigation systems in the rainfed regions in India.

4.2: Tangible Benefits

1) Perceptible change could be noticed in the participants in their articulation and international experience. Even the perception of the developmental issues transformed noticeably. Even some of them gave the analysis of how some interventions and initiatives worked in India and why not in Ethiopia. For the development practitioners, this will have a wider long term impact.

2) Similarly, the teachers and trainers are utilizing this knowledge effectively in their class room lectures and trainings. Some of them have prepared case studies on rain water harvesting, Check dams, area enclosures, dairy cooperatives, crop diversification, food security and water user associations. This has brought value addition to the trainings and lectures.

3) Post harvest technologies like group cold storage (10 out of TCP), milk churners (52), groundnut decorticators (33 modified to local conditions), Honey bee keeping (5000 around), Dairy cooperatives (7) and check dams (126) have been already in operation. Though some of the check dams were constructed before the launch of TCP, the technical knowledge gained through TCP helped in modifying the structures and efficient maintenance.

4) Solar Energy lighting and wireless tele-centre in Tukul model village is a major tangible benefit of the project. Nearly 35 households were given solar lantern connection. In addition one school and one health centre are given solar energy connection. In December 2005, an order for 50 additional solar lanterns and panels were sent from Barefoot college to REST to provide solar energy lighting for the remaining households in the Tukul village. This initiative was based on a request from the people of Tukul. Local work station to repair the solar panels and a trained illiterate local woman as full time engineer to service their solar energy systems attract international development practitioners' attention. UNDP News Front carried an article in 2004 on this woman engineer entitling "Ethiopia's First Female Rural Solar Engineer Lights up Lives: An Exemplary Model for Decentralization and Community Self Reliance".

5) Micro dams and drip irrigation have been other major tangible benefits of TCP. In the southern region of Tigray, micro dams, similar to tanks in India, have been constructed to harvest rainwater for irrigation and drinking water purposes. Though these initiatives have been undertaken much before the advent of TCP with the exposure of some of the agriculture department officials to Rajasthan state in India, the knowledge of maintenance and linking of micro dams have been learnt through the TCP knowledge sharing exercises.

6) Community participation through establishing people's institution at the grass root level is another significant outcome of TCP. Many institutions to enlist community participation have been formed after the exposure visits. Watershed committees, water user's Associations, dairy cooperatives and Area Enclosure Committees form part of the larger list.

7) The exposure visits gave new dimension to development in Ethiopia. The synergy created through partnership of government, donors, NGOs and training institutions is very effective in development of semi arid regions as the investment required is huge. The colossal resources required both human and fiscal cannot be generated by one stakeholder. In area enclosures and micro dams, partnership model is followed with the participation of government along with the donors.

8) A plethora of manuals produced as part of the research and documentation component of TCP serves as rich reading material to understand the development context in two different cultures with similarly endowed natural resources. Though the number of manuals brought out during the second phase is limited, they are being translated into vernacular (local people's) language. This ensures the reach of the manuals to the primary stakeholders in development.

4.3: Intangible Benefits

1) The participation of a large number of lecturers and trainers from the University and training institutions in the TCP initiatives helps the spread of the knowledge and information acquired to reach noticeable number of students and trainees. Even the turnover of the participants of TCP trainings and exposure visits to other organizations carry with them the knowledge and information gained through TCP to other organizations. Thus multiplier effect is created.

2) The alternative energy sources installed in Tukul village is visited by International donors including UNDP, Indian Ambassador, The Governor of Tigray State, Government officials, NGOs and political leaders. Even the micro dam programme is also gaining ground among the government officials and donor agencies. Thus, the replicability of the programme has been enhanced due to its cost effectiveness.

3) Some participants from REST and Mekelle University in Ethiopia observed about the high respect among the Indians for their nation, their natural resources and themselves. Since this is a significant indicator of governance, they identified the problem of governance for all evils in development. They also propagate the idea among the colleagues and students. This realization spreads among the beneficiaries and penetrates the mind of younger generation through the lecturers. Thus, the relevance of governance and conflict free society for the holistic development of the underdeveloped countries has been emphasized by most of the participants in the exposure visits to India. Some of them expressed that People's institutions have to be formed to make the development and governance more inclusive, participatory, people centred and sustainable.

4.4: Cost Benefit Analysis

The scientific cost benefit analysis requires authentic quantitative data on all the fixed costs and variable costs and scrap values to calculate the net present value of cost and the quantitative data on the tangible and intangible benefits to calculate the net present value for the life time of the project. Since the life time of project has been very ambiguous, the computation of scientific cost effectiveness is very difficult. Even the time available is very limited to enumerate the necessary data. Hence a comparison of actual costs incurred on different activities and the quantitative tangible and intangible benefits created through the TCP have been correlated to understand the cost effectiveness.

The cost benefit comparison in the second phase displays a disturbing signal on the cost effectiveness of the programme. In the case of trainings and exposure visits, SWDF budget shows that the per head training fee for six days training programme comes to more than Rs.30000/- (excluding lodging, boarding and incidental charges). It appears to be very high and less cost effective programme. In addition, overhead charges are included on the expenses incurred. When it is included in the cost per trainee training fee alone comes to around Rs.35000/ for six days programme. Similarly, the programmes organized in REST by SWDF the rates seems to be very high. It raises the question whether it is possible to get trainees for their other programmes at this rate. Similarly for two days exposure visits the tuition fee comes to Rs.10000/ per trainee. This is definitely at the high end.

Similarly cost effectiveness seems to be very low in the programmes particularly trainings and manuals are concerned. In the case of manuals, the budget is spread over more than one year to more than one partner organization. The cost incurred on the manuals also remains to be very high. Though the tangible and intangible benefits tend to be very encouraging, the cost incurred on the activities does not seemingly justify the end. It could be attributed to the expenses incurred to the travel between countries. Hence the larger objective of networking and south-south cooperation is built up through these means. Since the activities undertaken through TCP have connotations on the bottom line of networking and long term cooperation, the higher expenses on the activities is justified.

Chapter V

Sustainability of the Project

In the first phase the trust and understanding among the partners was very slowly built up. The meetings and trainings were minefield in the initial stages. In the second phase there was on the surface mutual respect for the knowledge and culture of partners. This has helped in effective utilization of the knowledge acquired from different partners in different ways. REST has implemented some of the Post-harvest technologies, alternative energy sources and integrated water resource management practices. Similarly other three partners being teaching and training institutions have been using the knowledge gained in their teachings and trainings. Thus, the South-South-North partnership programme began to perform and deliver to different stakeholders. Thus, it has already reached the stages of forming, norming and performing. It has to now envisage on the issue of sustaining it. Hence continuance of the project for some more time with a shared vision would ensure sustainability of the partnership for longer life span. Withdrawal of the donor and northern partner at this critical juncture of the project would harm the sustainability of the project, for the administration and organization of the project has to be tightened and institutionalized to ensure sustainability.

The apex structure in the administration and organization of the project is the Steering Committee. Though it has the mandate to propose annual plan, budget approval, review of the progress made in implementation and the annual realization, it did not justifiably look in to the work and progress made over the period. The communications exchanged from the chairman of SC was very limited. It is restricted to convening the next meeting and selecting the next chair person. This has made its function very perfunctory.

Sustainability of the network among the South-South partners remains highly uncertain, though some trust and channel for collaboration in capacity building in the future is formed. The institution established does not have the mandate and budget for sustaining it. There was no common fund for the administration of the project. The chairman of the SC has been paid a fixed incentive of \$500 as honorarium. The more committed and enthusiastic chair person has to cough up some portion of their cake for the administration of the project. Hence, institutionalizing SC as an apex structure with a common fund to take care of the annual meeting and other expenses towards correspondences among the partners would enable the sustainability of the project.

Intervention of the Barefoot college in alternative energy sources has made wider and sustainable impact in the region and self reliance in the minds of the people. The dairy milk cooperatives, solar energy, honey processing, river diversion, and micro dams have become highly sustainable and now the outcomes burgeon. This has enabled and equipped the farmers particularly the women in difficult agro climatic situations to develop alternative livelihood systems to cope with the social risks frequenting in regular intervals.

The capacity building initiatives and exposure visits have made the staff members to internalize the development experience in different agro-climatic zones and different social situations. This is creating multiplier effect as most of the members are trainers in

their organizations or teachers for academic courses. Either way, the information and knowledge get polished and sharpened every year through the visit of other colleagues. The participation of government officials is also on the upsurge through the TCP. This means that the knowledge and information shared during the trainings is used in the policy decisions too. Thus, sustainable impact is created through the triangular cooperation. More and more participation of government officials could be considered in the future so that synergy between government, NGOs and TCP partners could be created to bring more effectiveness and sustainability in the development intervention.

The scaling up of the field based activities initiated through TCP is geared up in the second phase. The integration of the activities into the core programmes of the partners transpires the sustainability and scaling up of the programme. Since TCP is a software for the activities undertaken by the partners, the integration of the software to the hardware of core programmes of the partners becomes quintessential for sustainability. Thus, institutionalization of the programmes and regular information exchange has to be streamlined for sustainability and to make the intervention real time. Inclusion of more partners like Barefoot college and reducing the role of passive partners could be considered for rationalizing the budget.

Since support institutions involved in the TCP are known for their Research and Training, increase in number of popular publications in refereed journals, magazines and in the form of books can sustain the impact and replicability of the model to a larger development constituency. Though there were some efforts in publishing the works (like Dr.H.S,Shylendra from IRMA and Ms.Sarah Twelde Birhan from Mekelle University on Area Enclosures and Joint Forest Management prepared papers for presentation respectively in national and international workshops but yet to publish), it is not sufficient for the magnitude of data collected and documentation done. The network and collaboration among the researchers to bring out some good publication did not materialize. Comparison of India and Ethiopia development context and TCP intervention could be attempted to ascertain wider reach among the development community. More people centred action researches need to be done.

Thus, the sustainability of the impact of the interventions tends to be quite good. However sustainability of the network and institutions formed through TCP has not been thought out so far. Hence there is an urgent need to build up sustainable institutions like SC to continue the triangular cooperation for longer time and create synergy among South-South-North partners for a longer time frame.

Chapter VI

Spin off Effects

The experience of working in the area enclosure manual and visit to understand the joint forest management in India encouraged a participant to focus on Forestry in her masters and to specialize in it for her future research and teaching⁴. This has been the case of many of the participants. The exposure visits to India made the participants to show interest in the economic and political development in India. They are able to understand the economic and political developments in India and vice versa.

Roping in Barefoot college was one of the spin off effects of the triangular cooperation. As a result significant tangible benefit on alternative solar energy source was created in the difficult terrains. UNDP and other major bilateral donor agencies have visited the Solar energy in the Tukul village. Some 34 Ethiopians from 5 provinces in Ethiopia are about to complete a six- month training as Barefoot Solar Engineers at the Barefoot College in Rajasthan. The DF has been a participant in the meetings with UNDP Addis and has facilitated the communication between Barefoot College and UNDP. The project is a replication of the Solar Rural Energy pilot in the Triangular Project. UNDP representatives, Tigray Regional Governor and the Indian Ambassador have visited the solar pilot in Tukul village.

Even the major NGOs in the region and in Ethiopia visited Tukul village and replicated the model in their intervention. Even Barefoot college get bulk requests to train village engineers to handle solar energy equipments. In Tukul village, the first women engineer was created and she became a source of inspiration to other illiterate village women on their capability and self reliance. Dr. Mebrhatam Mesfin of MU expressed that South-South cooperation through TCP helps in reducing the Research and Development (R&D) expenditure by avoiding the reinventing the wheel expenses.

At the request of REST, IRMA conducted a training programme at Anand for members of the management committee of REST on the theme, *Leadership for NGO Functionaries*, during September 20 – October 1, 2004. IRMA also conducted a ten day Training Programme on Development Management to 8 senior staff of REST during October 2005. These programmes were conducted outside the purview of Triangular Project but the spill over of TCP.

One person from IRMA participated in Africa Network Meet held at Nairobi, Kenya during October 2005 on the invitation of DF though SWDF was also an invitee to the meet.

Demand from other regional stakeholders in Ethiopia, including regional government, for GIS data in the form of maps and help with the analysis of data are coming to all the partners of TCP. The Regional Cooperative Office in Tigray organized a training and exposure visit to India (IRMA) using its own resource. Another local NGO from Amhara

⁴ Exposure visits to India has helped may of the Mekalle University faculties to specialize on the forest related issues, gender and empowerment issues and cooperative development.

region (ORDA) has jointly organized an exposure visit to Sadguru on watershed management.

DF has given an American Foundation inputs on its collaboration experiences with the Barefoot College. In 2005, the Foundation granted the Barefoot College \$600,000 over a period of three years to support their effort to make available the methods developed by the College to other African countries, including Ethiopia.

The research and documentation done as part of TCP become rich reading materials for the development workers and practitioners. Even the researchers in the universities and the NGO authorities find it highly useful material for getting innovative ideas and to reduce the cost on reinventing the wheels. The training documents prepared by the participants from REST, MU and Bureau of Agriculture- Government of Tigris helped in designing the policy on cooperatives and activities for post harvest technologies.

In MU, students were involved at the time of preparing manuals for collecting data and interviewing the farmers. The data collected through this helped some of the students to complete their projects with practical experience. This also enticed them to research activities and research programmes in the future.

Thus, the spin-off effects of TCP manifest the continuation of network and association in some form in the future for capacity building not only among the TCP partners but also extends to other stakeholders in development. It has opened the flood gates for building up new relationships, networks and partnership in both technical and development cooperation. Hence, consolidation of the outcomes and sustainability of the intervention could be considered.

Chapter VII

Findings, Recommendations and Conclusion

Infrastructure status remains dishearteningly poor in Ethiopia. Particularly road and market infrastructure are in a state of disgrace. Majority of the people have to walk up to 20 KMs for reaching the nearest market place. Women are increasingly engaged in fetching water to the household. The domestic animals have to scale up and down the entire hill (1000 to 2000 meters) for quenching their thirst every day, sometimes with luck and sometimes particularly in the summer without luck. The villagers have to spend almost two days for marketing their harvest of five days labour. This hardship is caused due to lack of affordable transport facilities and approach roads. The mud roads precipitate both environmental and health hazards. Flies remain to be a real menace. Even the consumption of vegetables by the Ethiopians is very limited. Even the tomato and other vegetables produced in the river diversion beneficiary areas, farmers find it difficult to sell in the nearby markets. Hence, farmers dry the tomato for future market but the quality of the final product is not encouraging. Hence there is a need to create market for agricultural produce as the first step before investing more on diversification of crop, vegetable cultivation and post harvest technologies. Even today milk consumption and eating fruits are treated as the privilege of wealthy people. Even selling milk is not taken benignly in the Ethiopian culture. Hence, creating effective demand for vegetables and value added agricultural produces is an essential component of ensuring livelihood opportunities and food security to all. Thus, education and health should be emphasized more in the development intervention. Keeping this broad development context of Ethiopia in mind the recommendations were formulated from the findings of TCP initiatives⁵.

7.1: Findings and Recommendations

1) In the event of withdrawal of the TCP, the Steering Committee may be kept active by making some seed money available for meeting the transport cost of the participants from other countries, for SC provide the platform for networking among TCP partners and periodical sharing of their rich development experiences and knowledge. Since SC is the apex structure in the whole initiative of TCP for planning the activities and monitoring the implementation along with the bottom line of networking, sustaining the SC would reinvigorate the TCP initiatives with the minimum cost. Training participation or organizing trainings in their own organizations by inviting resource persons from other support partners could be considered to rationalize the finance. This would make certain the sustainability of the novel objectives of the project.

2) Establishment of more grassroots institutions is highly essential to make the intervention more effective for longer period. Institutions with financial commitments would strengthen the community participation and sustainability of the institutions itself. Institutions should be created with membership fee, user charges and some matching grants for financial stability of the institutions.

⁵ The recommendations are designed by keeping Ethiopian development in mind as the second phase activities are directed exceedingly to strengthen the field initiatives of REST and hence this frame is given.

3) First phase was a phase of forming and building up of understanding and trust among partners. In the second phase mutual respect for knowledge and culture burgeoned. Now it starts performing. Thus, the TCP has reached the final state of group formation, viz., forming, norming and performing. So it could be continued for some more time. In future at least to attend training programmes and SC meetings transport charges could be reimbursed as it is costly for the individuals or organizations from South to send candidates for training in India and vice versa.

4) Similar to the South-South-North cooperation for NRM and post-harvest technology, partnership for promoting education and health could be considered. Akin to water, education and health awareness are highly significant determinant for the development of the society. Even educational and health indicators in Ethiopia as a whole and Tigray in particular tend to show a very disheartening picture. Hence a proactive attempt in these aspects would ascertain a holistic development of the region. There are some mega NGOs working on health, education and watershed related works in semi arid regions in India, visits could be arranged to have exposure to these NGOs in India.

5) Rationalizing the budget has to be considered. Budget expenditure to the trainings tends to be higher than the normal rates. Proper monitoring of the activities on which the money is spent should be followed up in the SCM. Though the whole initiative is aimed at a broad based objective of networking among the South-South partners, the effectiveness of the budget could be assessed in regular intervals by keeping the larger objective in mind.

6) Gender sensitivity remains to be highly deplorable in the project. More gender representation could have been considered. In the event of the project being continued in one form or other, at the participation in exchange visits and in the field interventions gender equity should be kept in mind. Hence, a “new clothing” as hinted by DF could be a welcome thought.

7) The land closer to check dams and other watershed development interventions remains underutilized or unutilized for want of more water for cultivation of food grain or cereal crops. In these areas, less water consuming horticulture trees to ensure food security should be given higher emphasis in both public and private lands. More and more Mangoes, Jamoons, palm trees and other fruit trees should be planted in the public lands to create minimum food available to the shepherds and other vulnerable people in the summer.

8) “The flows of knowledge in the second phase of the TCP have mostly been running from India to Ethiopia and the learning has been less reciprocal than intended. It was also clear for DF during the SCM in Anand in 2003 that Mr. Jagawat did not see that there are many potential areas where Sadguru could learn from the Ethiopian organisations other than exposure visits to Tigray for their staff” (Quote from Second phase internal evaluation synthesis report). Of course both IRMA’s and SWDF’s staffs have learnt from their work in Ethiopia in the TCP, but there were not any technical or

practical solutions within NRM that were exported from Tigray to Gujarat in the second phase. This underlines SWDF's position and role in the second phase as more a support institution than an NGO focused at reciprocal learning through the TCP.

9) It is quite unfortunate that this novel and innovative initiative did not find a place in a recent study by UNDP on best practices in Triangular Cooperation Projects in different continents. Though the Ethiopia's First Female Rural Solar Engineer finds a place in the UNDP Newsprint, the holistic programme is not included in the broad-based studies. Hence, there is a need to conduct some more in-depth researches and documentation of best practices. Even the manuals prepared under various inter-related themes could be brought under a broad based perspective and published. More proactive development communication initiatives could be undertaken to enhance the outreach to all the stakeholders in development.

10) Even in the African Network, the partners from similarly endowed semi arid regions in India could be considered as the development in India has an edge over African countries due to infrastructure, stable democratic government and less conflicts or pogroms. In addition, civil society, and associational life in India brings in more synergy and proactive initiatives for the developmental efforts. Over and above, the successful development interventions with public private partnership are abound in India. Exposure visits to the organizations would be a virtual learning for effective development interventions.

“New clothing” as described by DF could be attempted for revamping TCP. To reinvigorate TCP, the SCM should be institutionalized and made to be responsible for delivering results. Activities and expenditures should be discussed in terms of its relevance and effectiveness. It should be mutually benefiting for both South-South partners. Otherwise it would become one-sided intervention.

7.2: Conclusions

Triangular Cooperation Project invigorates development in semi-arid regions by being a complement to development. It accesses development through a software approach of promoting capacity building and diverse appropriate technology available to the vulnerable sections of the society in the Semi-arid region. It sponsors horizontal cultural exchange and knowledge sharing among south-south partners. It has provided opportunities to many development workers and academicians to understand the vitality of development stages in similarly endowed semi arid regions vis-à-vis deviants in socio, economic, political and cultural indicators. The bottom line of TCP is piloting, networking and capacity building with exposure to similar development contexts. TCP began to deliver and outputs burgeon.

TCP intervention has brought about qualitatively perceptible changes in the capacity building in all the southern partner organizations. Those who were blessed with the exposure to different cultures in another developing country are able to articulate broad based developmental issues in semiarid regions and the relevance of political will and

people's participation for holistic development of poorly endowed regions. The relevance and legitimacy of public-private partnership for scaling up development in the semi arid regions is increasingly underscored in the meetings after meeting. Public-Private partnership holds veritably the key for capital formation and infrastructural development in the semi arid regions.

Developing network among the south partners stumbled upon all the three stages of group formation viz., forming, norming and performing. The trust and understanding were building blocks for the TCP. It has been built up consistently and steadily over the period from the very beginning of the project. The manuals have been a collaborative work of all the partners. It is a means to reach the end of cooperation. The participation of the partners and involvement of the other stakeholders have been progressively more encouraging. Institutionalization of SC and other capacity building initiatives would have adequately ensured the sustainability of the triangular cooperation even in the event of the donor withdrawal. However the activities undertaken through TCP intervention and capacity building initiatives are broad based with longstanding impact.

Thus, the South-South-North cooperation functioned effectively as a software application of capacity building and South-South-North synergy for the hardware of development in the socially, politically and geographically difficult semi-arid regions. The partnership and participation of the stakeholders has been quite encouraging. It has helped to bring synergy in development, through exchange of culture, knowledge and technology. Now it is highly essential to consolidate the outcomes of the intervention and ascertain sustainability of the institutions established through TCP. Development communication initiatives should be undertaken by utilizing the database created on NRM and documentation done in the form of manuals as promotional materials to enhance the outreach of the TCP intervention for wider impact. Holistically, TCP is a successful partnership model of development for the underdeveloped semi arid regions.

Appendix- I

TERMS OF REFERENCE FOR EXTERNAL EVALUATION OF THE TRIANGULAR INSTITUTIONAL CO-OPERATION December 2005, Development Fund

Background and Rationale

The Triangular Project has brought together relevant institutions for South-South collaboration in management of natural resources in semi-arid areas of Ethiopia and India, in order to see if there was an untapped potential for experience sharing and for strengthening capabilities within natural resource management between the continents.

The overall objectives of the project have been:

To promote South-South Co-operation of NGOs in management of natural resources and improvement of rural livelihoods in semi-arid areas through experience sharing and joint project activities.

To develop capabilities in support of project activities and to make successful NGO efforts in natural resource management and South-South co-operation more widely known.

To promote and facilitate the flow of knowledge and information among all partners in the collaboration.

Based on the experiences gained and the positive outcomes of internal and external assessments of the first phase (1997-2002), the focus of the second phase (2002-2005) was to continue with even stronger emphasis on field implementation. Research organisations were to support the NGOs in their field-based actions.

The Triangular project has now finalised the second phase. The project steering committee 2005 suggested all partners to carry out an internal evaluation. This has now been synthesised into one document and will be an important guiding tool facilitating the external evaluation team/evaluator.

The external evaluation

The main goal of the final external evaluation is to assess whether the aims of the project has been reached. It shall explore the final results, both tangible, intangible as well as unexpected result. And finally, what are the lessons learned that all partners can bring with them to other networks and donors, now that the project is being finalised?

In light of the project ending, special emphasis should be given to “sustainability” in terms of continuation of the implementation at ground level, as well as continued collaborative work between organisations involved at institutional level.

Concrete questions to be answered:

(The evaluator will before starting the work have these answers available in writing from each organisation, as well as a more analytical synthesised version.)

Assess if and how the Triangular Project has been able to meet the overall objectives of the project (based on M&U for the second phase).

Assess if and how the Triangular Project has been able to meet the objectives under each areas in the M&U for the second phase; Water Harvesting Technology and Management, Common Pool Resources Management, Pre and post harvest technologies assessment and piloting, Training and Human Resource Development.

To what extent has each of the activities met the overall objectives of the project?

Assess if and how the NGOs have been/will be able to use the knowledge, solutions, pilots and skills from the Triangular Project in their work with their beneficiaries.

Assess the organisation of the project

Assess the project administration and management (can you say something about partnership and participatory focus?)

Assess the cost /benefit part of the projects second phase

Assess if and how the recommendations from the 2002 evaluation has been followed.

Give recommendations on how the South partners can continue their collaboration

Give recommendation on parts of the projects that should be considered to continue in the Africa Network Project of DF.

What are the main learning's from the Triangular Project to be highlighted

To what extent have women been involved in the project, at beneficiary level and organisational level

Has HIV/AIDS been a dimension taken into consideration- is it an issue?

Timeline

The evaluation shall be carried out during December 2005, amounting to a maximum of 27 days of work. Day rate will be USD 100,-.

4 days: read up and plan logistics to visit Indian partners

1 day travel

3 days: in IRMA (1 day look at background material, two days interviewing staff)

1 day travel

3 days at Sadguru (1 day looking at background material, two days interviewing staff)

2 days preparation to travel to Ethiopia- and writing up of notes

8 days in Ethiopia (including 2 days traveling in Addis)

- 3 days with staff (reading and notemaking) in Mekelle Tigray

- 2 days in field

- 1 days write up notes

5 days writing final report (including adding comments from DF).

Total: 27 days

The evaluator will be provided with the internal evaluation documents from each partner as well as a synthesis document of this.

The evaluator should meet key persons from each partner organisation and go to Mekelle in Tigray, Ethiopia for discussions and some field verifications.

The evaluator should be ready to present the evaluation in the beginning of December 2005.

Methodology and evaluation scheme

DF would like to emphasis that this evaluation should be focused on:

Phase 2 of the project only

Mainly on the workings at institutional level

Short field visits can be carried out, but mainly to facilitate discussion on success of implementation with stakeholders- and use of training materials for field staff

DF will propose a list of persons and organizations to be interviewed.

Stages:

1) Review existing documentation (last phase evaluation, MoU for phase 2, internal evaluation synthesis, minutes from last years SCM, and some main documents produced during last phase only.

2) Interview with the staff involved with TP project at each institution

4) Short field trips (mainly to facilitate discussion on success of implementation with stakeholders- and use of training materials for field staff)

5) Send draft report and its conclusions and recommendations in English to DF by 31st December. DF will send this to all partners for a round of comments

6) DF will use maximum 2 weeks to revise and send back if needing clarifications

7) The final version will be sent to DF by 31st January 2006 and should be of a maximum of 20-25 pages- excluding annexes, but including an executive summary.

These terms of reference serve as a basis for the presentation of a technical proposal made by the evaluation team on how the evaluation will be carried out.

Annex:

M&U for the second phase 2003 to 2005

Final evaluation of Phase 1

Minutes from SCM 2002-2005

Other reports to be given at respective institutions for browsing and control

Appendix - 2

List of Discussants from partner Organizations

IRMA

Prof.Vashwani
Prof.Vishwa Ballabh
Prof.Rakesh Saxena,
Dr.H.S.Shylendra

SWDF

Mr.Harnath Jagawath
Mrs.Sharmishta Jagawath
Prof.Katar Singh
Ms.Sunitha Chaudhary
Mr.Susheem
Mr. Ashwin J.Patel

REST

Dr.Mulugeta Berhanu
Mr.Solomon Yamane
Mr.Dagneu Menon
Mr.Tsegay
Mr.Samson
Mr.AtaKit Abeba
Mr.Koronso Redae

MU

Prof.Fossil Kebede
Prof.Mebrhatom Mesfin
Ms.Fatien
Ms.Sarah Tewelde Birhan
Ms. Alemtsehay Tsegay

Appendix- 3

Internal Evaluation of Phase-II of the Triangular Co-operation Project:

A Synthesis

By

Katar Singh

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INREM Foundation, Anand-388 001, India

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1. The Genesis of the Triangular Co-operation Project (TCP)

The idea of triangular institutional cooperation between Ethiopia, India and Norway for fostering South-South links in natural resource management (NRM) and sustainable rural livelihood through experience sharing and joint project activities was conceived by the Norwegian Agency for Development (Norad) sometime in 1996. It was given a concrete shape in the form of a project by Mr. Harnath Jagawat, Director, Sadguru Water and Development Foundation, popularly known as Sadguru, and Dr. Katar Singh, then Director, Institute of Rural Management, Anand (IRMA) in 1997. The project was launched in 1997 and over time became popular by the name, Triangular Co-operation Project (TCP). The background for the TCP was to bring together relevant institutions for promoting South-South collaboration in management of natural resources in semi-arid areas of Ethiopia and India, and thereby to see if there was an untapped potential for experience sharing and for strengthening the capabilities of NGOs and other institutions engaged in natural resource management in the two continents, i.e., Asia and Africa.

2. The Rationale for Phase -I of the Project

The rationale for the TCP was the untapped potential that existed for mutually beneficial exchange of new proven technologies, experience, and expertise between Indian and Ethiopian partners and to derive lessons useful for promoting South – South co-operation on a bigger scale. This is being done through strengthening the capabilities of NGOs involved in the management of natural resources in semi-arid areas in India and Ethiopia. The focus of cooperation was on supporting two participating NGOs, namely, the Relief Society of Tigray (REST), Ethiopia, and N.M. Sadguru Water and Development Foundation, Dahod, India in their field-based actions through research and research-based advice and training in areas identified by the partner NGOs.

The core of the project was the shared interest of the two participating NGOs in creating South-South links and strengthening the links between NGOs and research institutions. REST and Sadguru Foundation are local NGOs, both working in arid and semi-arid areas of Ethiopia, and India, respectively. They have similar goals and objectives and common interests. Both NGOs co-operated with research institutions in their regions, namely, Institute of Rural Management (IRMA) in India and Mekelle University (MU) in Ethiopia. Noragric had provided professional support to REST and developed links with Sadguru Foundation, and Noragric has an institutional co-operation agreement with MU.

3. The Rationale for Phase -II of the Project

The review of first phase of the project, implemented from 1997 to 2002, revealed huge untapped potential for further experience sharing and strengthening the capabilities of the

two NGOs and other institutions working in the semi-arid areas of Ethiopia and India in the field of NRM. Under the TCP, Indian and Ethiopian partners have carried out important field-based action, research and training in the areas of Water Harvesting, Common Pool Resources Management, Agriculture, Horticulture and Dairying. Based on the experiences gained and the positive outcomes of internal and external assessments of the first phase, the TCP partners unanimously decided to continue into the second phase of the Project over the period of three years, 2003–2005, with a stronger emphasis on field-based action.

4. The Collaborating Partners

There are six collaborating project partners from Ethiopia, India, and Norway.

The following two are the collaborating NGOs:

Relief Society of Tigray (REST), Mekelle, Tigray, Ethiopia
N.M.Sadguru Water and Development Foundation, Dahod, Gujarat, India.

Besides there are following three academic institutions also involved in the Project:

Mekelle University, Mekelle, Tigray, Ethiopia; and
Institute of Rural Management Anand, Gujarat, India; and
Noragric of Norway.

The sixth partner is The Development Fund, Norway, whose role has been to financially support the Project, coordinate its activities, and report its progress and achievements to Norad.

5. The Overall Objectives of the Project

To promote South-South Co-operation of NGOs in management of natural resources and improvement of rural livelihoods in semi-arid areas through experience sharing and joint project activities;

To develop capabilities in support of project activities and to make successful NGO efforts in natural resource management and South-South co-operation more widely known; and

To promote and facilitate the flow of knowledge and information among all collaborating Project partners.

6. The Project Strategy

The main strategy adopted to achieve the objectives of the Project has been to strengthen the capabilities of the NGOs involved in the management of natural resources in semi-arid areas in India and Ethiopia through sharing of experience, exchange visits, and training, and field-based activities. The focus of the co-operation is on supporting the two participating NGOs in their field-based actions through research and research-based advice and training in areas identified by the partner NGOs.

7. The Rationale and Background for Project End Evaluation

Launched in 1997, the TCP will be completing its second phase by the end of December 2005 and thus, it has been in operation for almost eight years now. As part of the project follow-up, the DF has decided to commission and coordinate a project end external evaluation. The Project Steering Committee in its meeting held in Dahod on February 26-27, 2005, had decided to carry out an internal evaluation of the TCP prior to the external evaluation. The internal evaluation document from each organisation as well as a synthesis report of the internal evaluation will be given to the external evaluator.

8. Terms of Reference (ToR) of Internal Evaluation of Phase-II of the Project

The DF in consultation with the Project Partners has set the following ToR for internal evaluation by the Project Partners:

Assess the work and results your organisation has had under each of the areas in the MoU for the second phase: Water Harvesting Technology and Management, Common Pool Resources Management, Pre- and post-harvest technologies assessment and piloting, and Training and Human Resource Development;

How were recommendations from the evaluation of the first phase followed up in the second phase in your institution?

How has the collaboration worked for your organisation?

What kinds of spin-offs have come out of this project?

To what extent has each of the activities met the overall objectives of the project?

Assess if and how the NGOs have been/will be able to use the knowledge, solutions, pilots and skills from the Triangular Project in their work with their beneficiaries;

Assess the organisation of the project (the Steering Committee, The South to South collaboration, The North to South collaboration);

Assess the project administration and management;

Give recommendations on how the South partners can continue their collaboration;

Give recommendations on parts of the projects that should be considered to continue in the Africa Network Project;

What will be the consequences of ending the Triangular Project?;

What are the main learnings from the Triangular Project?; and

Other relevant inputs to internal evaluation.

9. Timeline for Preparing a Synthesis of Internal Evaluation Reports

In consultation with the Project Partners, the DF commissioned Dr. Katar Singh, Formerly Director, IRMA, and currently, Honorary (Founder) Chairman, India Natural Resource Economics and Management (INREM), Foundation, Anand, to prepare a synthesis of the internal evaluation reports of the six Project Partners. The time given to Dr. Katar Singh to do the job was one week from the date of receipt of the last of the six internal evaluation reports. The last report was received by Dr. Singh via an e-mail on November 16, 2005. Dr. Singh submitted to the DF an electronic version of the synthesis on November 19, 2005.

10. Synthesis of Internal Evaluation Reports

In this section, a synthesis of the six internal evaluation reports prepared by the Project Partners is presented and commented upon. The presentation is organised by the ToR of internal evaluation.

1. Assess if and how the Triangular Project has been able to meet the objectives set for each of the areas in the MoU for the second phase: Water Harvesting Technology and Management, Common Pool Resources Management, Pre- and Post- Harvest Technologies Assessment and Piloting, and Training and Human Resource Development

A perusal of the activities conducted by the TCP Partners in the second phase shows that in all 16 activities were taken up and completed by them. Table 1 presents a summary of the activities taken up by the Project Partners as per the MoU for the second phase of the TCP. Most of the activities taken up were in the areas of water harvesting technology and training and human resource development. A brief description of each of these activities follows.

1. A Manual for Sustainable Use and Management of Irrigation Water

This manual was jointly developed by REST, MU, Sadguru, IRMA, and Noragric. It is intended to help improve the existing water use practices followed in the commands of irrigation schemes in Tigray. The exercise was conducted in two phases. In the first phase, a field trip to a water users’ association (WUA) in Tigray was carried out jointly by a team of REST and IRMA staff during 28th October – 7th November, 2003. The team also held discussions with the staff of REST, and Bureaus of Agriculture, Water and Co-operatives in Mekelle. In the second phase, another field trip was undertaken in Gujarat during December 6-15, 2003. The team visited diverse water users associations in Gujarat and held discussions with a few of the major stakeholders. The team first prepared a draft manual and submitted it to REST for circulation among various stakeholders. A workshop was held on November 3-4, 2004 in Mekelle to share the content of the manual as well as to seek feedback from various stakeholders. The two day workshop was co-ordinated by REST. The workshop was attended by about 50 participants representing various government bureaus, Woreda administration, REST and MU.

Table1: Activities taken up by the Project Partners in Phase-II

Activity taken up	Partners involved
1. A Manual for Sustainable Use and Management of Irrigation Water and an Educational Video Film on Water Users Associations	REST, MU, Sadguru, IRMA & Noragric
2. Training in Designing of Water Harvesting Structures in Mekelle	Sadguru & REST
3. A Study Tour of Sadguru and IRMA Staff to Mekelle	Sadguru and IRMA
4. Training in Watershed Development at Sadguru, Dahod	Sadguru & REST
5. Training in Watershed Management and Monitoring using GIS and Remote Sensing conducted by Jordforsk/Noragric at Sadguru,	Sadguru & Noragric

Dahod	
6. Watershed Management and Monitoring	REST.MU, & Noragric
7. Assessment and Piloting of Low Cost Water Harvesting Technology	REST and Sadguru
8. Training in GIS and Remote Sensing conducted by Jordforsk/Noragric in Mekelle	Noragric, REST and MU
9. Training in Soil Database (SDBm plus) and Survey of Local Knowledge about Soil	Noragric, REST & MU
10. Production of Training Materials	Jordforsk/Noragric & IRMA
11. A Manual for CPR Management	REST, MU, & IRMA
12. Planning and Implementation of Solar Energy Technology under CPR	DF, Barefoot Collge, Rajasthan, MU & REST
13. Training in Pre- and Post-Harvesting Technology Development at IRMA	IRMA, REST, MU & Sadguru
14. Training in Co-operatives and Agricultural Marketing at IRMA, Anand	IRMA, REST, MU & Sadguru
15. Training in and Installation of Solar Technology for Rural Electrification in Tukul	REST, MU, DF & Barefoot College
16. Construction of a Roof Top Rain Water Harvesting Structure in a School in Tukul, Mekelle	DF, Barefoot Collge, Rajasthan, MU & REST

The manual was finalized based on the feedback from the workshop participants. The final version of the manual is titled, ‘A Manual for Promotion and Management of Sustainable Water Users’ Associations in Tigray (Ethiopia)’. The main objective of the manual is to create awareness among farmers and other stakeholders involved in management of WUAs in Tigray about the need for and methods of sustainable use and management of water resources available in the region and to build their capacity to do so.

The team, who prepared the manual, has suggested that in order to make it more relevant and useful, the manual be translated into local languages, and that the supporting agencies including REST conduct extensive training and orientation for all potential users of the manual. REST is currently in the process of translating the manual in Tigrigna and plans to release the manual for local use and adoption after getting the endorsement of the government.

An educational video film on Water Users Associations was also prepared based on the fieldwork carried out for manual development. The video production was co-ordinated by Noragric. The video was highly appreciated by the Southern partners, as it is useful for conducting educational and training programmes.

The preparation of the manual and a video film is perhaps one of the most significant achievements of TCP in Phase-II.

2. Training in Designing of Water Harvesting Structures

Sadguru conducted a training programme in Ethiopia for REST engineers on “Designing of Water Harvesting Structures”. The programme was conducted during the period,

November 1-6, 2004. It focused on enhancing the knowledge and skills of the participants about water harvesting technologies and their application. It also included a few sessions devoted to development of a system for planning, designing, monitoring, impact assessment, and management of water harvesting structures in Tigray region. Twenty seven engineers from REST participated in this training programme. The sites for water harvesting structures were identified by the Water Harvesting Team sponsored by the TCP.

3. A Study Tour of Sadguru and IRMA Staff to Mekelle

A study tour of Sadguru and IRMA staff to the programme areas of REST and MU in Mekelle was conducted from 29th September to 4th October 2003. Ten staff members - 8 from Sadguru and 2 from IRMA- participated in the study tour. The focus areas were CPR, water harvesting, interactions with women's groups, functioning of grain banks and interaction with government officials of Tigray region. The study tour was a good learning experience for the participants. The visit, besides strengthening South-South linkage, also generated new ideas helpful for field applications.

4. Training in Watershed Development at Sadguru, Dahod

Sadguru Foundation organized a one- week training programme for REST staff on Watershed Development Programme from 1st December to 6th December 2003. The main objective of training was to develop the skills and build the capacity of REST staff to design and develop watershed development programmes for Tigray region. The feedback given by the participants indicated that the programme was useful.

5. Training in Watershed Management and Monitoring using GIS and Remote Sensing conducted by Jordforsk/Noragric at Sadguru

A five -day training programme on Watershed Management and Monitoring using GIS and Remote Sensing was conducted by Jordforsk/Noragric at Sadguru, Dahod in December 2004. The programme aimed at giving the participants an exposure to the methodology for assessing the nature and extent of environmental changes at the catchments level due to Saduguru's project interventions in water resources, land use and vegetation. The technique used was multi-temporal remotely sensed data, and development of GIS databases on environmental indicators. Sadguru organized a one-day trip of the participants to IRMA on December 5 as part of the programme. Besides showing them round the IRMA campus, and familiarizing them with its objectives and activities, IRMA also arranged visits of the participants to Anand -based institutions, viz., Foundation of Ecological Security (FES), the National Dairy Development Board (NDDDB) and AMUL. Another similar training is proposed to be organized at Sadguru in November 2005.

6. Watershed Management and Monitoring

REST has been implementing this activity since 2003 in collaboration with MU and Noragric. The objective is to develop digitalized indicators for monitoring of changes in natural resources potential within watersheds through field -based research. A team of experts drawn from these organizations, including a GIS expert from REST, has been engaged in undertaking the research over the last two years in one model watershed called Adi Zata, where REST was implementing integrated development activities. The

research used advanced GIS technologies and satellite images to produce digitalized resource maps and other baseline data for Adi Zata watershed. In addition to the use of advanced technologies, the research team has also incorporated local knowledge in identification of indicators for some aspects of natural resources through carrying out focus group discussions with farmers. The research has contributed significantly to the improvement of the capacity of REST in both planning and monitoring of its development activities.

7. Assessment and Piloting of Low Cost Water Harvesting Technology

This activity was proposed by REST in the context of its strategic shift from a focus on large irrigation schemes to small-scale low cost water harvesting structures. The assessment for water harvesting technologies was planned for 2005. Accordingly, REST recently has arranged a six-day field visit to India in collaboration with Sadguru beginning November 19, 2005. REST proposes to depute nine of its experts to participate in the field assessment. The assessment aims at learning from the experiences of India in the area of small-scale water harvesting technology through direct field exposure of the experts from REST. The field assessment will be supported further by training so as to enable the experts gain the necessary technical skills required at the design stage and during ground application of appropriate small-scale water harvesting technologies with the potential for piloting in Tigray.

8. Training in GIS and Remote Sensing conducted by Jordforsk/Noragric in Mekelle

Jordforsk/Noragric conducted a hands-on training programme on GIS and remote sensing tools and applications. The programme included three one-week training sessions with REST and MU in Mekelle. The training programme was designed separately for REST and Sadguru, keeping in mind the existing capacity and competence of the two organizations.

The overall objectives of the Watershed Management and Monitoring component have largely been met as far as GIS training is concerned, although progress at Sadguru has been somewhat slower than anticipated.

9. Training in Soil Database (SDBm plus) and Survey of Local Knowledge about Soil

Jordforsk/Noragric conducted a short-term training and field exercise at Mekelle for MU, REST and Sadguru staff in the use of soil database (SDBm plus) and on "Investigation of Indicators for Soil Quality based on Local Knowledge". For these programmes, Jordforsk/Noragric prepared a training manual for SDBm plus and two compendiums of relevant literature titled "Soil Quality and Local Knowledge for Improved Soil Management (Volumes 1-3), and "Water User's Association in Irrigation Management (Volumes 1 and 2).

The training programmes have contributed to enhancing the capacity of the participants to acquire, use and manage such information for improved watershed management. The integration and use of other environmental data (including soil data) with GIS analysis techniques has, however, not proceeded as far as one might have hoped at the onset of the project. Part of the reason for this is probably that the Indian and Ethiopian partner

institutions require more capacity (and time) to make such links, and this component was after all fairly minor making these objectives slightly overambitious.

10. Production of Training Materials

Jordforsk/Noragric faculty have produced five training materials during the second phase of the TCP and all the Partners together have prepared a manual on water use and management. Another manual on CPR Management is expected to be ready by the end of December 2005. In addition, one paper was prepared and presented at a workshops at Sadguru Dr. H.S. Shylendra of IRMA.

11. A Manual for CPR Management

This was an activity proposed by REST for the year 2005 and jointly carried out by REST, IRMA and MU. The draft manual is expected to be prepared by the team by the end of December 2005. It is proposed to conduct a workshop to discuss the draft manual and finalize it based on the feedback of the workshop participants

12. Planning and Implementation of Solar Energy Technology under CPR

DF has assisted MU, REST and Barefoot College in Rajasthan on the planning and implementation of the Solar Energy Technology part of the Phase-II action plan for CPR. This was done first under the auspices of the Steering Committee Meeting (SCM) held at IRMA in February 2003 and then through a visit to the Barefoot College in Rajasthan after the SCM in February 2003, when the DF facilitated the signing of an MoU between Barefoot College (BC) and Mekelle University and agreed on the content and price of the equipment to be shipped to Ethiopia, as well as on initial arrangements for the training of two farmers from a village selected by REST – one woman and one man- as Barefoot Solar Engineers in Barefoot College in Rajasthan.

13. Training in Pre- and Post- Harvest Technology Development

This programme was conducted by IRMA, for the staff of REST, and MU during October 5-25, 2003. The participants visited Sadguru twice for two days each. They were exposed to various activities of Sadguru such as water resources development, agriculture development, horticulture, floriculture, and biogas. The team gave a positive feedback about the trip.

The participants identified various crops, vegetables, fruits, dairy and other activities for the purpose. The technology identification was mainly done through field visits to relevant sites and interactions with farmers, co-operatives, Gujarat Agricultural University, Anand and a few relevant Agribusiness firms in Gujarat. The participants prepared a report covering their findings as well as recommendations for application of various technologies in Tigray. Following up on the Indian visit, the experts extended their assessment on the possibilities of producing the proto-types of post-harvest technologies at home in Mekelle. Purchase and demonstration process of model post-harvest / processing materials / prototypes of milk and groundnut decorticators were among the important outcomes. The outcome of the assessment also led to the construction of two model post- harvest storages for evaporative cooling in 2004.

The assessment was also carried out in Tigray jointly by REST and IRMA during December 25, 2004 to January 5 2005. The assessment involved a two- day Workshop held in Mekelle (28-29, December 2004) and field trips to various agro-produce sites in Tigray. The workshop was attended by 70 participants. It focused on post-harvest management in agriculture, horticulture and allied activities, and sharing of the experiences gained from the visit to India and to evaluate the model prototypes with relevant stakeholders. Based on the workshop and the field trip, a report including an action plan was submitted. The report indicated that the production system and post-harvest management system for perishables (horticulture and dairy produce) needs radical improvement at both farmers and market levels. The preliminary estimates suggested that the post-harvest losses of fresh agro-produce in Mekelle vary between 25-50 percent. Lack of awareness at farmer level, and improper handling and transportation contribute to these losses. Markets do not provide any incentives to farmers or traders to reduce the losses due to their fragmented nature and low margins.

14. Training in Co-operatives and Agricultural Marketing at Anand

A training programme on co-operatives and agricultural marketing was organised by IRMA during July 5-16, 2004 at Anand. There were eight participants from Tigray representing REST, MU and the Regional Government. The programme covered a wide range of topics in co-operation and marketing.

In order to give practical orientation, field visits were organised to a number of sites and organisations. The participants were taken to several organizations including NDDDB, AMUL, Gujarat Co-operative Marketing Federation (GCMMF), a village dairy co-operative, Sadguru and the Amalsad fruits and vegetable producers co-operative. The training programme culminated into a workshop in which the participants prepared and made presentations on selected themes reflecting their learning about theory, policy and experience of co-operatives and agricultural marketing in India. The programme was well received by the participants. They felt that the Indian experience holds crucial lessons for promoting co-operatives in Tigray.

15. Training in and Installation of Solar Technology for Rural Electrification in Tukul

The introduction of solar technology for rural electrification was a jointly implemented by REST, MU and DF. The activity was carried out in 2003 and 2004 in one village called Tukul located in central Tigray about 30 km away from Mekelle. The activity was started by training two selected farmers (one woman and one man) in the Barefoot college in India for about six months. At the same time, the full set of the technology required for generating the solar energy was also procured from India. The solar technology was installed in Tukul village under the technical guidance of the two trained farmers. It was installed for 52 individual rural households, one elementary school and one health post in Tukul village. This has benefited nearly half of the households in Tukul village. At the end of the installation, a field experience exchange was organized for more than 80 participants including government representatives from different regional states in Ethiopia.

The Solar electric power has solved the problem of light for many households in Tukul village. In particular, it proved to be quite useful for students and pregnant women. The introduction of solar technology has also demonstrated that farmers could also become successful engineers in a short period of time, if they are properly trained.

16. Construction of a Roof Top Rain Water Harvesting Structure in a School in Tukul, Mekelle

The DF played an active role in this additional activity, which was not included in the MoU. It allocated funds for a second pilot between REST and Barefoot College at the end of 2004 out of additional funds available due to the currency exchange gain. Barefoot College sent two engineers to Tukul village in Tigray who worked with the community and REST and constructed a roof top rain water harvesting structure with an underground tank at a school in Tukul. One of the engineers from Barefoot College assisted in the solar activity and the other worked on the rain water harvesting structure.

This activity was decided at the end of 2004 and was therefore not discussed in the SCM before it was implemented.

II. How were recommendations from the evaluation of the first phase followed up in the second phase in your institution?

There were some general recommendations applicable to all the six TCP Partners and some specific recommendations relevant to each of the Partners. The specific recommendations and the status of their follow up are presented in Table 2. A brief report on the compliance of general recommendations follows:

(i) Goals and outputs must continue to be improved: It is important for the next period that each partner clearly states their strategic interest in the new programme and that there is a common and clear understanding of common goals and outputs. All partners made serious effort to review and improve the goals. In particular, the activities taken up in the second phase by all of Partners were more focused on activities identified by community as having a high priority and that directly benefited the community concerned. Goals and outputs have been improved in the log-frames from most of the partners.

Table 2: Follow up of specific recommendations from Phase-I evaluation by Project Partners

Partner	Relevant recommendation	Follow up Yes / No	How	Outcome
Sadguru	To initiate field-based action for integrating various components such as water harvesting, horticulture, CPR, and dairy	Yes	Integration of projects of water harvesting and horticulture	Successful Appreciated by partner organizations
IRMA	The future programme must be more activity oriented	Yes	Substituted an action-oriented activity for a research activity	Successfully done
REST ?	The future programme must be more activity oriented	Yes	All of the activities taken up involved	Successfully done

			field-based action	
MU	Take up projects to alleviate poverty and food insecurity.	Yes	Farmers helped in taking care of their fragile ecosystem	Successfully done
Jordforsk/ Noragric	To enhance the capacity of staff of REST and Sadguru in collecting and analysing spatial data relevant to watershed management	Yes	Training in collecting, managing and analysing spatial data	Successfully done
DF	1. DF and Noragric should become full (primary) members of the Steering Committee. 2. A communication strategy should be formulated by DF 3. DF should play a stronger role in securing funds from donors other than Norad*	Yes Yes No	1.As per a decision taken in the SCM in Anand in February 2003 2.An internet-based strategy was developed and tested 3.The Partners did not formally request the DF to do so. Hence no action by DF	1.Successfully done 2.The strategy was not launched 3. No action, no outcome

* A detailed discussion of this issues is presented in Section 2 (vii).

(ii) Internal and External Reviews should be followed up thoroughly: All Partners made earnest effort in this direction. Various training programmes and workshops conducted by the Partners under the umbrella of the Project during the second phase have helped in disseminating the newly created knowledge about the prevailing developmental situations and in working out strategies for meaningful exchange and replications as per the action plan. However, the dissemination of information to agencies outside the ambit of the Project was not as good as expected; it could be better.

(iii) The male: female ratio in project administration must be improved: Four of the six Partners made a modest effort to improve the ratio. IRMA deputed a female faculty member to participate in a study tour to Ethiopia; Sadguru deputed a female to attend the Steering Committee meeting held in Mekelle in February 2004; REST identified a woman farmer for training as barefoot solar engineer, and the DF replaced a male Project Coordinator by a female. Other Partners did not induct any females into the Project. Overall, the male: female ratio continues to be poor.

(iv) Core personnel should be identified for long-term involvement: Most of the partners have been able to keep core personnel through the second phase. When DF changed Project co-ordinator in 2005 because of the tsunami, another DF project co-ordinator who previously had been a member of the SCM for Noragric was selected.

(v) Research, Monitoring and Dissemination must be an integral part of any project: Results and impact of individual projects must be documented. Data bases must continue to be improved. It is important to institutionalise this responsibility. A communication strategy should be formulated involving dissemination of results and lessons learned both internally and externally with other development actors. The work of the project leader must include a responsibility to transfer the knowledge generated from the Project

activities to both relevant staff within the institution as well as to national or regional policy makers through seminars, advocacy work, policy proposals etc.

A communication strategy was discussed first in the SCM in Anand in 2003 and then in the SCM in Mekelle in 2004.

The objective of dissemination has been fulfilled to the extent that many of the project activities have been concluded with a workshop for relevant actors and a wider audience and with a manual for the extension workers in REST. DF tried to establish an internet-based communication solution / software for the TCP. This was tested, but never launched and implemented for the project.

Overall, due to lack of time and budget, the Partners could not focus this aspect to the extent necessary for the purpose. This would require dedicated efforts and resources. DF could facilitate this aspect in future so that the outcomes of the project are documented and disseminated more widely.

(vi) The professional focus should be narrowed: The approaches adopted and the activities taken up by the Partners in Phase-II have all been multi-disciplinary as is evident from Table 1 rather narrowly focused mono-disciplinary. However, options for integrated components approaches in selected pilot sites should be considered whenever possible.

(vii) DF should play a stronger role in negotiating funding from other donors than Norad: So far DF has provided funds that are basically research focused or only seed money for new activities. The activity oriented programme will require financial assistance from multilateral donors.

DF raised this in the SCM in Anand 2003. The SCM did not ask DF to seek funding from other donors.

DF discussed the possible extra funding for the Alternative Energy component with UNDP in Addis, but the relevant UNDP project did not support activities in Tigray. The UNDP project is currently replicating the Alternative Energy component of the Triangular Project in five other regions of Ethiopia.

After the Royal Norwegian Embassy decided to stop their development programme with Sadguru, DF tried to assist Sadguru in their discussions with the Embassy in New Delhi and the Norwegian development authorities in Oslo and also to see if there were other Norwegian NGOs that would consider a partnership with Sadguru. DF found that the only possibility for Indian organisations or businesses to collaborate with Norwegian organisations, research institutions and businesses is an institutional collaboration under a programme called Int 040. DF is of the opinion that Sadguru should consider an institutional collaboration with a Norwegian water research institution, foundation or company. It has been problematic to conclude on a way forward since the Norwegian Government has spent so long time to revise their India development strategy.

III. How has the collaboration worked for your organisation?

All the six Partners were unanimous in their opinion that the collaboration has been both useful and challenging to them. It has opened up a new way of thinking about South-South-North collaboration. The project has demonstrated a large potential for development from South to South collaboration, supported by a Northern partner. Today, for instance the Norwegian Peace Core (Fredskorpset) also finance South to South exchange programmes as well as North to South exchange programmes (both ways). The Project has also revealed that costs of experts from India or Ethiopia are far less than those of the Norwegian ones; so project funds could be better utilised in a South to South collaboration.

The exposure visits, training programmes, and interactions among the participating staff from the Partner organizations have all resulted in enhancement of knowledge and skills of their staff about the technology and practices being followed by other organizations in the areas of common interest. The collaboration was educative and helped the Partners forge deep-rooted relationship with one another. In particular, the collaboration with the Indian partners was very productive for REST. It resulted in a high rate of technology transfer to the programme areas of REST and a significant shift and improvement in its development approach and strategy. REST also gained enormous professional support from other Partners in carrying out researches, in training of its staff and in preparation of technical as well as resource management guidelines and manuals.

Despite several cultural, communications and other hurdles in Phase-1, the Partners were able to develop better understanding and mutual respect for one another, and adjust a lot into the second phase, and changed their modus operadi from research-driven to action-driven strategies.

IV. What kinds of spin-offs have come out of this project?

There are a number of spin offs, or spill over effects of the Project. They include increased cooperation among partners from India and Ethiopia in many areas outside the Project, and identification and exploration of new areas of collaboration in future. The African participants in the training programmes conducted by IRMA visited Sadguru activities and shared their experience with its staff. The participants strongly felt that Sadguru programmes are very much relevant to East African countries.

More specifically, the following are important spin off effects of the Project:

(i) The launching of the new Africa Network Project by the DF can be considered as an important spin off effect of the Project. DF in a way is trying to replicate the Project by involving more partners including those who participated in the Project, i.e., REST, Sadguru, and IRMA.

(ii) Several papers were prepared based on the work done under the Project. For example, based on the CPR study conducted in the first phase, Dr. H.S. Shylendra from IRMA made a presentation on 'Livelihood Issues in Environmental Rehabilitation' in a workshop on Joint Forest Management hosted by Sadguru on 30th January, 2003 at Dahod.

(iii) At the request of REST, IRMA conducted a training programme at Anand for members of the management committee of REST on the theme, Leadership for NGO Functionaries, during September 20 – October 1, 2004.

(iv) REST and MU have built new partnership for food security research on watersheds supported by Ireland AID

(v) An educational video film was produced based on the manual for sustainable use and management of water. The manual would be useful in promoting water users' associations. The video was produced by Noragric with inputs from other members of the study team.

(vi) Demand from other regional stakeholders in Ethiopia, including regional government, for GIS data in the form of maps and help with analysis of data.

(vii) The Regional Cooperative Office in Tigray organized a training and exposure visit to India (IRMA) using its own resource. Another local NGO from Amhara region (ORDA) has jointly organized an exposure visit to Sadguru on watershed management. Similarly, having visited the Solar energy supply at Tukul village, recently the governments of different pastoral regions in Ethiopia have shown interest in the system and are currently finalizing arrangements with the Bare Foot collage of India for training of elected farmers/pastoralist from their region under the UNDP Project.

(viii) Some 34 Ethiopians from 5 provinces in Ethiopia are about to complete a six-month training as Barefoot Solar Engineers at the Barefoot College in Rajasthan. This is a UNDP Addis Abeba funded project that supports the five least developed regions in Ethiopia. The DF has been a participant in the meetings with UNDP Addis and has facilitated the communication between Barefoot College and UNDP. The project is a replication of the Solar Rural Energy pilot in the Triangular Project. Both UNDP, Tigray regional governor and the Indian Ambassador have visited the solar pilot in Tukul village.

(ix) DF has given an American Foundation inputs on its collaboration experiences with the Barefoot College. In 2005, the Foundation granted the Barefoot College \$600,000 over a period of three years to support their effort to make available the methods developed by the College to other countries, including Ethiopia.

(x) The close linkage between REST and the regional government of Tigray is also a spin off of the TCP in the sense that some of results from the Triangular Project have been adopted outside the project area of REST.

V. To what extent has each of the activities met the overall objectives of the project?

In the opinion of all the Project Partners, the activities taken up by them as listed in Table 1 contributed significantly to fulfilling the overall objectives of the Project. In a nutshell, the activities taken up together contributed to promoting the South-South co-operation of NGOs in NRM and improvement of rural livelihoods in semi-arid areas of Ethiopia and

India through experience sharing and joint project activities, enhanced the capabilities of the NGOs involved and facilitated the exchange of knowledge and information among all the collaborating Project Partners.

Besides, the TCP has also shown that the Barefoot College approach is possible under the Ethiopian conditions. The pilot has been a success and is now being replicated in 5 other regions of Ethiopia.

VI. Assess if and how the NGOs have been/will be able to use the knowledge, solutions, pilots and skills from the Triangular Project in their work with their beneficiaries.

Inspired by the untapped potential for South-South co-operation in improving NRM in semi-arid areas through exchange of technology and human resource development, Sadguru has established a full-fledged training institute for imparting training in the area of integrated water resources development and management to officers and functionaries from governmental and non-governmental organizations in India and other developing countries. The acquisition of new knowledge and up-gradation of training skills of the Sadguru staff due to their participation in the Project activities would help in improving the quality of its training programmes, besides leading to efficient implementation of its various activities. Besides, Saguru is also planning to start providing consultancy services to other NGOs. Thus, the skills and expertise of its staff would benefit many more organizations engaged in water resources development and management.

Based on the assessment made under the pre- and post- harvest technology development activity conducted by IRMA, REST has already taken initiatives to adopt the technologies identified under the study. REST has purchased and installed for pilot testing and using three equipment / facilities for post- harvest operations. The piloting is expected to demonstrate to the farmers the benefits of the identified technologies.

REST plans to get the manual on water use and management translated into local language for use by various stakeholders. This is expected to help in better promotion and management of water users associations (WUAs) leading to improved water management and food security.

All the Project Partners in general, and the NGOs in particular, have learnt a lot in designing, monitoring and implementation of projects. Brain storming sessions during SCMs, workshops, and tailor-made training programmes equipped the NGOs staff with relevant skills and knowledge. Besides, technical reports and manuals produced under the auspices of the Project will further improve the effectiveness of field activities in Ethiopia and India.

REST staff has acquired skills in community -based irrigation management, especially in organising WUAs. They are able to use examples from India (using video film produced) to motivate the rural communities in Tigray. REST is also piloting on farmers' fields different technologies acquired from India in order to determine their appropriateness for the end users and thereby promote better acceptance of the same in the community. It seems REST has also gained a lot in practical terms for their beneficiaries.

VII. Assess the organisation of the project (the Steering Committee, The South to South collaboration, The North to South collaboration)

In the opinion of all the Partners, organisation of the Project was appropriate for facilitating its implementation and monitoring. The Steering Committee has been working well. In the second phase, only one SCM was held annually, normally in February each year. Apart from providing a forum for annual planning, budgeting, and monitoring, the Steering Committee also served as a conduit for exchange of experiences and ideas - both developmental and cultural, among the Partners. The Steering Committee meets which were marred by misunderstanding and hostile attitude of the participants in the beginning of the Project became quite smooth and productive in the second phase.

However, the Steering Committee also suffered from some limitations. Though, it played a useful role in planning, it could not enforce the decisions when it came to project implementation. On few occasions, one or two projects got sanctioned or approved even without its approval. It also could not effectively monitor the progress of some of the projects. At times some activities proposed purely from an individual organisation's point of view ignoring the collaborative nature and spirit also got approved by it. Meetings were also expensive in terms of money and time required for the purpose. But given the diverse nature of partners, the Steering Committee has played quite a useful role in the implementation of the Project.

Different activities as planned under the project were carried out in a planned manner with active support and guidance from the Steering Committee. The DF as the promoter of the collaboration took keen interest in performing the coordinating tasks, releasing funds on time and keeping the morale and spirits of the project partners high. The role of DF and its efforts were commendable. It did its best in resolving many issues among the Partners as and when needed. It also ensured smooth implementation of the Project by providing necessary guidance. The major support from it came in the form of guiding SC committee meetings, preparation of action plans, and budgets, timely release of funds and review of the Project reports and activities.

The number of partners was fairly reasonable given the nature and objectives of the Project. The Project also had a good mix of practicing and academic institutions representing south and north. It also drew upon the expertise of other institutions when required like Barefoot College, Tilonia, Rajasthan in the case of rural energy intervention.

Though the northern partners were taken in as full members of the Steering Committee in the second phase, it did not make much of a difference as they were playing an active role in their earlier capacity also. The Project largely turned out to be a south-south exchange programme. The northern partners, apart from funding by the DF, mainly played a facilitator's role in the second phase. The extent of involvement of Noragric got reduced in the second phase, which is justified in terms of cost and need for their involvement. It was also found that the northern partners were not only more costly than the Southern ones but also had little to offer in terms of developmental interventions relevant for the

southern partners. In terms of south-south exchange, the direction of exchange was largely one sided. Most of the activities were aimed at facilitating the exchange of developmental experiences and knowledge from India to Ethiopia. However, given the low level of development prevailing in Ethiopia, even the one-sided exchange is quite justifiable and hence needs to be welcomed.

In addition, the various technical teams constituted by the SC were of great importance for carrying out the technical activities. During field works, the members of international teams were very friendly, and caring. The facilitation task carried by the DF was efficient, responsive and friendly.

However the DF found it difficult to convince the SCM in Anand in 2003 that the MU's Package for NRM was not relevant to all the Partners and hence should not be approved. This was probably due to the fact that MU did not propose any other activities for the second phase. The Alternative Energy activity that was initially proposed by MU at the planning meeting in Oslo in 2002 was of a bigger scale than what could have been accommodated under the Project. The activity was however revised by DF in the meeting and approved by the SCM.

The north-south relation during the second phase has been very useful for REST, which has been able to carry out advanced research activities in collaboration with north partners. The contribution from the north was particularly good in accessing qualified experts and inputs.

VIII. Assess the project administration and management

The DF was mainly responsible for Project administration and management along with the other Project Partners. All of the other Partners have expressed their satisfaction with the way the DF has discharged this responsibility. But the DF was concerned with the problems of delays in implementing some of the activities and high carry forward balances for some of the organisations. In particular, Project management, implementation, and follow up by MU University have been poor and inadequate.

There has also been inordinate delay on the part of the DF in launching the internet-based internal communication solution. This could have made planning of some of the project activities easier for the activity team members. The reason the internal communication solution was not implemented after the test phase was that the software did not work for the Project as well as expected. REST was able to access the software from Mekelle, and that was an important part of the testing. The file module seemed to work. But the "discussion module" which is the most important component of the software was not used correctly. The DF found that it would be too difficult to make the Partners use the software correctly and that it would take too much time following up and monitoring from DF's side. So the DF decided to put a hold on the implementation of the solution. However, this has not stopped any of the project activities.

Now when there are more computer skills available in house with DF, it will assess the need and benefits of the internal communication solution for the Africa Network Project.

The Team Leaders of the Project nominated by the Partners for the second phase have, by and large, done a good job of managing their activities. However, in the opinion of the DF, there were two organisations, mainly responsible for driving the second phase of the Project forward. These were IRMA through Dr. H.S. Shylendra and REST through Mr. Dagnev Menan. The axis of IRMA and REST has been very dynamic and forceful. Of course, Sadguru, Noragric/Jordforsk and MU have also made important contributions to the Project activities. For example, Sadguru adhered to all the technical and administrative requirements of the Project and carried out all the activities assigned to it under action plans. It hosted one of the meetings of the Steering Committee in the second phase and also chaired one of them. Sadguru also actively participated in and contributed to the process of streamlining the coordination mechanism among the Partners.

The long-term (3 years) planning and annual planning done in the second phase was a good management strategy. It helped in evolving a clear long-term goal of the Project and at the same time provided flexibility to adjust the annual plans to meet the emerging requirements and situations annually. The allocation of budget was done through a democratic and participatory process of debate and discussion under the aegis of the Steering Committee. The issues of budget estimation and utilisation were left to individual institutions. Submission of annual reports, budgets and signing of contract were at times found cumbersome and mechanical.

Overall, all the activities were more or less carried out as per the action plan prepared for 2003-05. However there were a few changes and deviations. For example, IRMA merged the study on institutional dimensions with development of a manual on water use and management. Also, IRMA was not able to participate in the Alternative Energy Assessment proposed during 2003, as MU and REST were not able to finalise their proposal during the year and later on opted for a collaboration outside the Triangular Project. The activity-based team formations were found relevant, but the contributions and participation by different members varied. Much of the burden fell on the individuals / institutions coordinating the activity.

The communication problem continued even in the second phase, although the Partners communicated better in the second phase than in the first phase.

IX. Give recommendations on how the South partners can continue their collaboration

The following are the major recommendations made by the Partners:

(i) For participating NGOs, it is necessary that the lessons learnt and approaches and practices found mutually useful be effectively disseminated in their respective regions so that the ultimate goal of the collaboration could be achieved. At least, some pilot activities should be carried out. For example, in the field of small-scale water resources development, some concrete field -based action should be carried out to expand and strengthen the areas of collaboration.

(ii) Having got the exposure and understanding of the challenges and potentials existing in South, the Partners need to explore various collaborations as per their need and

requirements. The training programmes being organized by IRMA for REST outside the Triangular Project is a case in point. The Partners can mobilize funding from various other sources based on the successful exchanges done under the Triangular Project. This could be individually, or jointly by the Partners involved.

(iii) The DF also can keep a window open for supporting specific future collaborations based on the Triangular Project and its experience.

(iv) The partners can keep exchanging information about their progress and newer developments through email and other media.

(v) Involving more of South partners by expanding the boundaries further to North Africa, East Africa, and Central and South Africa will make it possible to identify more realistic solutions for both ecological and social problems. One country from each region will help create a niche that will facilitate the sharing of common concerns and problems like shortage of water resources, diseases and food insecurity.

X. Give recommendation on parts of the projects that should be considered to continue in the Africa Network Project

The following activities and the lessons learnt should be capitalised in designing and implementing new collaborative programmes including those in the Africa Network Project:

(i) The training programmes, workshops, and exposure visits conducted under the auspices of the Project have made significant contributions to capacity building, human resource development, and management of natural resources, particularly CPRs in semi-arid areas. In particular, watershed development and management, improvements in the design and construction of small harvesting structures, methods of sustainable use and management of scarce water resources and solar energy technology are worthy of inclusion in the Africa Network Project.

(ii) Food security and poverty alleviation are the major priority of the Tigray region in Ethiopia as also of other African countries. In view of this, there is need to accord high priority to activities that improve food security and alleviate poverty at the household level. Training would be useful for imparting the necessary skills to the staff in designing and implementing interventions aimed at ensuring food security and poverty alleviation. Sadguru and IRMA should be happy to design and conduct such training programmes for African participants.

(iii) Suitably designed projects aimed at “caring for land”, and capacity building for managing natural disasters such as droughts, locust swarms, and human / animal pandemics would be appropriate for inclusion in the African Network Project.

(iv) Focus on only a few selected thematic areas could enhance the outcome of the Africa Network Project. But the thematic areas need to be identified jointly. Prior to the joint identification of thematic areas, it would be useful to organize exposure visits of the Partners to countries where good results have been obtained in the selected areas. This

would give useful insights to the participants into the types of experiences, and / or good practices that they would like to share with as well as learn from one another.

(v) The Triangular Project is a good example of NGO-Research Organisation synergy and collaboration and this part of the project should continue.

(vi) Those of the TCP Partners who have been effective and relevant could be included or considered for collaborations under the Africa Network Project.

(vii) Some of the administrative mechanisms like Steering Committee, long-term planning, theme- based teams, and internal evaluations could be adopted by the Africa Network Project.

(viii) Noragric is of the view that the TCP activities should continue without breaking the present Project consortium. The Partners now have developed good confidence in one another. Some of the activities of the TCP such as training could be linked to the Africa Network Project but the new partners should not dilute the existing linkages and collaborations.

XI. What will be the consequences of ending the Triangular Project?

All the Partners are of the opinion that the developmental activities initiated under the project have started yielding their intended as well as unintended (spill over) positive impacts. But still a lot more needs to be done. In view of this, project should be continued in the larger interest of poor people in the project areas. Terminating the project at this critical juncture would be a serious blow to the good initiative made and dampen the enthusiasm of the Partners.

More specifically, the following are some of the likely consequences of ending the Project at this stage:

(i) It is quite possible that the lack of funding support for continuing the Project may result in the loss of the lessons learnt by the Partners, and the benefits accrued to the communities concerned may not be sustained. The Project seems to have reached a take off stage and if it is continued further, it might lead to higher levels of impact and benefits for the Partners and the community.

(ii) As most of the activities of the Project are still in a pilot phase, the capacity built through training, exchange visits and sharing of experience during the first two phases need to be utilized more intensively to generate a positive impact at the household level. Hence another phase is needed to demonstrate the utility of the Project at the grassroots level. Otherwise, Project may lose it's credibility as an exemplary model of South-South-North collaboration.

(iii) The partners based on the exposure and learning may on their own take initiatives to replicate and scale up the potentially useful activities identified under the Project. If the lessons and benefits are found to be useful and relevant, the Partners themselves might

explore alternate avenues of scaling them up including mobilizing funds from various other donors and agencies.

(iv) If the Partners and DF widely publicise the unique approach of the Project, the results obtained, and the lessons learnt, then some other donors could come forward to support the replication and scaling up of relevant activities.

(v) Termination of the project may be a good reason for the DF to support the Africa Network Project, which would facilitate the distribution of the benefits of South-South collaboration more widely.

(vi) For REST, the Triangular Project has been one of the key contributors to its capacity building activity in the region. The end of such a project by no means can be positive but a loss to REST. But the replication of good practices and outcomes from the Project are now part of the ongoing development activities of REST with no direct support from the Project and will continue to be so in the future too.

XII. What are the main learnings from the Triangular Project?

The following are the major learnings from the TCP for all of the Partners:

(i) The project implementation has fostered the sense of commonality of interests and shared concerns. The visits made, the comparative studies conducted and the ideas, and concerns shared, training programmes conducted, and field action undertaken prove beyond any doubt that the Project has been successful in identifying and implementing activities of common interest to all the partners. The Partners have gained substantially in terms of enhancement of the knowledge and skills of their staff, broadening of their perspective, and appreciation of and respect for each other's role.

(ii) Partnerships need to be based on mutual benefits, respect and understanding. Such partnerships are likely to result in better and sustainable results and outcomes. Fostering partnership of diverse members needs flexible and robust mechanisms.

(iii) Transfer of technology such as small water harvesting structures, pre- and post-harvest technology, drip irrigation and solar energy, and developmental experiences need clear understanding of local developmental situations. There is need for suitable adaptations of technology and institutions to suit the local contexts. Only then can such exchanges and transfers work successfully in the long run.

(iv) Going by the TCP exchange, the Indian developmental experience and lessons thereof seem to hold, with suitable adaptations, high potential for addressing African developmental challenges.

(v) Developmental exchange projects like the TCP should clearly identify the focus of the exchange: whether it is exposure; training; and experience sharing; or field action; or both. There is a feeling among the Partners that the Project, especially in the first phase, was largely an exposure and research-oriented programme, leaving little scope for field -

based action for directly benefiting the community. Action- based components need to be integrated in such an exchange.

(vi) The TCP provides a good model for promoting South-South exchange with support from North. With suitable modifications to overcome the major lacunae of the TCP, such a model is worth replicating with a clear focus and aim to benefit the community.

(vii) Knowledge and skills about designing and implementing of water harvesting schemes and about pre- and post -harvest technologies from India were of great relevance to the Ethiopian Partners. The literature made available by IRMA was helpful to the REST and MU staff in compiling useful information for the manuals produced. Joint field visits to the rural areas of Ethiopia and India gave to each of the team members a great opportunity to closely observe ecological and social constraints that impede the development of the rural communities in both the countries.

(viii) Despite differences in the level of economic development, socio-economic conditions, and working cultures, partnership works and become more meaningful over time. Partners accept useful ideas, solutions, and new and noble ways of looking at problems and approaches to solve the problems, no matter where they come from, and of course with suitable adaptations suiting the local contexts. The South-South and North - South partnerships become more fruitful over time.

XIII. Other relevant inputs to internal evaluation

The following are other relevant inputs from the Partners to internal evaluation:

(i) In the last SCM held in Dahod, the southern partners clearly expressed their desire to continue their collaboration after the TCP is ended and that they will try to find necessary funding for this.

(ii) If DF is providing an internal communication solution/software to the Africa Network project, then it would be desirable for the DF to allow the TCP Partners to have access to it. There could also be a module of the software that could be used for continued collaboration among the existing TCP partners.

(iii) REST may like to involve some of the TCP Partners in its activities, to be supported by the DF.

(iv) Now that most of DF's African partners have been informed about the experiences from the TCP, the DF may advise them to take advantage of IRMA's and /or Sadguru's expertise in their regular projects, funded by DF or other donors.

(v) The Southern Partners can also apply for funds from DF for specific activities.

Some Additional Remarks from DF

The conclusion from the DF's side on the project experiences is that the Triangular Project has been a very interesting experience. But the DF is of the view that after two phases and 8 years of its implementation, the Project needs to be reorganised. There have

been the following changes that have affected this decision together with DF's own experiences from the TCP:

(i) India is no longer a priority country for Norwegian Development Aid. DF has terminated its other projects also in India during 2004 and 2005.

(ii) The DF has a new Ethiopia strategy with increasing focus on the Afar region. REST is now a strong and competent NGO. It is important to build the capacity of other DF African partners, both in Ethiopia, Eritrea, Malawi and other countries.

(iii) If the focus is increased, capacity and knowledge for NGOs in NRM and improvement of rural livelihoods, the NGOs have to be the main decision makers in a SCM. Research institutions cannot be full project members, but can be included in project activities at the request of the NGOs.

(iv) The flows of knowledge in the second phase of the TCP have mostly been running from India to Ethiopia and the learning has been less reciprocal than intended. It was also clear for DF during the SCM in Anand in 2003 that Mr. Jagawat did not see that there are many potential areas where Sadguru could learn from the Ethiopian organisations other than exposure visits to Tigray for their staff. Of course both IRMA's and Sadguru's staff have learnt from their work in Ethiopia in the TCP, but there were not any technical or practical solutions within NRM that were exported from Tigray to Gujarat in the second phase.