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Republic of Ghana

**Upper East Region Land Conservation and Smallholder Rehabilitation Project
(LACOSREP) – Phase II**

Interim Evaluation

**May 2006
Report No. 1757-GH**

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Republic of Ghana
Members of a Functional Literacy Group at Katia (Upper East Region)
IFAD Photo by: R. Blench, OE Consultant

Republic of Ghana

**Upper East Region Land Conservation and Smallholder Rehabilitation Project
(LACOSREP) – Phase II, Loan No. 503-GH**

Interim Evaluation

Table of Contents

Currency and Exchange Rates	iii
Abbreviations and Acronyms	iii
Map	v
Agreement at Completion Point	vii
Executive Summary	xv
I. INTRODUCTION	1
A. Background of Evaluation	1
B. Approach and Methodology	4
II. MAIN DESIGN FEATURES	4
A. Project Rationale and Strategy	4
B. Project Area and Target Group	5
C. Goals, Objectives and Components	6
D. Major Changes in Policy, Environmental and Institutional Context during Implementation	7
III. SUMMARY OF IMPLEMENTATION RESULTS	9
A. Promotion of Income-Generating Activities	9
B. Dams, Irrigation, Water and Roads	10
C. Agricultural Extension	10
D. Environment	12
IV. PERFORMANCE OF THE PROJECT	12
A. Relevance of Objectives	12
B. Effectiveness	12
C. Efficiency	14
V. RURAL POVERTY IMPACT	16
A. Impact on Physical and Financial Assets	16
B. Impact on Human Assets	18
C. Social Capital and Empowerment	19
D. Impact on Food Security	20
E. Environmental Impact	21
F. Impact on Institutions and Policies	22
G. Impacts on Gender	22
H. Sustainability	23
I. Innovation, Scaling up and Replicability	24
J. Overall Impact Assessment	25
VI. PERFORMANCE OF PARTNERS	25
A. Performance of IFAD	25
B. Performance of the Cooperating Institution	26
C. Government and its Agencies	26
D. Research Partners	27

E. Performance of Non-Government and Community-Based Organizations	27
VII. OVERALL ASSESSMENT AND CONCLUSIONS	29
VIII. INSIGHTS AND RECOMMENDATIONS	30
A. Insights: Further Investment?	30
B. Recommendations	31
C. Implementation Support	31
D. Specific Sectoral Recommendations	31

TABLES

1. Perceived changes in life since 1995	6
2. Cost of construction for LACOSREP II irrigation projects at 1994 USD values	14
3. Productivity and efficiency of participating banks	15
4. Non-beneficiaries reporting increases in household assets since 1995	17
5. Assets of IFAD beneficiaries before and after the interventions in UER	17
6. Sources of credit for project households	18
7. Proportion of farmers using a particular farming practice before and after project	18
8. Yield increases from improved variety FTDs	20
9. Dry season cropping	21
10. Operational sustainabilities of participating banks (%)	24
11. LACOSREP II ratings	30

FIGURES

1. Total annual rainfall in UER, 1991-2004	8
2. Temperature maxima and minima in UER, 1995-2004	8
3. Savings of six WUAs in UER	23

APPENDICES

1. Implementation Results	33
2. Terms of Reference of the Mission and Its Composition/Approach Paper	39
3. Impact and Effectiveness Matrices	49
4. Bibliography	55
5. Itinerary and Persons Met	67
6. Logframe at Appraisal	71
7. List of Participants at Final Evaluation Workshop	73
8. Some Notes on Literacy in Upper East	75

ANNEXES (*)

I. Credit and Micro-finance
II. Background to Upper East
III. Non-beneficiary Survey
IV. Agricultural Extension
V. Water Resources and Infrastructure

(*) All Annexes are available upon request from IFAD's Office of Evaluation (evaluation@ifad.org)

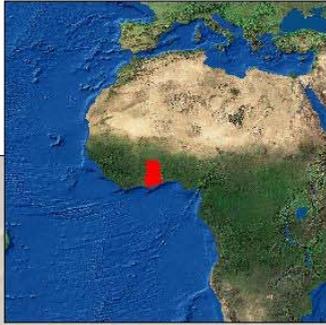
CURRENCY AND EXCHANGE RATES

Currency Unit	Ghanaian cedi (¢)
Exchange Rate at time of Appraisal (1998)	¢2355 = 1 USD
Exchange Rate at time of Interim Evaluation (2005)	¢9100 = 1 USD
Other units of measure	Hectare (ha) = 10 000 m ²

ABBREVIATIONS AND ACRONYMS

AAGDS	Accelerated Agricultural Growth and Development Strategy
ADB	Agricultural Development Bank
ADRA	Adventist Development and Relief Agency
AEA	Agricultural Extension Agent
AT	Animal Traction
BoG	Bank of Ghana
BEWDA	Bawku East Women's Development Association
BUSCOBANK	Builsa Community Bank
CCMC	Community Credit Management Committee
CGAP	Consultative Group to Assist the Poor
CLW	Community Livestock Worker
DADO	District Agricultural Development Officer
DDA	District Director of Agriculture
EPA	Environmental Protection Agency
ERP	Economic Recovery Programme
FABS	Food and Agriculture Budget Support
FAO	Food and Agriculture Organization of the United Nations
FASDEP	Food and Agricultural Sector Development Policy
FLG	Functional Literacy Groups
FSS	Financial Self Sufficiency
FTD	Farmer Training Demonstration
GCB	Ghana Commercial Bank
GIDA	Ghana Irrigation Development Authority
GLSS	Ghana Living Standards Survey
GPRS	Ghana Poverty Reduction Strategy
ICPM	Integrated Crop and Pest Management
IFAD	International Fund for Agricultural Development
LACOSREP	Upper East Region Land Conservation and Smallholder Rehabilitation Project
M&E	Monitoring and Evaluation
MFE	Methodological Framework for Project Evaluation
MoFA	Ministry of Food and Agriculture
MOU	Memorandum of Understanding
MTDP	Medium Term Development Plan
NCWD	National Commission for Women and Development
NGO	Non-Governmental Organisation
NORPREP	Northern Region Poverty Reduction Programme
NR	Northern Region
NRI	Natural Resources Institute
O&M	Operation and Maintenance
OSS	Operational Self Sufficiency
PB	Participating Bank

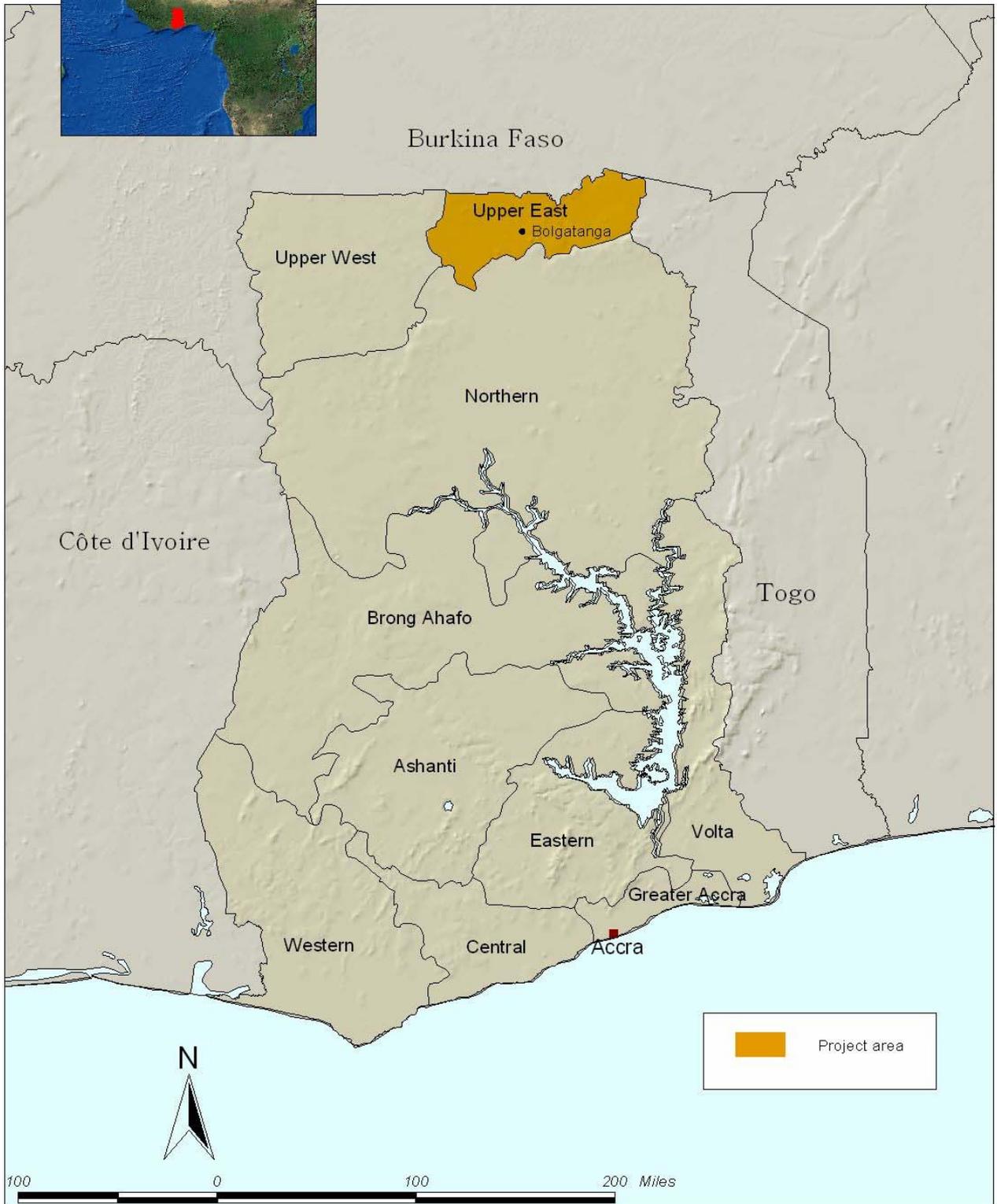
PCR	Project Completion Report
PCU	Project Coordinating Unit
PFI	Participating Financial Institution
PIGA	Promoting Income Generating Activities
PSU	Project Support Unit
RAAP	Rural Action Aid Project
RB	Rural Bank
RCF	Revolving Credit Fund
RRI	Reference Rate of Interest
SARI	Savannah Agricultural Research Institute
SGA	Seed Growers Association
UDS	University for Development Studies
UER	Upper East Region
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
UWADEP	Upper West Agricultural Development Project
UWR	Upper West Region
VGA	Village Group Animator



Ghana

Upper East Region Land Conservation and Smallholder Rehabilitation Project - Phase II

Interim Evaluation



Source: IFAD

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Republic of Ghana

Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) – Phase II

Interim Evaluation

Agreement at Completion Point¹

I. THE CORE LEARNING PARTNERSHIP AND THE USERS OF THE EVALUATION

1. In 2005, the Office of Evaluation of the International Fund for Agricultural Development (IFAD) conducted an Interim Evaluation of the second phase of the Land Conservation and Smallholder Rehabilitation Project, LACOSREP II, in the Upper East Region (UER), Ghana. An approach paper was discussed with partners in Ghana in April 2005, and socio-economic surveys were fielded between April and June of the same year. A core learning partnership (CLP) was formed comprising representatives of the Ministry of Food and Agriculture (MoFA), the Department of Agriculture in UER, the LACOSREP II Project Coordinating Unit (PCU), UNOPS, IFAD's Western and Central Africa Division, and the Office of Evaluation of IFAD. The main evaluation mission took place from 22nd May to 10th June 2005. A draft evaluation report was distributed in August 2005. A final evaluation workshop was organised in Accra on 9 November, 2005, to take stock of the evaluation findings and prepare this Agreement at Completion Point (ACP). The workshop was attended by the members of the CLP and other stakeholders. The ACP reflects the stakeholders' understanding of the evaluation, findings and recommendations, their proposal to implement them, and their commitment to act upon them.

II. THE MAIN EVALUATION FINDINGS

2. **Implementation progress.** The following achievements were made as of June 2005 (the project will close in December 2006) and relate to the main physical outputs. A more detailed discussion is presented in the main evaluation report. a) **Income-Generating Activities.** This component trained some 12 243 individuals and provided group loans without collateral to 10 251 individuals, relying on group pressure to guarantee the repayment, which corresponds approximately to 21% of the originally targeted number of clients. b) **Dams and irrigation infrastructure.** At project completion point, 24 (out of 36 planned) dams had been awarded and were at various stages of construction. Seven dams (19% of target) became operational (six rehabilitations and one new dam) during project life. As a result, only 80 ha of the planned 372 ha are currently available for farmers (22% of planned irrigable area). c) **Farmer Training and Demonstrations (FTDs).** According to project figures, 197 of the 300 FTDs were conducted from the first year of the project, in 2000. The lower than planned number was a result of delays in dam construction, as several trainings were

¹ This agreement reflects an understanding among the key partners to adopt and implement recommendations stemming from the evaluation. The agreement was formulated in consultation with the members of the Core Learning Partnership (CLP). The CLP members that attended the workshop were: Hon. Ernest Debrah, Minister of Food and Agriculture (MoFA); Hon. Boniface Gambila, Regional Minister for the Upper East; Hon. Ambrose Dery, Regional Minister for the Upper West; Mr Kwaku Owusu Baah Chief Director MoFA; Mr Roy Ayariga, Regional Director of Agriculture (Upper East) and Project Coordinator, LACOSREP II; Mr Emmanuel D. Eledi, Regional Director of Agriculture (Upper West) and Project Coordinator, UWADEP; Mr Joseph Y. Faalong, National Coordinator, AgSSIP-MoFA; and Mr. Mohamed Manssouri, Country Programme Manager (IFAD/PA). The workshop was also attended by Ms Caroline Heider, Deputy Director (IFAD/OE); Mr Fabrizio Felloni, Lead Evaluator (IFAD/OE); Mr Mark Keating, Evaluation Information Officer (IFAD/OE); Mr Roger Blench, consultant, Evaluation Mission Leader; Ms Gordana Kranjac-Berisavljevic, consultant, irrigation specialist; and Mr David Andah, consultant, rural finance specialist. A list of workshop participants is provided in the appendices to the main report.

planned for new irrigators. Total participating farmers were 6 266, some 70% of the envisaged target of which 3 898 were men (60%) and 2 546 women (40%).

3. **Major strengths - (i) relevance.** UER is the second poorest region of Ghana. The components of LACOSREP II are designed to add value to rural production, and where they have been implemented successfully, they have clearly made a difference to livelihoods in rural communities. But, due to resource constraints, LACOSREP I and II could only cover a fraction of the communities in UER. Ghana has signed up to various international undertakings to reduce poverty and LACOSREP II has this as its direct focus. LACOSREP II was undoubtedly relevant to IFAD's mandate. In retrospect, one important lessons learned from an IFAD project implemented in the Upper West is the feasibility of social protection, devising better strategies to assist the socially excluded, such as the disabled and single mothers².

4. **Major strengths - (ii) impact.** The analysis of primary data collected by the evaluation suggests that households served by the project had significantly increased their assets. Those households that received financial services from participating banks have reported benefits in terms of better opportunities for investments in trading and farming, but also in activities that do not directly generate income but contribute to household welfare such as health, schooling and the situation of women. All the beneficiaries interviewed acknowledged that the project has enhanced their food security, through access to credit to generate income, cash earned during the dry season and better skills in marketing. There is every sign that Water Users' Associations (WUAs) are viable organisations capable of handling their affairs. Women were not traditionally land owners in this region, but the WUA system has given them direct access to irrigated land. Functional Literacy Groups (FLGs) have been formed since 2003 using the REFLECT methodology to teach numeracy and literacy in indigenous languages. These have been very successful and have additionally provided an arena for women to co-operate and organise collective income-generation activities and also initiate small development projects. The overall impact of LACOSREP II on beneficiary communities has been considerable in the areas of food security, income generation, cohesion, literacy and promotion of gender issues. The achievements of LACOSREP should be seen against the trend of increasing poverty and environmental degradation in the UER.

5. **Design weaknesses. Marketing was not adequately addressed.** The viability of the interventions depended heavily on the market and this was problematic, especially for perishable crops such as tomatoes. Monitoring prices and facilitating market access, along with the promotion of crop diversification should have been integral to project design. **Supervision of engineering.** The use of a single agency, Ghana Irrigation Development Authority (GIDA), to carry out both irrigation infrastructure design and construction has led to low-grade outcomes. **Community mobilisation.** The design required spending more than two years 'sensitising' communities on the importance of irrigation. In retrospect, this was a waste of time, as communities had already submitted applications for dams prior to the inception of LACOSREP II. As a result, many dams were uncompleted at the time of project closure. **Micro-finance.** The promotion of subsidised credit has resulted in very limited commitment to term loans by the banks involved.

6. **Implementation weaknesses. Timeliness and quality of work** by local contractors was a major problem throughout LACOSREP II. The recently employed Chinese contractor still suffers from inadequate supervision. Access to credit by farmers remains at low levels and may decline further with the closure of the project. Collaboration with NGOs has not been successful in the credit sphere. Rather than jointly developing strategies, the PCU typically employed NGOs as executing agents without adequate emphasis on their feedback. Health issues were only partially addressed by the project in spite of evidence of an increase in water-borne diseases throughout the region.

² UWADEP, the sister-project in UWR, does have at least one dam site, Karni, where social protection (assistance to the blind, disabled and single mothers) is a major element, showing that this can be made to work.

7. Threats to sustainability. Roads, latrines and hand-dug wells require less maintenance and will probably be sustained locally; the problems relating to dams, where maintenance is sporadic and completion of many is more of a problem. Responsibility for maintenance has not been clearly spelled out, as some maintenance problems are beyond the WUA capabilities and even local government budget availability. WUAs vary substantially in their perception of responsibility for maintenance while their capacity to maintain the irrigation facilities is linked to their ability to mobilise internal and external financial resources. Technical innovations in agriculture seem to be sustainable, notably composting and vegetable production. Concerning the rural finance component, the operational sustainability of all the participating banks except Bessfa RB is very low.

8. **Main weaknesses in partners' performance.** IFAD has rightly insisted on the LACOSREP approach, which has important potential for poverty reduction in UER. However, the weaknesses of the credit component, the limited integration between components and the over reliance on GIDA are all examples of flaws in the project design. The PCU has performed creditably, and problems with the day-to-day running of the project have been resolved successfully in many cases. Nonetheless, in the area of irrigation infrastructure, the problems should have been resolved much earlier. Despite the adoption of the World Bank procurement standards, the process of selection of contractors was below expectations. The provisions for M&E in the appraisal document look rather optimistic in the light of actual achievements. The performance of the major research partner, Savannah Agricultural Research Institute (SARI), was weak. Despite the considerable infrastructure support given to the institute during the previous phase, LACOSREP I, and the complete renovation and improvement of the Regional Station at Manga, no effective advice to counter the tomato disease complex was given. All the participating banks have focus persons but, apart from Ghana Commercial Bank, these persons are variously engaged on non-project assignments, contributing to low repayment rates and poor record keeping and reporting. Record keeping and reporting at the participating banks leave much to be desired and reconciliation by the Bank of Ghana is irregular. Timeliness and quality of work by local contractors in the irrigation component was a major problem throughout LACOSREP II. Rural Aid, the main NGO concerned with excavation of hand-dug wells and household latrines, generally performed satisfactorily. ActionAid, whose REFLECT methodology was used in the formation of FLGs, was evidently successful.

III. RECOMMENDATIONS

9. Assuming the mutual desire to continue and consolidate the successes of the project while reducing its weaknesses, a number of key strategic issues need to be addressed. The emphasis here is to build on the good practices and internal learning already developed, while mitigating those factors which reduce the effectiveness of the project. The following recommendations start from those tasks that should be undertaken before the closure of the project and proceed to those strategic and operational issues to be considered in the design and implementation of future interventions, should the corresponding activities be part of them.

A. Immediate Tasks: Completion of Irrigation Infrastructure and Health Issues

10. LACOSREP II will close in December 2006 and much of the irrigation infrastructure remains unfinished. Completion of existing works is a major priority, but will only be a useful exercise if closer supervision is introduced, preferably using alternative arrangements.

Summary Recommendation:

- PCU to complete civil works and seek alternative consultants for supervision and contractors for execution of civil works.

Partners involved: PCU, MoFA, IFAD, UNOPS.

11. **Health issues** need to be addressed urgently to avoid the deterioration of the beneficiaries' health after project closure. There is evidence of high levels of soil-transmitted helminths throughout Northern Ghana associated with standing water, and an absence of public health measures in relation to small dams which could lead to increased incidence of related infections, with debilitation and greater susceptibility to a range of other pathologies, especially among children. Such issues were not adequately tackled during the life of the project, apparently due to the absence of key partners in MoH. To judge by available documents, in-country expertise exists to conduct such monitoring in institutions such as the Ghana Health Service and through the Parasitic Diseases Research Centre (PRDC), based in Tamale. NGOs such as the Catholic Relief Services and ADRA have both shown interest in health monitoring and awareness and are likely partners with MoH in this area.

Summary Recommendations:

- PCU to establish effective sustainable monitoring system in conjunction with NGOs and the MoH.
- PCU, in consultation with MoH, to initiate public health campaign based on results monitoring, using MoH funding and LACOSREP II loan balance.

Suggested timing: Immediate: progress to be reported prior to next supervision mission.

Partners involved: MoFA, PCU, in consultation with NGOs and MoH.

B. The Future Intervention Concept

12. **Communicating and discussing project experience as a contribution to policy dialogue.** The two phases of LACOSREP offer important lessons that are grounded in the reality of the field. These experiences should be documented and widely discussed not only at the regional but also at the national level, using donors' coordination mechanisms. This report has highlighted areas of weak institutional impact, resulting, for example, in little evidence of interactive approaches where ideas and concepts from the village make their way to project design. On the other hand, a number of good practices (strong commitment by WUAs, soil and water management) have emerged from the two phases of LACOSREP and more can be learned from other experiences. A first step in policy dialogue would be to discuss the lessons stemming from the project experience with other IFAD projects with the Government and other donors.

13. **Integration and sequencing of components.** If IFAD is to consider further investment in UER, then the evaluation of LACOSREP II recommends rethinking some elements in project design. A key problem is that projects with so many components, but no clear integrative strategy, are open to activities being carried out with no linkages, with the consequence that management costs are high. Project design should consider sequencing more carefully.

14. **Considerations of equity.** LACOSREP II and comparable projects such as UWADEP raise broader concerns. Basing a development strategy on the rehabilitation of existing infrastructure risks perpetuating inequality. Although hunger remains widespread and may be increasing throughout UER, there are also 'bypassed communities', i.e., those in remote areas where there is no government infrastructure and no NGOs operate. Such communities need to be clearly targeted in future interventions. Similarly, targeting of special categories, such as the physically impaired, was not part of LACOSREP II design but experience with these groups from the sister project UWADEP in UWR (Karni site) shows that some components have the potential to assist the socially excluded and this should now be considered essential.

15. **Improve M&E systems.** The collection of quantitative data on project delivery was relatively accurate, although the assessment of impact was missing. For future projects, longer-term support for M&E is required. **Background data collection.** Projects should collect relevant background data including climatic, market and socio-economic indicators.

Summary Recommendations:

- IFAD to take the opportunity donor's coordination mechanisms to present and discuss the main lessons learned from its experience in UER. In view of its lack of field presence, IFAD should estimate the level of human and financial resources to be devoted to it.
- Project formulation to draw on the lessons learned by stakeholders at all levels. In the design of a future operation, IFAD (and indeed other multi-laterals) should take care not to waste funds and the time of potential beneficiaries with 'sensitisation workshops', as, by and large, they have already fully articulated their requirements.
- IFAD, GoG and other stakeholders to articulate clearer sequencing and integration of components at inception and formulation. Typically, the project components are listed and the links between them are somehow taken for granted. But in implementation, components are often executed independently. Project design must clearly spell out all the envisaged links, both in terms of its argument and practical action by the PCU.
- Communities without irrigation infrastructure and special categories of users, following a successful case in UWADEP, should be the target of future interventions.
- IFAD to discuss M&E support requirements, including in-country expertise, with MoFA. Henceforth, monitoring should be conducted in conjunction with communities and be subject to joint assent. Projects should collect relevant background data.

Suggested timing: At design of future interventions. Communication and discussion on lessons learned to be a continuous element of IFAD's strategy.

Partners involved: IFAD, in consultation with: MoFA, PCU, NGOs, other donors.

C. Components of Future Projects

C.1. Irrigation Component

16. **Quality control and phased contracting of consultancy services.** A different approach should be considered in the future, as opening the consulting to a wide range of professional companies should be non-negotiable. Proposals should be sought from other qualified consultants to compete for the assignment in the downstream phase even where consultants have performed satisfactorily. Procurement of services should be in line with the Public Procurement Act No. 663 (2003). Services should be segregated into phases according to a project implementation schedule and contracts signed separately, subject to satisfactory performance. A validation forum should be organised after design completion and before construction start-up, involving: MoFA, district assemblies, consultants, contractors and WUAs. This should be followed with regular work progress review meetings. Payment schemes to the consultant should include performance incentives, not lump sums. In order to better understand bottlenecks, IFAD may consider conducting an audit of contract awarding during project implementation.

17. **Irrigation infrastructure construction methods.** Much of the irrigation infrastructure constructed under LACOSREP II (and its sister-project, UWADEP) use open channel irrigation methods which waste considerable quantities of water. 'Closed' systems are now being introduced by many organisations, including international NGOs and even other projects under MoFA; successor operations should look carefully at these technologies.

18. Pumping water from the White Volta River for riverside horticulture was introduced in the final year of the project. Although not in the project design, it allows cultivation of three crops per year, therefore significantly increasing farmers' income. This method is simple and effective, but requires pumps and diesel fuel as inputs. However, the nutritional and income-generation benefits suggest that small-scale credit could rapidly extend the benefits to a wide range of farmers, as has been shown in other countries such as Nigeria.

19. **Irrigation infrastructure needs maintenance**, some of which is beyond the capacity of WUAs. This situation should be addressed by realistic budgeting and assignment of responsibility in such cases to MoFA, the regional and district departments of agriculture and donors.

Summary Recommendations:

- Contracting and procurement of all phases of dams and other civil engineering works must conform to recent government guidelines [Public Procurement Act No. 663 (2003)].
- An option is for IFAD to consider requesting an audit of contract awarding under LACOSREP II.
- New, more environmentally -sound methods of irrigation infrastructure construction, such as those introduced in new dams built by NGOs and others, to be considered a high priority by both IFAD and other donors for future projects.
- MOFA, in consultation with NGOS, should identify most cost-effective technology options (for example those tested in Burkina Faso and Nigeria) and packages for riverside horticulture (e.g., overhead irrigation using pumps) and disseminate information about these.
- Realistic assignment of responsibility for different levels of maintenance. MoFA to clarify with WUAs what types of maintenance are their responsibility, what problems can be assigned to defective work by contractors and what problems should be brought to the notice of the regional/district department of agriculture. IFAD (and any other donor), in consultation with MoFA, to estimate the availability of maintenance funds within government agencies and provide for those operations that may exceed existing budgets and should be dealt with by extra-systemic assistance.

Suggested timing: Design and implementation of future interventions.

Partners involved: MoFA, PCU, NGOs, IFAD.

C.2. Agricultural Action Research and Extension

20. The present evaluation has highlighted the absence of a real partnership for farm-oriented action research, particularly in the area of Integrated Crop Pest Management, and very limited use of media (radio) to encourage the adaptation and adoption of sound farming practices.

Summary Recommendations:

- In view of the constraints of the existing research institutions, IFAD to discuss alternative arrangements for action research with MoFA, RELCs and NGOs.
- MoFA – PCU to facilitate farmer-to-farmer communication through cross visits and consider the use of vernacular radio programmes addressing pertinent problems.

Suggested timing: Specify these requirements at design.

Partners involved: MoFA, PCU, IFAD, Ghana Broadcasting Corporation and private radio stations, SARI.

C.3. Processing and Marketing Issues

21. Producers remain at the mercy of buyers with high monopoly power and only in Bawku has the presence of an all-weather road and mobile phones begun to subvert the stranglehold on the market. Crop diversification, dissemination of new techniques in marketing and a variety of crop processing strategies could rapidly increase incomes and reduce nutritional insecurity in UER. A review of these issues and action by MoFA and PCU should be undertaken. Much knowledge already exists in neighbouring countries, notably Burkina Faso, so some type of farmer exchange is recommended. Moreover, some local NGOs have accumulated experience in this area.

Summary Recommendations:

- MoFA to conduct reviews and disseminate recommendations on:
- Crop diversification to reduce the problem of bottlenecks in the market and crop processing to increase storage flexibility and allow farmers to ‘play’ the market.
- Spreading of information on market prices (radio, farmers’ organisations) allowing producers to confront buyers more effectively.

Suggested timing: Specify these requirements at design.

Partners involved: PCU, MoFA, NGOs.

C.4. Additional Area for Inclusion

22. FLGs, originally not included in the project design, have seen considerable success, both increasing numeracy and literacy and establishing solidarity among groups for other purposes such as collective work and microfinance.

Summary Recommendation:

- Work with NGOs on strategies to develop FLGs (review experience of ActionAid) and ensure that writing systems are in line with standard Ghanaian orthographic conventions.

Suggested timing: FLGs to be considered in coming operations, as appropriate.

Partners involved: IFAD, MoFA in consultation with NGOs.

C.5. Rural Finance Issues

23. While credit was appreciated by the beneficiaries, coverage was limited and the project did not significantly contribute to promoting sustainable rural finance institutions. There is a wide range of credit options, especially offered by NGOs and government programmes that include subsidized rates. Some may create problems for interventions based on market rates. It is important that: (i) rural banks be allowed to apply interest rates that cover all costs and allow for profits; (ii) partners work towards strategy harmonisation (in particular by avoiding interest rate subsidisation in public programmes); (iii) training be provided to participating banks’ staff using regional rural finance hubs; (iv) discussions be held with participating banks on available techniques and products that can help reduce transaction costs in rural areas; and (v) the rural finance component is fine-tuned and well-sequenced with other components.

Summary Recommendation:

- Review with the participating banks, BoG, and with the help of specialists and regional rural finance hubs those options and products that can make rural finance both viable economically and practical for beneficiaries. Review and discuss the experiences in institutional strengthening and policy dialogue stemming from the Rural Financial Services Project.

Suggested timing: During future project design.

Partners involved: IFAD, the Bank of Ghana, rural banks, Micro Finance and Small Loan Centre (MASLOC), Ministry of Finance and Economic Planning, Apex Bank, Ghamfin, RFSP.

Republic of Ghana

Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) - Phase II

Interim Evaluation

Executive Summary

I. INTRODUCTION

1. In accordance with the Evaluation Policy of the International Fund for Agricultural Development (IFAD), the Office of Evaluation (OE) conducted an Interim Evaluation¹ of the Upper East Region Land Conservation and Smallholder Rehabilitation Project – Phase II in Ghana in May-June 2005, given the interest of both the Government of Ghana and IFAD's Western and Central Africa Division (PA) to proceed with further investments in the area. This evaluation adopts the standardized IFAD methodological framework for project evaluations.

2. **Macro-economic and poverty indicators.** Located in West Africa, Ghana has an estimated population of 20.5 million, of which 63% is rural. The structure of the economy is characterised by a large (in relative terms) services sector (42% of the total GDP), compared to 34% for agriculture and 24% for industry. It has an annual GDP per capita of USD 304 and the GDP growth has averaged 1.8% in the last ten years (i.e., below population growth) although this has increased recently. Agriculture continues to be the mainstay of the economy, employing about 60% of the labour force. Ghana is classified as 131st out of 175 countries according to the UNDP Human Development Index (2003). The percentage of households below USD 1 per day has been estimated at 44.8%, while the percentage of poor households at nearly 40% according to a national poverty line (World Bank, World Development Indicators, 2004).

3. Northern Ghana consists of three regions, Upper East (UER), Upper West (UWR) and Northern Region (NR). By many indicators, these regions are the poorest in Ghana and are indeed comparable in poverty to some of the poorest countries in the world. IFAD had projects in each of them: the Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) for the UER, the Upper West Agricultural Development Project (UWADEP) for UWR and the Northern Region Poverty Reduction Programme for the NR. The first phase of LACOSREP was designed in 1990, became effective by 1991/1992 and was given an interim evaluation in 1998. LACOSREP II was appraised in December 1998, became effective in January 2000 and will close in December 2006, after a one-year extension.

¹ The Office of Evaluation of IFAD conducted an evaluation mission of LACOSREP II and UWADEP from 23rd May to 30th June 2005. Field visits in the UER took place between 26th May and 10th June. Sites of both LACOSREP I and II were visited, the former to better understand key sustainability issues. The mission members were Mr Roger Blench (Team Leader), Mr David Andah (Credit and Micro-finance), Ms Liz Kiff (Agricultural Extension) and Ms Gordana Kranjac (Water resources and Rural Infrastructure). Preliminary quantitative and qualitative surveys were carried out by Mr Hippolite Bayor and Mr Edward Aboagye in early 2005. An *ad hoc* survey of non participant households was conducted in concomitance with the mission, under the direction of the Team Leader. Mr Fabrizio Felloni (Lead Evaluator, IFAD-OE) designed the evaluation methodology, made a pre-evaluation visit in April 2005, accompanied the mission for its first and final days in Ghana and supervised the evaluation process throughout. An aide-mémoire and an associated PowerPoint presentation were circulated at a workshop in Bolgatanga on 10 June 2005 under the chairmanship of the Regional Minister. A final presentation of the first findings from LACOSREP II and UWADEP was made in Accra on June 30th. The mission is grateful to national and regional authorities as well as to the project staff for their support.

4. The most recent agricultural policies in Ghana are reflected in the: (i) Accelerated Agricultural Growth and Development Strategy (AAGDS); the Food and Agricultural Sector Development Policy (FASDEP); and the (ii) Ghana Poverty Reduction Strategy (GPRS) 2002-2004, currently under revision. The AAGDS broadly aims at the intensification and modernisation of agriculture, while the FASDEP further emphasizes the importance of food security. The GPRS of 2003 recognises that rural farmers and fishermen are particularly at risk, and specifically mentions Northern Ghana (UER, UWR and NR) as a locus of perennial food deficits. Women are identified as particularly disadvantaged in this context and instruments to promote gender equality are emphasised. Although the document notes the importance of environmental factors in increasing vulnerability, it does not propose concrete measures to reduce risk in agriculture. Beginning with 2003, some donors, in addition to their conventional “project approach”, have also tested multi-donor budget support as an additional instrument in sectors such as health and education.² Agriculture and water sectors have not experienced major shifts to budget support.

5. **The project area: serious problems of environmental degradation.** LACOSREP II is located in the UER, the smallest region of Ghana (slightly over 3% of the total land area), with an estimated population of 920 000 people (80% employed in agriculture) and the highest population density in the country (104 persons/km²). Access to markets and off-farm opportunities is constrained in UER by poorly maintained feeder roads and lack of transportation services. According to the Ghana Living Standards Survey, the percentage of the population living in poverty is 88% in UER.³ This is also reflected in the stunting rate for children below five years, which is higher than the national average (31.7% against 25%), although infant mortality rates are lower (33 per 1 000 against 68 per 1 000). UER is notable for its high levels of environmental degradation, deforestation and loss of soil cover, broadly as a result of extremely high population densities not accompanied by agricultural intensification.

6. **The rationale for LACOSREP II** was summarised in the Appraisal Report as: (i) strong existing demand for dam rehabilitation in rural communities; (ii) the potential for water user associations (WUA) to be sustained and assure food security in the region; and (iii) building on existing credit experience to establish effective mechanisms for rural financial institutions.

7. **Basic project data.** The total project cost was USD 13.9 million, out of which IFAD provided USD 11.5 m. As of mid-August 2005, 73.5% of the total loan amount had been disbursed. IFAD was the only international financier of the project, supervised by the United Nations Office for Project Services (UNOPS). The Ministry of Food and Agriculture (MoFA) was the agency responsible for the implementation at the national level, although the day-to-day management was entrusted to the regular regional staff of MoFA.

8. **The objectives** of LACOSREP II, as per appraisal, were to: (i) further develop irrigation in UER; (ii) increase productivity through farmer training and demonstrations of new technologies for increasing productivity of crops, livestock and fish; (iii) build the capacity of government institutions which provide technical and social services district and sub-district levels; (iv) construct rural infrastructure to reduce the female labour burden and take measures to mitigate the possible risks of health and negative environmental impacts. The **components** of LACOSREP II were as follows; (i) agricultural development (applied research, extension, livestock development, 15% of total base costs); (ii) water resources development (rehabilitation and construction of dams, environmental and human health protection, 33%); (iii) rural infrastructure (road improvement, dug wells and latrines, 19%) (iv) income-generating activities (rural credit, 18%); and (v) project organisation and management (14%).

² The ten donors involved in multi-donor budget support in Ghana are: the African Development Bank, Canada, Denmark, the European Union, France, Germany, the Netherlands, Switzerland, the World Bank and the United Kingdom. Japan, the United States and the United Nations are observers.

³ Consumption-based estimates, GPRS, 2003. Usual *caveats* on monetary-based estimates for rural areas apply also to this case.

9. Project interventions were to be implemented by: (i) MoFA district and regional staff; (ii) research specialists; (iii) Non-Governmental Organisations (NGOs) and agencies specialised in group formation; (iv) private sector; (v) consultants; and (vi) community-based organisations (CBOs). The Ghana Irrigation Development Authority (GIDA) was specified as the sole responsible agency for ensuring that the dams were built to high technical standards. The management of project interventions would be undertaken at district or regional level according to the scope and financing levels. The Project Coordination Unit (PCU) (integrated in the regional MoFA office) in particular would be responsible for all interventions that cut across districts, such as research.

II. IMPLEMENTATION STATUS

10. **Agricultural development: extension, farmer training and demonstrations.** From 2000, the first year of the project, 197 of the 300 Farmer Training Demonstrations (FTDs) were conducted. Total participating farmers were 6 266, some 70% of the envisaged target, of which 3 898 were men and 2 546 women. However, it is important to note that the introduced technologies have spread well beyond the initial participating farmers and total adoption of FTD technologies is estimated as 8 756, clearly exceeding the original target of 6 000. Some progress has been made in marketing and processing: improved storage structures for onions has reduced loss from 50% plus to 25-40% over three to five months, when onions can be sold for as much as €300 000 compared to €80 000 per 73 kilo bag at harvest. Much remains to be done with more perishable species such as tomatoes.

11. **Water resources development.** This component experienced serious implementation delays. Out of the 32 dams to be constructed or rehabilitated, as of June 2005, contracts for 24 dams had been awarded. The rehabilitation of six dams and the construction of one dam had been completed, while the others were at various stages of construction. As a result, only 80 ha of the planned 372 ha are currently available for farmers (22% of planned irrigable area). Health and environmental interventions under LACOSREP II related principally to water-borne diseases, catchment protection, and the maintenance of soil fertility and agrobiodiversity. The introduction and development of composting has clearly been successful and the idea is apparently spreading even outside the project area. Environmental permits were issued by the Environmental Protection Agency to all LACOSREP II dam rehabilitations/constructions, although these were not renewed when delays in construction started. Catchment protection activities, including planting trees and creating bunds were carried out at LACOSREP I sites, and targets were largely achieved. Water quality analysis results carried out for hand-dug wells and in dams must be urgently made available.

12. **Rural infrastructure.** Spot improvements in roads (75 kilometres) of all designated areas were achieved during project life, although re-graveling was not carried out. Appraisal targets were generally met in the area of hand-dug wells and latrines, although many are not yet fitted with pumps (60%).

13. **Income-generating activities.** The component trained some 12 243 individuals in loan management (about 32% of the original target) and provided group loans without collateral, relying on group pressure to guarantee the repayment, to 10 251 individuals. No medium-term loan was granted for asset acquisition by any of the participating banks, apparently because they are uncomfortable with their management. The provision of financial services by the Agricultural Development Bank enabled savings to be mobilized and credit accessed from all six districts.

III. PERFORMANCE OF THE PROJECT

Relevance

14. UER is the second poorest region of Ghana and overall living standards have hardly improved in the past ten years. The components of LACOSREP II are designed to add value to rural production and are, in general, valuable for the poor farmers. Clearly the funds of LACOSREP I and II allowed only partial geographical coverage. Ghana has signed up to various international undertakings to reduce poverty and LACOSREP II has this as its direct focus. The project is also in line with the

goals for agriculture mentioned in policies and strategies such as AAGDS and FASDEP. Its value added consists of a clearer geographical targeting and a set of concrete measures to reduce poverty and help reduce or reverse environmental degradation. With the benefit of hindsight, two elements were not adequately focused. First, the project provided for a higher number of dams to be rehabilitated (23) than constructed *ex novo* (9). Communities without dams lack important production infrastructure (particularly in low rainfall areas) and need to be better targeted. Second, the experience from the sister project UWADEP in the adjacent region shows that it is possible to target specific irrigation interventions to special categories such as the blind and physically impaired. This experience deserves consideration for any further intervention.⁴

Effectiveness

15. In spite of the delays in the water resources (irrigation) component and the limited coverage of the income-generating activities (credit) component, LACOSREP has moved in the right direction in tackling the basic problems of the poor in UER. The development of the irrigation infrastructure and the improvement of agricultural practices through farmers' training and demonstration have benefited households in terms of improved income sources, assets and food security. The livestock development sub-component, with its emphasis on small ruminants and guinea fowl seems well placed, given the importance that they have in the project area. However, national policies dictating a switch to cost-recovery veterinary services create serious problems. Expenses of ¢ 1 000 to 2000 per livestock head are enough to discourage very poor farmers from vaccinating their livestock and diseases may wipe out years of investment.

16. Multi-component projects bear the risk of limited coordination between different interventions, which is also the case of LACOSREP II. For example, some farmers' training and demonstration activities can be very successful in themselves (such as introduction of improved varieties and certified seeds), but their effectiveness may be limited when inputs from other components are not provided timely (such as credit or seed at district and regional levels) or are not provided at all at the same sites. As different agencies are normally responsible for different components, the issue of synergies and integration between interventions needs to be carefully considered already at the design stage.

17. One of the objectives at appraisal was to construct infrastructure to alleviate women's work and provide mitigating measures for water-related diseases and negative environmental impact. Concerning the environmental impact, measures for catchment area protection and soil conservation proved successful in preventing erosion. Hand-dug wells were constructed to reduce women's workload in fetching water but they are not all functional and very little was done for protection from water-borne diseases.

18. Finally, concerning the objective of building capacity of formal and informal institutions to provide demand-driven social services, the picture is mixed. There are positive and important project achievements such as active and dynamic WUAs and Functional Literacy Groups (FLGs). On the other hand, there are two important limitations that need to be considered. First, there is a tendency for government field staff to spend a disproportionate amount of time in 'sensitising' communities on benefits of certain interventions even when people are perfectly aware of their usefulness. One example of this comes from the irrigation component: some communities had filed application for dam construction or rehabilitation even before the start-up of LACOSREP II and yet it was decided to conduct a number of field workshops to explain how irrigation was important for them. Time and money would have been better invested in starting studies for infrastructure works and in involving representatives of the communities in those preparatory works. Second, the project contracted out some services to research institutions and non-governmental organisations (NGOs). However it did not really seize the opportunity to build a real 'partnership' with them, it did not actively involve them

⁴ UWADEP, the sister-project in UWR, has at least one dam site, Karni, where assistance to the blind, disabled and single mothers is a major element, showing that this can be made to work.

in assessing community needs and testing new technology that was directly responsive to the elicited needs. Some NGOs had accumulated experience in this sense that could have been built upon.

Efficiency

19. In this report the notion of efficiency is explored mainly for the irrigation and the rural finance components. In the case of irrigation, unit costs of construction (per ha) are compared with benchmarks in the country. In the case of the rural finance component, the administrative cost of providing a dollar of credit is compared with a peer group of microfinance institutions in the region. The unit cost of dam construction for LACOSREP II dams varied from USD 477 to 1 338.7/ha.⁵ A study prepared by the Food and Agriculture Organisation of the United Nations (1998) showed ranges of costs per ha between USD 400 and 5 000 per ha in Ghana. This suggests that LACOSREP II construction costs were relatively inexpensive compared to typical benchmarks. In terms of water conservation, new technology based on piped systems has been introduced in northern Ghana by international NGOs and this technology should be considered carefully in future interventions as it would improve efficiency in water conveyance and distribution.

20. As far as rural finance is concerned, administrative costs of lending for the participating banks are about one-third of the average of a group of rural finance institutions in the region (Microbanking Bulletin 2004). From a cost-effectiveness point of view, the project appears to perform well, although water delivery efficiency can be improved, quality of water infrastructure needs to be monitored because many dams have not been completed, and the rural finance component exhibits problems in credit discipline (low repayment rates, as explained further below).

IV. RURAL POVERTY IMPACT

21. **Methods.** In assessing the project impact, the evaluation triangulated among multiple sources: (i) the available M&E data, (ii) a quantitative survey of beneficiaries and non-beneficiaries; (iii) a qualitative survey of five dam sites; (iv) an ad hoc survey of non-beneficiaries; and (v) participants' observations as recorded by mission members. Following the evaluation policy, the project conducted a self-assessment exercise which was also considered by the evaluation team. Detailed results are presented in the main report.

22. **Significant impact on physical and financial assets.** The evaluation surveys compare households that have been assisted by LACOSREP with households that have not benefited of such assistance (control group). Data suggests that assets of project users (both household and agricultural assets) have increased significantly in the past years, while increases for the control group were less evident. Qualitative interviews during the field visits confirm that this is the case. Those households that have received financial services from participating banks have reported benefits in terms of better opportunities for investments in trading, farming but also activities that do not directly generate income but contribute to household welfare, such as health and schooling (as further explained below).

23. **Important impact on farming practices and literacy, limited progress on human health issues.** The evaluation surveys provided quantitative evidence of increased adoption of improved farming practices, including composting and improved seeds. The predominant approach in relation to farmers' knowledge was that of the field school which focused on practical cases and problems. Improved small ruminant management, including housing, nutrition and health care has been taken up, by farmers and communities involved in the livestock components. The promotion of FLGs was an element not foreseen in the original design, which was strongly appreciated by the communities and also helped strengthen social capital (as explained below). Instead, limited progress was made concerning human health (risk of water borne diseases, such as schistosomiasis and malaria), which

⁵ There are no precise data for maintenance costs.

had been flagged as a significant issue towards the end of LACOSREP I. In the course of visits to WUAs, the team evaluation found no evidence of training or advice to the communities.

24. **Social capital and empowerment.** Training programmes and activities were carried out during LACOSREP II for the newly established WUAs of LACOSREP II as well as for groups created under LACOSREP I. There is every sign that many WUAs are vibrant organisations capable of handling their affairs, although some require further training in irrigation practices, such as irrigation scheduling and methods of field water application. The introduction of FLGs enhanced the dynamism of groups. One weakness of WUAs is the limited amount of financial resources they can raise, compared to major maintenance needs. This is not a surprising result but should be taken into consideration by MoFA and the donors when budgeting for project maintenance costs.

25. **Enhanced food security.** In the absence of a baseline anthropometric survey, the evaluation has to rely on qualitative perceptions elicited during interviews, as well on indirect evidence, such as the increased yields due to improved varieties or cropping rates in the dry season. All the beneficiaries interviewed acknowledged that the project has enhanced their food security, both through access to credit (consumption smoothing effect), cash earned during the dry season and better skills in marketing. Some use their profits or part of the loan to stock food for the hunger period. While some report having adequate food during the hunger period, others have the food scarcity of the hunger period reduced.

26. **Environmental impact.** The serious environmental degradation problems in UER required LACOSREP II to emphasise soil and water conservation. The project has had a considerable positive impact both on direct increase of soil productivity in project areas and improving participant and neighbouring communities' awareness about soil conservation. Catchment protection activities including tree planting and creating bunds were carried out at LACOSREP I sites, and the targets were largely achieved.

27. **Impact on institutions and policies is generally limited.** Village institutions such as WUAs and FLGs are clearly viable but it is more difficult to see a major shift in the attitudes of government staff. For example, the time taken at the inception of LACOSREP II 'sensitising' communities to the need for dams, when many had lodged applications with the Regional Assembly as early as 1998 suggests that much needs to be done in this area. NGOs were used principally to carry out services for the LACOSREP II, such as the use of Rural Aid in hand-dug wells and ActionAid in the REFLECT literacy strategy. They were not generally involved in testing new technologies or assessing community well-being, in spite of the experience that they had accumulated. Change in mentality takes time, but IFAD could help by facilitating communication and dissemination of experiences from the ground. The project did not promote the strengthening of rural finance institutions: banks were seen more as conduits for credit rather than institutions that need to become financially sustainable. Finally, an area yet to be addressed relates to policy dialogue on cost-recovery requirements for livestock vaccination. As previously noted, such requirements exclude many farmers from access to animal health services.

28. **Gender.** LACOSREP II employed a gender officer on a contract basis to ensure that the objectives of appraisal were met, and this has been an effective strategy. Women were not traditionally land owners in this region, but the WUA system has given them direct access to irrigated land. The FLs have also provided an arena for women to co-operate and organise collective income generation.

29. **Sustainability threats** can be considered under three key dimensions: (i) maintenance of dams; (ii) environmental sustainability; and (iii) financial sustainability of rural finance operations. Responsibility for maintenance of dams had not been clearly spelled out: some maintenance operations are beyond the operational and financial capacity of WUAs and sometimes even local government budget availability. In terms of environmental sustainability, there are technical innovations in agriculture that can be continued even after project support, such as composting and vegetable production. Irrigation increases cropping rates and the extraction of soil nutrients. This

could be countered by adequate agroforestry packages and the integration of leguminous crops into rainfed cropping cycles, and there is a need for more emphasis on these. Concerning the rural finance component, financial sustainability risks stem from two reasons: first, the repayment rates are low because of high transaction costs (bank offices are far away from their clients, untrained bank staff and insufficient products to serve the poor); and secondly, the banks are forced to lend at interest rates that do not allow them to cover their costs.

30. **Innovations, scaling-up and replicability.** The most successful innovations promoted by the project are those that can spread from farmer to farmer with little capital investment. Guinea fowl raising, composting, the use of neem for crop protection and formation of literacy groups were not diffused in the UER before LACOSREP II but are now being increasingly adopted. They are all examples of such innovations, for which there is evidence of this type of spread, since they have been replicated even outside the project area. Several interventions (improved livestock care, effective response to plant pathogens) are within the technical and financial capacity of MoFA and can be replicated without additional donor funding. However, to construct new dams or rehabilitate the existing ones, donor funds are needed.

31. **The overall impact** of LACOSREP II on beneficiary communities has been considerable in the areas of food security, income generation, corporateness, literacy and promotion of gender issues, in spite of implementation constraints and delays. The achievements of both phases of LACOSREP should be seen against the trend of increasing poverty and environmental degradation in the UER.

V. PERFORMANCE OF PARTNERS

32. **IFAD** has rightly insisted on the LACOSREP approach which has important potentials for poverty reduction in the UER. There are, however, certain flaws in the original project design which deserve further reflection: first the whole rural finance component did little to enhance the financial sustainability of the participating banks; second, the limited degree of integration between components (which was partly dealt with during the implementation phase); and third, the over-reliance on the GIDA to screen private contractors for the irrigation component. This created delays in the execution and did not ensure high quality of works. The lack of IFAD field presence in Ghana constrains implementation support as well as policy dialogue and coordination with other donors. Problems such as the inadequate performance of GIDA in the irrigation component are difficult to address through a two-week UNOPS mission per year. On the other hand, experiences such as that of LACOSREP I and II should be more systematically brought to the attention of other donors as well as local research institutions and NGOs active in the country.

33. **UNOPS** has been responsible for the supervision of LACOSREP, with yearly visits of about ten days. Reportedly, these missions have been conscientiously carried out and the detailed reports were critical but fair. However, there was a perception by MoFA staff that in recent years it was more difficult to have a dialogue with the UNOPS team, that the missions were more adversarial, perhaps due to a sense of frustration with delayed implementation.

34. **The Government.** In general, the PCU/MoFA performed creditably, and problems with day-to-day running have been resolved successfully in many cases. All types of training and sensitisation were carried out in a timely manner and there was a certain adaptation and flexibility in their implementation. In the area of irrigation infrastructure, the problems of managing contractors and an over-reliance on GIDA should have been resolved much earlier. In terms of monitoring and evaluation (M&E) activities, the monitoring part was quite accurate, while the evaluation of the socio-economic impact weak. However, the contribution of GIDA as the sole consultant for the irrigation infrastructure on the project was a weak one, causing many problems in project execution, as well as delays in implementation. National policies on cost-recovery of livestock vaccination do not represent a conducive environment for projects such as LACOSREP II. They are among the root causes of low vaccination coverage and expose farmers to the risk of livestock losses to epidemics.

35. **Research and extension.** The project collaborated with a number of research organisations on small ruminant husbandry, guinea fowl husbandry, improved crop and pest management in rice and improved method of parboiling rice. The performance of the four research institutes involved, Animal Research Institute, Tamale, University of Ghana; Crop Research Institute, Kumasi; and Food Institute, Accra, were all considered satisfactory to good by the project. In most cases however, the tendency was for the project to contract out individual survey assignments rather than establishing a partnership, which involves needs assessment, follow up and modification/direction for future applied research. The performance of the major research partner as envisaged at project appraisal, the Savannah Agricultural Research Institute (SARI), was weak. Despite the considerable infrastructure support given to the institute during the previous phase, it was not able to give effective advice to counter the serious problem of the tomato disease complex.

36. **Banks.** The role of the Central Bank of Ghana was to set up and manage the disbursements and replenishment of the Revolving Credit Fund for the participating banks. Although it was required that the clearing accounts of the participating banks be debited on due dates, as at March 2005, all the participating banks had balances overdue since December 2004. As explained above, the performance of the participating banks was weak, due to low repayment rates. This resulted in poor portfolio quality. The lowest rate of 27% for Portfolio at Risk (>30 days) achieved by Naara Rural Bank is weak by any standard. Building sustainable financial institutions was not a major ingredient in the project design.

37. **Private contractors.** Timeliness and quality of work by local contractors was a major problem throughout LACOSREP II. Procurement procedures for contractual services were adopted to conform with the World Bank standards and to ensure transparency and objective choice, but with weak results.

38. **NGOs.** Rural Aid, the main NGO concerned with excavation of hand-dug wells and household latrines, generally performed satisfactorily. ActionAid, whose methodology was used in the formation of FLGs was evidently successful. Instead, the three NGOs which worked in partnership with the rural banks had limited experience in rural finance and failed to provide continued assistance.

VI. OVERALL ASSESSMENT

39. The most important conclusion is that overall, and in spite of implementation delays in the second phase, both phases of LACOSREP have benefited poor communities in UER, have increased levels of food security, enhanced capacity for collective action, improved material well-being and effectively heightened gender awareness. However, dilatory construction and completion of dams and the likelihood that many will be unfinished after closure of the project is a serious problem. Central government officers in Accra have argued that development investments in Northern Ghana have been ineffective. However, this evaluation is of the opinion that the relative success of LACOSREP II rather shows that there are experiences which deserve further support, clearly within an improved framework.

VII. INSIGHTS AND RECOMMENDATIONS

Insights

40. **Integration and sequencing of components.** If IFAD is to consider further investment in UER, then the evaluation of LACOSREP II suggests the rethinking of some elements in project design. A key problem is that projects with many components, but without a strong integrative strategy, are open to activities being carried out with no linkages, which result in high management costs. Project design should consider sequencing more carefully.

41. **Considerations of equity.** LACOSREP II and comparable projects such as UWADEP also raise broader concerns. Focusing on the rehabilitation of existing infrastructure does little for communities that have not benefited from outside assistance in the past. Similarly, protection of

special categories such as the blind or the physically impaired was not part of LACOSREP II design, but experience from UWR shows that this can be made to work and it should be included in future project design.

42. **What type of intervention?** In Ghana, in some sectors such as health and education, donors have started to fund multi-donor budget support initiatives for national strategies. Although the pressure is not yet strong in the agriculture and water sector, the question is whether area development intervention deserves receiving further funding in the future. The experience of LACOSREP illustrates that there is a very significant need on the ground for projects and programmes that clearly focus on a well-defined geographical area and deliver services and inputs to impoverished farmers. While the area development focus can be retained, as previously noted, IFAD should promote a stronger integrative strategy, not only through a more careful consultation at the design phase but also by promoting better discussion and dissemination of 'lessons from the ground'. Moreover, rural finance interventions will not be effective unless they aim at strengthening rural finance institutions. One option could even consist of having a dedicated programme for rural finance. If this choice is made, clearly the dovetailing and synchronising of rural finance with other interventions becomes a crucial issue.

43. Whatever the problems, the contention that development interventions in UER have not resulted in improved wellbeing is not supported by the empirical data gathered by the evaluation. Moreover, equity considerations, the contribution of labour from UER to national development and the Government's ratification of various poverty agendas all argue for continuing and indeed expanded investment, within an improved framework. In future investments, the priority of improving the design should be matched by the search of strategic partners, as the availability of IFAD resources allows only limited coverage.

Recommendations

44. **Immediate tasks: completion of irrigation infrastructure and health issues.** LACOSREP II will close in about a year and a significant part of the dam infrastructure remains unfinished. Completion of existing works is a major priority, but will only be a useful exercise if closer supervision of works is introduced, preferably using alternative arrangements (as elaborated upon). Health issues (especially the risk of water-borne diseases) need to be addressed to avoid that health conditions of the beneficiaries deteriorate after project closure.

45. **Communicating and discussing project experience as a contribution to policy dialogue.** The two phases of LACOSREP offer important lessons that are grounded in the reality of the field. These experiences should be documented and widely discussed not only at the district and regional levels, but also at the national level, taking the opportunity of the donors' coordination group in the agricultural sector. This report has highlighted areas of weak institutional impact, resulting, for example, in little evidence of interactive approaches where ideas and concepts from the village make their way to project design. The same can be said in the case of livestock vaccination: donor-driven policies of cost-recovery were clearly not working because of widespread cash shortages with consequent economic losses due to animal deaths. On the other hand, a number of good practices (e.g., a strong commitment by WUAs, soil and water management) have emerged from the two phases of LACOSREP and more can be learned from other experiences. A first step in policy dialogue would be to facilitate discussion of the lessons stemming from the project experience at the local (district, region) and national levels.

46. **M&E and supervision.** Collection of quantitative data on project delivery was relatively accurate. The missing part was the assessment of impact on household welfare, food security and health. Supervision was conscientiously carried out within the constraints of the arrangements between UNOPS and IFAD which allow for two-week mission per year only. Both these findings relate to the "discrete" and short-term nature of implementation support arrangements within IFAD project. For effective M&E and project implementation, project staff would rather develop a more responsive relationship with adviser(s)/facilitator(s) who would be available on a more regular basis.

Irrigation

47. **Quality control and phased contracting of consultancy services.** Opening the consulting for the irrigation infrastructure to a wide range of professional companies should be non-negotiable. Proposals should be sought from other qualified consultants to compete for the assignment in the downstream phase even where the consultant has performed satisfactorily. Consulting services should be divided into phases according to the project implementation schedule, and contracts signed separately, subject to satisfactory performance. In order to better understand bottlenecks, IFAD may consider conducting an audit of contract awarding during project implementation.

48. **Dam construction technology.** New methods of dams construction are available that save a considerable amount of water. 'Closed' systems are being introduced by international NGOs and this technology should be considered carefully in the future interventions.

49. **Pumping water** from the White Volta River for riverside horticulture was introduced in the final year of the project. Although not in the project design, it has been introduced to allow cultivation of three crops per year. This method is simple and effective, but requires pumps and diesel fuel as inputs. However, the nutritional and income-generating benefits suggest that small-scale credit could rapidly extend the benefits to a wide range of farmers, as has been shown in other countries such as Nigeria.

Agricultural Support

50. **Action research and extension.** The present evaluation has highlighted the need for stronger partnerships between projects, research organisations and NGOs that would translate into support for the most needed technological packages. MoFA and the project unit could also facilitate farmer-to-farmer communication through cross visits and a more extensive use of the already existing radio programming.

51. **Processing and marketing.** Crop diversification, dissemination of new techniques in marketing and a variety of crop processing strategies could rapidly increase incomes and reduce nutritional insecurity in UER. A review of these issues and action should be taken by MoFA because much knowledge already exists in neighbouring countries, notably Burkina Faso, so some type of farmer exchange is recommended.

Additional Area for Streamlining: FLGs

52. FLGs, originally not included in the project design, have seen considerable success, both increasing numeracy and literacy and establishing solidarity among groups for other purposes such as collective work and micro-finance. Strategies to further develop FLGs should be worked out with NGOs, such as ActionAid, that have piloted them.

Rural Finance Issues

53. While credit was appreciated by the beneficiaries, coverage was limited and the project did not significantly contribute to promoting sustainable rural finance institutions. It is important that: (i) rural banks be allowed to apply interest rates that cover all costs and allow for profits; (ii) partners, including the Bank of Ghana, contribute to better coordination and regulation; (iii) training be provided to participating banks' staff using regional rural finance hubs; (iv) discussions be held with participating banks on available techniques and products that can help reduce transaction costs in rural areas; and (v) the rural finance component is fine-tuned and well sequenced with other components.

Republic of Ghana

Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) – Phase II

Interim Evaluation

Main Report

I. INTRODUCTION

A. Background of Evaluation

1. Northern Ghana consists of three regions, Upper East (UER), Upper West (UWR) and Northern Region (NR). By many indicators these three regions are the poorest in Ghana and indeed comparable in poverty to some of the poorest countries in the world. The International Fund for Agricultural Development (IFAD) has projects in each of the three regions, the Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) for UER, the Upper West Agricultural Development Project (UWADEP) for UWR and the Northern Region Poverty Reduction Programme (NORPREP) for NR. LACOSREP I was designed in 1990, became effective by 1991/1992 and was given an interim evaluation in 1998. LACOSREP II was appraised in December 1998, became effective in January 2000 and was scheduled to close in September 2005. In anticipation that the project may move into a third phase, IFAD's procedures require an interim evaluation (IE). This is the Main Report of that evaluation¹.

2. **Macro-economic and poverty indicators.** Located in West Africa, Ghana has an estimated population of 20.5 million, of which 63% is rural. The total fertility rate is estimated at 4.1 (5.8 is the average for West Africa), with an average annual population growth of 2.0% and a life expectancy at birth of 55 years (50 is the average for West Africa). The structure of the economy is characterised by a large (in relative terms) services sector (42% of the total GDP, compared to 34% for agriculture and 24% for industry). It has an annual GDP per capita of USD 304 and GDP growth has averaged 1.8% in the last ten years (i.e., below population growth) although this has accelerated recently². For the immediate future, an overall growth rate of more than 5% is required to achieve substantial improvement in the economy and reduce existing poverty levels. Agriculture continues to be the mainstay of the economy, employing about 60% of the labour force. Cocoa is the major export crop, followed by timber and non-traditional products such as horticulture, fish/sea foods and pineapple. The agricultural sector is vulnerable to shocks caused by fluctuations in world commodity prices and

¹ The Office of Evaluation of IFAD conducted an evaluation mission of LACOSREP II and UWADEP from 23rd May to 30th June 2005. Field visits in the UER took place between 26th May and 10th June. Sites of both LACOSREP I and II were visited, the former to better understand key sustainability issues. The mission members were Mr Roger Blench (Team Leader), Mr David Andah (Credit and Micro-finance), Ms Liz Kiff (Agricultural Extension) and Ms Gordana Kranjac (Water resources and Rural Infrastructure). Preliminary quantitative and qualitative surveys were carried out by Mr Hippolite Bayor and Mr Edward Aboagye in early 2005. An *ad hoc* survey of non participant households was conducted in concomitance with the mission, under the direction of the Team Leader. Mr Fabrizio Felloni (Lead Evaluator, IFAD-OE) designed the evaluation methodology, made a pre-evaluation visit in April 2005, accompanied the mission for its first and final days in Ghana and supervised the evaluation process throughout. An aide-mémoire and an associated PowerPoint presentation were circulated at a workshop in Bolgatanga on 10 June 2005 under the chairmanship of the Regional Minister. A final presentation of the first findings from LACOSREP II and UWADEP was made in Accra on June 30th. The mission is grateful to national and regional authorities as well as to the project staff for their support.

² Figures and information have been drawn from the UNDP Human Development Report 2003, the World Bank World Development Indicators 2004, and the EIU Ghana Country Profile for 2004.

to plant diseases. Ghana is classified as 131st out of 175 countries, by the UNDP Human Development Index (2003). The percentage of households below USD 1 per day (a measure of absolute poverty) has been estimated at 44.8%, and the percentage of poor households according to a national poverty line at nearly 40% (World Bank, World Development Indicators, 2004). There is a moderate prevalence of stunting (25%) among children 0-5 years.

3. **Sectoral issues.** In the State of the Nation address in 2003, the President re-affirmed the five major areas upon which the Government would concentrate to quicken the pace of the country's economic progress. These are: infrastructure development, modernised agriculture (based on rural development), enhanced social services (with the emphasis on Health and Education), good governance, and private sector development.

4. **Agricultural policy.** Agriculture contributes to ensuring food security, provides raw materials for local industries, generates foreign exchange, and provides employment and incomes for most of the population. Agriculturally dependent rural households (72% of the population) form the largest potential domestic market for output from other sectors of the economy. Recent agricultural policy in Ghana has evolved gradually through the following key documents: (i) Medium-Term Agriculture Development Programme (MTDP) (1991-2000); (ii) Accelerated Agricultural Growth and Development Strategy (AAGDS) and FASDEP (2002); (iii) Ghana Poverty Reduction Strategy (GPRS, 2002-2004); currently under revision³

5. **Medium-Term Agriculture Development Programme.** MTDP was an agricultural services rehabilitation programme based on the results of the Irrigation Sub-sector Review carried out by the World Bank (1984-1986). The main points were to consolidate existing irrigation projects, select the areas of service delivery to irrigation users, strengthen national capacity for irrigation development and improve farmers' skills, incentives and services, as well as to initiate programmes for research and development. The main focus of the programme was small scale, valley bottom and supplementary irrigation provision. Privatisation of input supply services and land preparation activities was also a consequence of this programme.

6. **Accelerated Agricultural Growth and Development Strategy.** The AAGDS had five main elements: promotion of selected crops, development of improved access to technology for sustainable natural resource management, improved access to agricultural financial services, improved infrastructure and enhanced human resources and institutional capacity. Agricultural research has tended to focus on crops of international importance, where there is access to already improved varieties, rather than on major staples. For example, many more improved varieties of maize and rice have been released than sorghum and millet. This research bias is reflected in farmers' choices. While the major crops in the Upper East Region are traditionally sorghum, groundnut and millet, maize and groundnuts are overtaking sorghum and millet. Minor crops are typically excluded from consideration especially if they are not important to the market. The Food and Agricultural Sector Development Policy (FASDEP) is a response of the agricultural sector to the requirements of AAGDS, a strategic framework for present and future programmes. The objectives of the Ministry for Food and Agriculture (MoFA) encompass food security, production of raw materials for industry and export, input supply and distribution, processing and marketing, and formulation and implementation of policies and programmes for the sector (FASDEP 2002). Detailed programme plans and policies will be developed under FASDEP to deal with specific issues.

7. **Ghana Poverty Reduction Strategy.** The GPRS (2003) was revised in 2005 to focus on the identification of vulnerable groups and possible risk-reduction strategies. It recognises that rural farmers and fishermen are particularly at risk and specifically mentions Northern Ghana as a locus of perennial food deficits⁴. Women are identified as particularly discriminated against in this context and

³ The first draft is dated 2003, but a revision of the policy framework dated April 2005 has been circulated.

⁴ Pastoralists and livestock producers are largely ignored.

instruments to promote gender equality are emphasised. The document also notes the importance of environmental factors in increasing vulnerability. However, it does not put forward concrete measures to reduce risk in agriculture. Beginning with 2003, some donors, in addition to their conventional “project approach” have also tested multi-donor budget support as an additional instruments in sectors such as health and education.⁵ Agriculture and water sectors have not experienced major shifts to budget support.

8. **Trade policy.** A new trade policy for Ghana has been published, which seeks to balance local producer and consumer interests within both the national and wider international trading context (Ministry of Trade and Industry, 2004). The new policy document addresses the poor co-ordination between agriculture and trade policies. A recent example is the 20% tax on poultry imports introduced in 2004 and removed in May 2005, making imported poultry products cheaper than those produced by the domestic market. Pressure from urban consumers can compel the Government to underwrite imports that are detrimental to producers in the North. If, on one side, import protection measures should not be applied indiscriminately, on the other, there is a concern about inconsistencies and sudden changes in actual trade dispositions that may undermine or distort medium-term plans of assistance to and development of specific sub-sectors of the rural economy.

9. **Rural finance.** The Regulatory Framework for financial institutions creates a continuum of financial service providers with capacity to operate in the rural areas. Principally to enhance the access of the rural community to appropriate financial services, the Bank of Ghana (BOG) introduced a rural banking system in 1976 and to date there are 120 rural and community banks. To strengthen rural and microfinance, the regulatory framework allows the operations of the financial NGOs providing credit outside the supervision but within the concern of the BOG⁶. Under the Financial Sector Restructuring Programme initiated in 1989, a number of controls were removed. Among them are the administratively determined interest rate and sectoral allocation of loans. Further aspects of the programme have been aimed at strengthening and liberalizing the financial system. An Apex Bank has been set up under the Rural Financial Services Project, funded by IFAD, to provide financial and non-financial services to rural and community banks with a view to strengthening their operations and making them more effective intermediaries, responsive to the needs of the rural communities.

10. **IFAD’s strategy and past projects.** Since 1980, IFAD has financed 12 projects in Ghana for total USD 137 million, which makes Ghana the largest recipient of IFAD loans in the Western and Central Africa Region. The portfolio shows a mix of area-based multi-sectoral projects (such as LACOSREP II) and mono-sectoral projects with a more wide-spread intervention (for example the Rural Finance Service Programme). The latest country strategy (COSOP document) was prepared in 1998 after a Country Programme Evaluation (1996). The strategy recommended emphasis on the NR, UER and UWR and identified several opportunities where IFAD would have comparative advantages in: (i) importing appropriate technology for the rural poor from other countries; (ii) exploiting market opportunities for domestic foodcrop sales, especially fresh and dried vegetables; (iii) facilitating intermediation processes in rural finance; and (iv) encouraging sustainable use of natural resources. The 1998 country strategy is currently under revision and the new one is likely to be in line with the overall regional strategy of IFAD for West and Central Africa, which has three cross-cutting approaches: investing in women, enhanced participation and building on indigenous knowledge and four strategic objectives:

- (a) strengthen the capacity of the rural poor and their organisation and improve the pro-poor focus of rural development policies and institutions;
- (b) raise agricultural and natural resource productivity and improve access to technology;

⁵ The ten donors involved in MDDBS in Ghana are: the African Development Bank, Canada, Denmark, the European Union, France, Germany, the Netherlands, Switzerland, World Bank and the UK. Japan, the US and the UN are observers.

⁶ Steel and Andah (2003).

- (c) increase rural incomes through improved access to financial capital and markets; and
- (d) reduce vulnerability to major threats to rural livelihoods (including HIV/AIDS).

B. Approach and Methodology

11. **Methods.** This evaluation follows the IFAD Methodological Framework for Project Evaluation (MFE), which includes three main evaluation criteria and a series of key questions, with a rating system.⁷ The three criteria are: (a) rural poverty impact; (b) performance of the project, including an assessment of the relevance of project objectives, efficiency and effectiveness; and (c) performance of key partners, including IFAD, UNOPS (the cooperating institution), the Government of Ghana along with the relevant departments at the various administrative levels, and the concerned grassroots organisations involved in project operations. The methods adopted in this evaluation comprise: (i) desk review of documents; (ii) a preliminary qualitative field survey of Water User Associations (WUAs); (iii) a preliminary quantitative field survey of 189 households (159 beneficiary and 30 non-beneficiary) comparing a before and after situation (using recall method); (iv) an *ad hoc* quantitative survey of non-beneficiaries; and (v) participant observations and interviews as recorded by mission members.⁸ Both qualitative and quantitative techniques have been adopted and the main findings presented in this report are results of triangulation between different methods and sources. Due to significant delays in the implementation of the water management component, the analysis of impact and sustainability is largely based on longitudinal data and observations of LACOSREP I sites as well as inferences from the early data and observations from the few completed LACOSREP II dams. Following the evaluation policy, the project conducted a self-assessment exercise, the results of which were shared with the evaluation team.

II. MAIN DESIGN FEATURES

A. Project Rationale and Strategy

12. **Recommendations for LACOSREP II.** LACOSREP I was given an interim evaluation in 1998 and the overall conclusion of the mission was that it had achieved its main objectives⁹. The evaluation considered farmer-research extension linkage, community-based livestock services and formation of WUAs as having good replicability potential. The principal recommendations for the second phase of the project were:

- develop and strengthen the WUAs;
- put in more effective catchment protection;
- introduce irrigation technologies to maximise the effective use of water and thereby the irrigated area;
- support existing research institutions and improve scientific facilities;
- support re-organised departments of agriculture;

⁷ The ratings applied in the OE methodology are: highly successful = 6, successful = 5, moderately successful = 4, moderately unsuccessful = 3, unsuccessful = 2, and highly unsuccessful = 1. Ratings help consolidate individual project findings into the Annual Report on Results and Impact of IFAD's Operations.

⁸ The preliminary qualitative and quantitative surveys were fielded before the evaluation mission in order to establish background data on the project impact to be reviewed by the evaluation team. The *ad hoc* quantitative survey was conducted simultaneously with the main mission, under the guidance of the team leader. Its main objective was to get an insight on general poverty trends in a sample of communities in the UER which had not received assistance by any project or initiative in the past ten years.

⁹ IFAD (1998), Republic of Ghana: Upper East Region Land Conservation and Smallholder Rehabilitation Project, Interim Evaluation (Volume 1), Rome, Italy.

- ensure formal credit institutions continue to play an active role in loan delivery to target groups; and
- establish an M&E programme.¹⁰

13. **The rationale for LACOSREP II** was summarised as: (i) strong existing demand for dam rehabilitation in rural communities; (ii) the potential for WUAs to be sustained and assure food security in the region; and (iii) building on existing credit experience to establish effective mechanisms for rural financial institutions.

14. **LACOSREP II initiated.** As a consequence, LACOSREP II was approved by the IFAD Executive Board in April 1999, became effective in January 2000 and will close in December 2006. The total project cost is USD 13.9 million, out of which IFAD has provided a loan for USD 11.5 million. As of mid-August 2005, 73.5% of the total loan amount had been disbursed. IFAD is the only international financier of the project, which is supervised by the United Nations Office for Project Services (UNOPS).

15. **Strategic thrust.** LACOSREP II was intended to improve food security and increase the income of smallholders. Its components include:

- capacity building to strengthen project delivery and management skills of key implementing agencies;
- water resources development (rehabilitation of dams, formation and support to WUAs, catchment area protection, and demonstration/promotion of manually-operated tube wells);
- agricultural development, including farmer training and demonstrations, support to technology generation and research/studies, marketing and processing, and livestock development;
- promotion of income-generating activities through the supply of rural financial services;
- rural infrastructure comprising rural road rehabilitation and the construction of hand-dug wells for drinking water and latrines.

B. Project Area and Target Group

16. **The project area: serious problems of environmental degradation.** LACOSREP II is located in the UER, the smallest region of Ghana (slightly over 3% of the total land area), with an estimated 920 000 people (80% employed in agriculture) and the highest population density in the country (104 persons/km²).¹¹ Access to markets and off-farm opportunities is constrained in UER by poorly maintained feeder roads and poor transportation services. According to the Ghana Living Standards Survey (GLSS), the percentage of the population living in poverty is 88% in UER¹². This is also reflected in stunting rate for children below five years higher than national average (31.7% against 25%), although infant mortality rates are lower (33 per 1 000 against 68 per 1 000). The UER is notable for its high levels of environmental degradation, deforestation and loss of soil cover, broadly as result of extremely high population densities not accompanied by agricultural intensification¹³. Indeed, many of the dams rehabilitated under LACOSREP I and II were built originally not for irrigation but to prevent soil erosion. There is a shared perception of increasing

¹⁰ These recommendations seem well placed. In retrospect, however, more emphasis should have been placed on the goal of improving sustainability of rural finance institutions.

¹¹ The most recent census of the population in Ghana was in 2000 (GSS 2002) which gave an overall population for UER of 920 289, with an annual growth rate of 1.1%. Projecting forward the 2000 figures to 2005 gives a population of 972 031 rising to 1 084 405 in 2015.

¹² Income-based estimates, Ghana Poverty Reduction Strategy, 2003. Usual *caveats* on income-based estimates for rural areas apply also to this case.

¹³ Described in Clacey and Ramsay (1955), Adu (1972), Benneh (1973b, c), anon. (1983), Benneh, Agyepong and Allotey (1990), Webber (1996), Sakaa (1998), Blench (1999b), Slaymaker & Blench (2002).

poverty prevalence in the region, in spite of rural poverty alleviation expenditures. The non-beneficiary survey carried out in the context of this evaluation corroborates this perception in terms of hunger and soil fertility but not in terms of health and education (Table 1).¹⁴

Table 1. Perceived changes in life since 1995

Life-changes	Frequency	
	Number	%
More hunger	33	31.7
More education for children	26	25.0
Better health-care	21	20.2
Lower crop yields/poor soil fertility	11	10.6
Widespread livestock disease	9	8.7
<i>Total number of people interviewed = 104</i>		

Source: OE Non-beneficiary quantitative survey (2005)

17. **Targeting.** The targeting process would begin with the selection of communities (based on community demand, feasibility technical surveys and participatory wealth-ranking methods) and would be inclusive (i.e., no restriction to participation based on income or assets) for all households within the selected communities. The Appraisal Report (AR)¹⁵ states that the eligibility criteria for financing sub-proposals would be as follows: (i) stemming from community and participatory needs assessments including women; (ii) where a substantial proportion of the direct beneficiaries should be among the poorest in the community and women adequately represented; and (iii) be financially viable and sustainable.

18. **Issues of social equity.** The targeting section of the AR emphasises gender issues almost exclusively and does not elaborate on other types of social inequality, notably the socially excluded (disabled persons, widows, single mothers), those living in remote areas with no easy access to roads, schools and clinics.¹⁶ It also does not consider the potential for duplication with other types of donors, notably NGOs, which, by concentrating in certain focal areas, give particular communities an advantage, while leaving others without service.

C. Goals, Objectives and Components

19. **Objectives of LACOSREP II** were to: (i) build the capacity of key formal and informal institutions which provide technical and social services to use demand-driven participatory approaches at district and sub-district levels; (ii) further develop irrigation in UER; (iii) increase productivity through farmer training and demonstrations of new technologies for increasing productivity of crops, livestock and fish; (iv) construct rural infrastructure to reduce the female labour burden and take measures to mitigate the possible risks of health and negative environmental impacts. Components of LACOSREP II were as follows: (i) capacity building (3% of total base costs); (ii) water resources development (32%); (iii) agricultural development (15%); (iv) income-generating activities (18%); (v) rural infrastructure (19%); and (vi) project organisation and management (14%).¹⁷

¹⁴ More details available in the related Annex, which is available upon request to OE.

¹⁵ IFAD (1998), *Republic of Ghana: Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Appraisal Report (I:11)

¹⁶ This has been actually done in one site of the IFAD-funded UWADEP project in the UWR.

¹⁷ Capacity building and project organisation and management were intended to cut across all the sectoral activities.

20. **Implementation partners and arrangements.** Project interventions were to be implemented by sub-contracting a range of different partners for different project interventions¹⁸. Those listed in the AR include: (i) MoFA district and regional staff; (ii) research specialists; (iii) NGOs and agencies specialised in group formation; (iv) private sector; (v) consultants; and (vi) community-based organisations (CBOs). GIDA was specified as the sole responsible agency for every aspect of ensuring that the dams were built to high technical standards. The management of project interventions would be undertaken at District or PCU level according to the scope and financing levels. The PCU in particular would be responsible for all projects that cut across districts, such as research. The AR suggested a wide range of partners, and envisaged extensive collaboration with the University of Development Studies - Tamale, the Ministry of Health and a variety of NGOs, some of which no longer exist.

D. Major Changes in Policy, Environmental and Institutional Context during Implementation

Macro-economic Context

21. **Value of the cedi.** Since LACOSREP II was appraised in December 1998, the Ghanaian cedi has fallen sharply in value, most notably in the year after the initiation of the Project, when the cedi lost half its value against the dollar. Over the life of LACOSREP II, the cedi has fallen in value from ₵2 355 in December 1998 to ₵9 100 to the USD in June 2005 when the mission was in the field. Appendix 1-Figure (in Appendix 1 shows USD-cedi exchange rates since 1995, with the year-on-year loss in value plotted as a percentage on the second axis.

22. **Effects of oil prices.** A series of tough decisions in early 2001 by the incoming Kufuor government stabilised the cedi and brought a significant drop in inflation and interest rates. At that point, the price of oil had fallen to below USD 20 per barrel. In 2003, gold and cocoa prices were high, but the oil price was once again drifting upwards around USD 30 per barrel. In January 2003, Government increased the price of petrol and diesel by almost 100%, accelerating inflation and pushing up interest rates. The Government applied for assistance under the Enhanced Heavily Indebted Poor Country [HIPC] initiative in March 2001, whereby external debt is cancelled to enable countries to use savings to fund poverty eradication programmes, and reached Decision Point in February 2002. Oil price rising in 2005 to over USD 60 a barrel may well cancel some of these benefits.

Institutional Context

23. **Vision 2020.** In 1992, changes in Ghana from a military regime to constitutional rule brought social transformations. One of them was a long-term programme to address issues of social and economic development. The National Coordinated Program for Social and Economic Development, or 'Ghana Vision 2020', was the result, and this was intended to be the authoritative government document to guide development across all the major sectors. The stages outlined in Ghana Vision 2020 are divided into two main periods: in the medium term (1996–2000), the development objective is to consolidate the gains achieved under the Economic Recovery Programme and strengthen the foundations for accelerated growth; in the long term (1996–2020), the aim is to improve the social and economic status of all individuals and to eliminate extremes of deprivation by encouraging the creativity, enterprise, and productivity of all citizens.

24. **Decentralisation.** Since 1988, Ghana has also engaged in a decentralized local-government system to ensure that local communities are better provided with social services. New local government and planning laws enacted after 1989 have emphasized the administrative district as the focal point of planning. Responsibility for development planning is vested in district assemblies operating through their executive committees and a District Planning Coordinating Unit. District

¹⁸ This section is based on the Appraisal Report, Vol. I (p. 22 and Appendix 5).

assemblies are now responsible for preparing and submitting a development plan and budget to central government.

Climatic Context

25. **Alleged downward rainfall trends not confirmed by data.** The climatic regime of UER is semi-arid with annual rainfall of some 700-1 200 mm, with rain falling in a six-month season from April to September. It is widely believed throughout the region, by administrators as much as farmers, that the overall quantity of rain falling is declining and that the distribution is more unfavourable than before. This is held to explain decreasing crop yields. But analysis of annual rainfall data from six stations since 1991 does not support this statement (although intra-annual trends may provide more insights). Figure 1 shows the mean annual rainfall, 1991-2004. The chart emphasises inter-annual variability, but the trend is virtually flat. Similar patterns emerge from longer time-series data and for the two other northern regions of Ghana. Why should the claim about the declining total rainfall be so widely believed? It is likely, in the absence of precise measurements, that farmers judge rainfall by indirect indicators such as vegetation and crop yields. There is no doubt that vegetation is sparser and species adapted to more arid regions are gradually pushing down into this area while at the same time crop yields are falling. The conclusion is that soil and environmental degradation contribute to agricultural yield reduction and generate the perception that the aggregate rainfall is less than before; but empirically this is not clear to discern.

Figure 1. Total annual rainfall in UER, 1991-2004

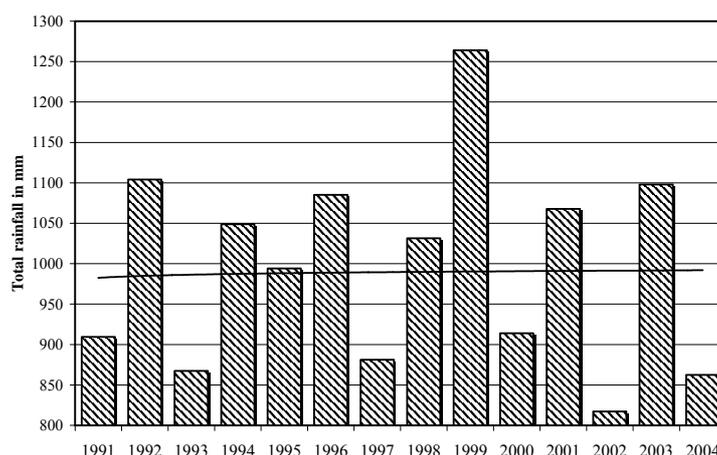
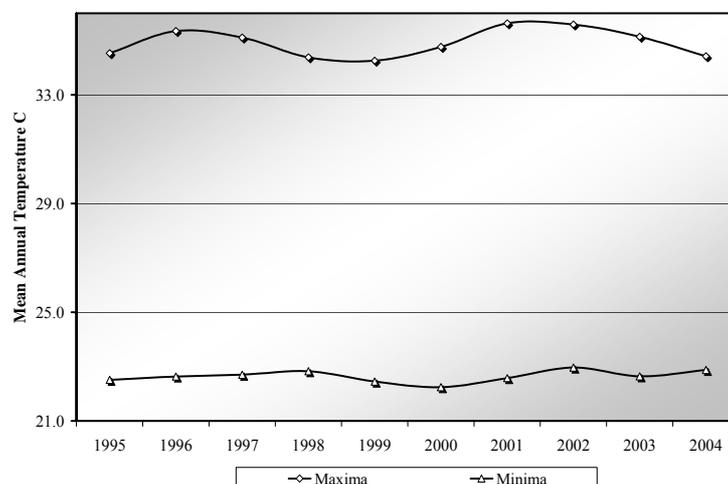


Figure 2. Temperature maxima and minima in UER 1995-2004



26. **Temperature.** The hypothesis has also been advanced that temperatures have increased over this period, and therefore maxima and minima were plotted over the period 1995-2004. These are shown in Figure 2. Although intra-annual changes should be considered, there are no significant changes in inter-annual averages and indeed, considerably less variability.

Design Changes during Implementation

27. **The Mid-Term Review (MTR)**¹⁹, conducted by consultants recruited by the PCU, appears to have been composed by socio-economists, for it emphasises gender and participatory techniques and, unfortunately, has little to say on important technical issues in water resources and agriculture. However, it notes the lack of a Gender and Development approach and underlines the importance of greater grassroots consultation. Functional Literacy Groups (FLGs), not foreseen at the appraisal stage and first developed in 2003 in conjunction with ActionAid, were one response to these criticisms. But technical changes largely follow from the UNOPS supervision reports, particularly in the area of water resources.

28. **Dam sites.** Targets for dam sites in the AR were mainly rehabilitations (24 out of 36, then revised to 23 out of 36), the necessity of increasing new sites from 6 to 12 was accepted by PCU, UNOPS, and IFAD, for want of suitable rehabilitation sites. Although new site development generally results in increased costs, communities with no access to dams were reached, more in tune with IFAD's mission to reach the poorest and most vulnerable groups. Several new irrigation techniques, such as the California valve, were adopted from Burkina Faso and adjusted to local conditions. Pumping from the White Volta River has also been introduced to allow cultivation of three crops per year.

III. SUMMARY OF IMPLEMENTATION RESULTS

29. This section provides a brief account of major implementation results and issues, more detailed information are provided in Appendix 1 of this volume.

A. Promotion of Income-Generating Activities

30. **Income-generating activities.** The component trained some 12 243 individuals and provided group loans without collateral to 10 251 individuals, relying on group pressure to guarantee the repayment. This amount of group loans corresponds approximately to 32% of the originally targeted number of clients, in 1 001 groups with credit (Appendix 1-Table 2). Of this number, 285 are on their first credit and 716 groups have accessed repeat loans.²⁰ No medium-term loan was granted for asset acquisition by any of the participating banks, apparently because they are uncomfortable with their management (based on experiences in Bongo and Pwalugu). Bongo District was the only district without banking facilities before the project, but the provision of financial services by the ADB enabled savings to be mobilized and credit accessed from all six districts.

¹⁹ Although conducted in 2003, it was still not available during the final UNOPS supervision mission, which meant that it was of limited value in terms of change in project direction.

²⁰ According to the original design, no group *should* have had access to loans more than three times as it was expected that by this point the participating banks would be aware of the debt-carrying capacities and creditworthiness of groups and would adopt them as mainstream customers. Despite this, 14 groups are on their fourth loan.

B. Dams, Irrigation, Water and Roads

31. **Delays in dams and irrigation infrastructure delivery.** This component had the largest share of base project costs (32%) and unfortunately experienced serious implementation delays. At project completion point 24 dams (out of a revised target of 32) had been awarded and were at various stages of construction (some 80-90% completed). Seven dams (19% of target) became operational (six rehabilitations and one new dam) during project life, representing 25% of planned rehabilitation works completed and 11% of new constructions (one dam), using revised mid-term review figures. Where the contract was terminated due to delays in commencing construction works after contract signature, and in Lot 3 dams, work on the ground has not yet started (ten projects in total after the



Dam construction at Widnaba (UER). The project has experienced delays in dam construction. Dams are important because, given the low rainfall of the region, no major agriculture intensification is possible without irrigation. IFAD Photo by R.M. Blench.

MTR revisions). As a result, only 80 ha of the planned 372 ha are currently available for farmers (22% of planned irrigable area). The slowness and lack of capacity of contractors is partly due to strong pressure on PCU to use local companies, regardless of their record. The need to finish dams before project closure compelled LACOSREP II to bring in Chinese contractors based in Accra, to try and complete the trailing infrastructure works. The greater use of machinery is speeding things up, although quality remains an issue without more attentive supervision. The failure to complete the appraisal targets, partly due to the time wasted 'sensitising' communities who had put in applications for dams prior to the inception of LACOSREP II, was a major weakness, given the experience that should have developed under LACOSREP I.

32. **Successful WUA formation and training.** Formation of WUAs was a generally successful aspect of LACOSREP I. Under LACOSREP II, WUA training comprises group dynamics, conflict issues, leadership issues, by-laws and constitution, financial mobilization, gender issues and many others. LACOSREP II generally met or even exceeded its targets in this area (Appendix Table 3). At LACOSREP I sites WUAs have been strengthened and their skills improved; indeed most of the WUAs have increased in size over time. Their flexibility and ingenuity in coping with day-to-day running problems of the dam sites is a major project achievement. All the LACOSREP II groups have also been trained and prepared, but due to the slow pace of construction and associated problems, in many cases their skills remain theoretical because infrastructure irrigation could not be provided. This quasi paradoxical case bespeaks a lack of co-ordination between training schedules and the realities of contracting and engineering.

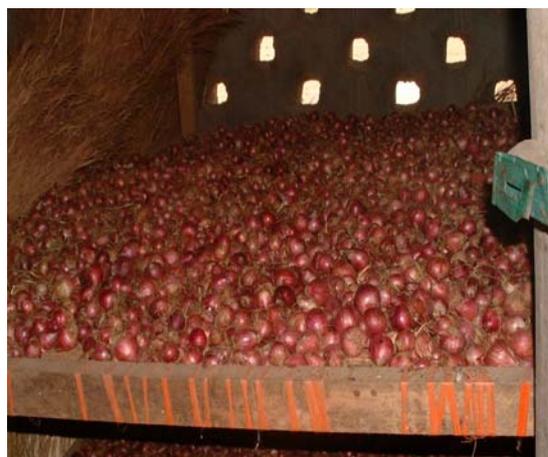
33. **Feeder roads/hand-dug wells and latrines.** Spot improvements (75 km) of all designated areas were achieved during project life, although re-graveling was not carried out. Appraisal targets were generally met in the area of hand dug wells and latrines, although many are not yet fitted with pumps (60%).

C. Agricultural Extension

34. **Farmer Training Demonstrations (FTDs).** According to project figures, 197 of the 300 FTDs were conducted from the first year of the project, 2000, following community needs assessment and planning exercises. The lower than planned number was a result of delays in dam construction, as several trainings were planned for new irrigators. Total participating farmers were 6 266, some 70% of the envisaged target of which 3 898 were men (60%) and 2 546 women (40%). This represents a

considerable achievement by the project in getting good representation of women within the groups. Introduced technologies have spread beyond the initial participating farmers and total adoption of FTD technologies is estimated as 8 756, clearly exceeding the 6 000 target. This was seen in the field with initial groups of 30 participants rising to sometimes 80, sharing experiences with soil conservation, introduced crops and improved ruminant management.

35. **Some progress made in marketing and processing.** Improved storage structures for onions has reduced loss from 50% plus to 25-40% over three to five months, when onions can be sold for as much as €300,000 compared to €80,000 per 73kg bag at harvest. The project seems to have been slow in piloting tomato processing, as various techniques were developed by Food Research Institute five-six years ago. Introduction of tomato processing is planned for 2005. The dry, sunny conditions in the project area have potential for a greater production of quality dried products, including the use of improved solar driers.



Improved onion storage (left) and onion retailing from stored onion reserves (right) at Saaka (UER). Improved storage helps reduce storage losses, which means that farmers are not forced to sell onions just after harvest when prices reach their lowest levels, but can wait until prices increase three or four times. IFAD photo by F. Felloni (left) and E. Kiff (right).

36. **Livestock development.** Livestock play an important role in the project area in both income generation and as a safety net in times of need. Demonstrations included improved housing, feed, watering and veterinary service, that result in significantly reduced mortality rates and improved health of animals. Nonetheless, the coverage of vaccination is far too low. The non-beneficiary survey²¹ showed that the switch to cost-recovery veterinary services may lead to increased livestock mortality due to epidemics, because expenses of €1000 to 2000 per livestock head may still discourage very poor farmers from vaccination. Vaccination rates of sheep for *peste des petits ruminants* and anthrax were as low as 1% and deworming was at 7%, with even lower figures for goats (Appendix Table 10). The Community Livestock Workers training has gone ahead, with an additional 240 CLWs trained in addition to the 400 during LACOSREP I.²² Demonstrations of release of fingerlings in dams have been most successful in terms of potential yields from the enterprise, up to 500 kilos worth €50,000,000, harvested over a nine-month period (Nafkolga dam). But this is a new venture and has yet to be shown to be sustainable.

²¹ Available upon request to IFAD-OE.

²² CLWs are members of a village, trained to act as a link with government veterinary services, as well as to provide basic animal health care at village level. CLWs have been quite effective in linking farmers groups with the veterinary services, but uptake of health advice, particularly vaccinations is very limited under the cost recovery guidelines. CLWs are provided with medical kits but only one of the six CLWs met said that he was managing to maintain his stocks through cost recovery from clients.

D. Environment

37. **Environmental issues** related to LACOSREP II consist principally of health, catchment protection, maintenance of soil fertility and agrobiodiversity. The introduction and development of composting has clearly made a considerable impact and the idea is apparently spreading outside the project area. Environmental permits were issued by the Environmental Protection Agency to all LACOSREP II dam rehabilitations/ constructions, although these were not renewed when delays in construction started. Comprehensive Environmental Management and Monitoring plans are further required for all completed and nearly completed sites. Catchment protection activities including planting trees and creating bunds were carried out at LACOSREP I sites, and targets were largely achieved. Water quality analysis results carried out for hand-dug wells and water quality in dams must be further urgently made available to inform development of these plans.

IV. PERFORMANCE OF THE PROJECT

A. Relevance of Objectives

38. The overall objective of LACOSREP II was to empower rural populations living in poverty to access improved technology services and credit. There is no doubt that the overall and specific objectives are relevant to these communities. UER is the second poorest Region of Ghana and overall living standards have hardly improved. In fact, high population pressure, combined with a lack of employment opportunities and poor living conditions, is responsible for high levels of labour migration. The components of LACOSREP II are designed to add value to rural production enterprises, and where they have been implemented successfully, have clearly made a difference to livelihoods in rural communities. But LACOSREP I and II could only cover a fraction of these communities.

39. **Components in harmony with Ghana Government policies?** Ghana has signed up to various international undertakings to reduce poverty and LACOSREP II has this as its direct focus. The 2005 GPRS emphasises vulnerable groups and specifically mentions Northern Ghana as a locus of perennial food deficits. The components of LACOSREP II are also squarely in line with the goals for agriculture mentioned in AAGDS and FASDEP.

40. **Relevant to overall IFAD's mandate and strategic framework?** IFAD's mandate is to reach the 'poorest of the poor' and to combat hunger and rural poverty in developing countries.²³ LACOSREP II was undoubtedly relevant to IFAD's mandate. In retrospect, one element omitted that can now be integrated was social protection, devising better strategies to assist the special categories such as the disabled and single mothers²⁴. In terms of social equity, the strategy of rehabilitating dams rather than constructing new ones discriminates against poorer communities with no dams at all. The suggested rating for relevance is 5 on a scale of 1-low to 6-high.

B. Effectiveness

41. **Rural finance: limited outreach and sustainability.** The micro-credit component did not reach all its targets except those for groups identified by MoFA through Village Group Animators

²³ These varied programmes, which introduce new strategies and expand existing techniques, are aimed at such groups as small farmers, landless rural residents, nomadic pastoralists, small-scale fishermen, and poor rural women. The IFAD strategic framework (www.ifad.org/sf) notes that this implies: developing and strengthening the organizations of the poor to confront the issues they define as critical; increasing access to knowledge so that poor people can grasp opportunities and overcome obstacles; expanding the influence that the poor exert over public policy and institutions; and enhancing their bargaining power in the marketplace.

²⁴ UWADEP, the sister-project in UWR, does have at least one dam site, Karni, where social protection (assistance to the blind, disabled and single mothers) is a major element, showing that this can be made to work.

(VGA) and Community Credit Management Committees (CCMC) and the training of the VGAs.²⁵ The 36% female membership of CCMCs is near the target of 42%, although this is partly due to the acceptance of non-literates as members. Apart from shortcomings in terms of client outreach, this component notably suffers from low sustainability chances, given the low operational and financial self-sufficiency ratios of participating banks. This is because credit discipline is low. The related analysis is presented further below.

42. **Agricultural extension.** In general, FTDs were well implemented and effective in terms of demonstration of improved practices and techniques. Some FTDs can be very successful in themselves (such as introduction of improved varieties and certified seeds), but impact was limited by constraints in other areas (such as supply of seed at district and region levels). Improved onion storage was a particularly effective introduction, with significant implications for farmer incomes and in increasing their power in negotiations with traders. Improved housing and management for small ruminants and poultry, though beneficial, was constrained by the absence of effective vaccination programmes (livestock epidemics may quickly wipe out years of livestock investments). Uptake of preventive vaccination is still very low under the cost recovery scheme and it is uncertain under present conditions whether the majority of farmers will ever elect to spend scarce resources on their animals. Fisheries interventions indicate that very significant returns are possible from rearing of fish in dam areas, but the project was unable, in the short time available, to promote independent uptake by communities. In contrast, introduction of improved smoking stoves was rapidly adopted by communities traditionally involved in fishing and many stoves have been constructed along river banks.

43. **Research collaboration** with the Animal Research Institution, University of Ghana, Crop Research Institute and Food Research Institute was effective in developing FTDs in small ruminant husbandry, guinea-fowl husbandry, Integrated Crop and Pest Management (ICPM) in rice and improved methods of par-boiling rice. Strictly speaking this was not technology generation or research, but implementation of already well known technologies, or technology transfer. Adaptation to fit with local conditions, however, was successful. The area where technology research was most obviously required at the start of the project, ICPM within the tomato crop, was not even begun to be practically addressed until the end of the project. The contribution of SARI to the project was weak in this context.

44. **Transaction costs.** During implementation some of the most resource poor groups found it very difficult to finance even small inputs required to maintain vaccine stocks or start poultry raising (livestock groups) and start credit groups when still borrowing inputs for production (crop production groups). The high transaction costs of dealing with a bank make direct linkage a huge first step for members of these groups. While a central veterinary drug revolving fund is available, repayment has been poor due to previous experience of free inputs from the government. The suggested rating for effectiveness is 4.

²⁵ VGAs are selected by the credit groups to assist it with its formation through training. In some groups, VGAs double as secretaries. They link the groups to implementing agencies such as the participating banks. Their position is voluntary but some have been given bicycles as incentives. The VGAs undergo training by the DCMCs (see below) and the PCU.

CCMC For broader community participation and effective screening of applicants, seven – member committees made up of opinion leaders were set up. For gender equity purpose, at least three of the members are women. CCMC assists in group mobilization and training. Loan request are screened by the CCMC using local knowledge of the community and the groups, and assists in loan recovery. CCMC liaises with the VGA in performing its duties and reports to District Credit Management Committee at the MoFA district office.

District Credit Management Committee (DCMC). The membership of the DCMC is from District Project Management Unit, banks, local NGOs, District Assembly and other resourceful persons in or from the district. The DCMC acts as an advisory group to the District Director of Agriculture (DDA) for the endorsement of groups formed, and the application for loans before submission to the PBs. It also assists in the training of group executives, VGAs and CCMC.

C. Efficiency

45. In this section the notion of efficiency is explored for irrigation through the comparison of construction costs between the two phases of LACOSREP and with cost ranges of other organizations (cost-effectiveness analysis). In the case of the rural finance component, productivity and efficiency (as per CGAP definitions), are compared with regional benchmarks. For agricultural extension, only a ‘qualitative’ discussion is possible, due to a dearth of reliable data.

46. **Irrigation.** During the first phase of the project (LACOSREP I), the mean cost of dam rehabilitations was about USD 4 935 /ha for labour intensive projects, with an average size of about 19.3 ha, while the figure for contractor-constructed projects was USD 3 684.6/ha with an average size of 8 ha.²⁶ The average cost for all LACOSREP I rehabilitations was USD 4 343/ha, with an average size of about 13.9 ha of irrigable area. Table 2 presents newly completed LACOSREP II projects, wherever data could be obtained. The cost of construction for LACOSREP II dams varied from USD 477-1 338.7/ha. From 1994 to 2005, the cedi has depreciated much faster than the dollar and this explain a good deal of the lower costs of LACOSREP II compared with phase I, even for new constructions and the closed conveyance systems (pipe system, Table 2) used for dams rehabilitated and built in 2004 and 2005. All the constructed projects have an average irrigable area of about 10 ha. An important point to be kept in mind is that these costs include construction only and do not consider operating, maintenance and rehabilitation (no estimates are available).

Table 2. Cost of construction for LACOSREP II irrigation projects at 1994 USD values

Project Name	Size of irrigable area (ha)	Cost of (USD 1994/ha)	Year of completion	Method	Type of project	System type
Dasabligo	8	477.3	2005	Contract	rehabilitation	open channel
Dorongo	10	709.3	2003	Contract	rehabilitation	open channel
Zuabuliga	10	794.9	2005	Contract	rehabilitation	open channel
Ninsako	10	777.8	2004	Contract	rehabilitation	Pipe system main
Chansa	10	1 217.5	2005	Contract	rehabilitation	Pipe system main
Widnaba	12	1 338.7	2005	Contract	new	Pipe system main

Source: Rural Infrastructure Specialist Briefing Notes, LACOSREP II, 2005

47. **Comparison with cost ranges of other agencies.** A study prepared by FAO (1998) shows ranges of cost per ha at between USD 400 – 5 000/ha for rehabilitations of small scale irrigation infrastructure in Ghana. From the above discussion, it appears that the rehabilitations and construction under LACOSREP I and II are within the indicated range, perhaps on the lower side of the range in the case of LACOSREP II due to the conversion in USD and the depreciation of cedi.

48. **Rural finance.** Per CGAP standards, ‘efficiency’ is often measured as to the ratio of operational costs of providing one unit of credit (say one dollar or cedi) or as the average cost per borrower.²⁷ In terms of ratio of operating costs over outstanding loans, clearly the Naara RB performs best at 0.015.²⁸ The other banks range between 0.03 and 0.05. Naara RB has also the lowest average costs per borrower (¢38 700) whereas, the highest are found for Ghana Commercial Bank and Bucobank, result of the strategy they have adopted: slow disbursements and concentration on loan recovery. This analysis shows that significant variations exist within the five participating banks: rural

²⁶ All costs for construction were normalized to 1994 USD for comparative purposes.

²⁷ See for example, CGAP (1999): Format for Appraisal of Microfinance Institutions: A Handbook, Technical Tool No. 4, Washington, DC (USA).

²⁸ This can be interpreted as average administrative cost of (¢15) for every ¢1000 lent.

banks seem to compare favourably over commercial banks in terms of productivity measures but not necessarily in terms of efficiency ones. Although this does not directly pertain to efficiency, it is worthwhile considering differences in average outstanding loan size per borrower. Apart from differences in absolute terms, it is also useful to observe their size in terms of GDP per capita often used as a proxy of depth of poverty outreach. Under the common assumption that poorer households have also lower average loan size, evidence suggests that BESSFA RB (13% ratio) and ADB (46%) have been catering for poorer households, while GCB (224%) and Bucobank (257%) seem to have served relatively better off clients.

Table 3. Productivity and efficiency of participating banks

Bank	Commercial Banks		Rural Banks		
	ADB ²⁹	GCB ³⁰	Naara	BESSFA	Bucobank
Productivity					
Average number of borrowers/loan officer	529	79	594	1 333	61
Value of loans (¢ million) /loan officer	675	491	1 576	474	431
Efficiency					
Operating cost/outstanding loans ^a	0.04	0.05	0.015	0.13	0.03
Operating Cost (¢'000)/Borrower ^b	54.8	329.1	38.7	46.3	219.8
Operating Cost (USD)/Borrower	6.0	36.2	4.3	5.1	24.2
Loan size					
Average outstanding loan size (¢ million)/ borrower	1.28	6.21	2.62	0.36	7.10
Average outst. loan size (USD)/ borrower	140.2	682.3	291.6	39.1	780.1
Aver. outst. loan size / borrower as a% of GDP p.c.	46%	224%	96%	13%	257%

a. Average administrative cost (thus excluding financial costs) of providing one loan unit, e.g. a ratio of 0.05 means that it costs 5 cedi to provide a loan of 100 cedi.

b. Average administrative cost of serving a client.

49. **Comparison with regional benchmark.** We have considered the Microbanking Bulletin (Issue 10), which analyses 60 microfinance institutions around the world, of which 12 in sub-Saharan Africa.³¹ In terms of efficiency indicators, the average ratio of operating costs per outstanding loan in the Bulletin is 0.42 for sub-Saharan Africa. The five LACOSREP II banks compare very favourably, ranging from 0.015 to 0.13. Again, the Bulletin shows average cost per borrower of USD 90 for sub-Saharan Africa, while figures from LACOSREP II range from 6 to 36, probably due to the low salaries corresponded to the bank staff. In term of efficiency, the LACOSREP II banks seem to perform better than a peer group of microfinance institutions. The serious problem of LACOSREP II banks, as will be discussed further down in the report, relates to their poor credit repayment as well as operational and financial sustainability.

50. **Agricultural extension.** Data available on cropping costs and production are not sufficient to conduct a cost-benefit analysis. Broadly speaking, LACOSREP II was able to deliver most FTDs to farmers in line with appraisal targets (Appendix 1-Table 5) and there is evidence both of adoption of new technologies as well as some diffusion of these technologies beyond the project (Appendix 1-Table 8) especially in the case of composting. The single greatest gap was the failure to link this type of innovation with other components of the project. Farmers who had adopted new technologies were given no special access to credit and therefore sometimes failed to capitalise on their new knowledge for lack of cash. Similarly, for the diffusion of better information on livestock; inability to buy drugs and consequent high risk stock mortality often undermined the impact of the learning that undoubtedly took place. Although no formal benefit-cost analysis has been carried out, the importance of increasing vaccination coverage (at present vaccination rates for sheep and goats range from 0.5-

²⁹ Agricultural Development Bank.

³⁰ Ghana Commercial Bank.

³¹ While comparisons need to be taken with a grain of salt (methodology and caveats are explained in the Bulletin), the exercise can be an interesting one. http://www.mixmbb.org/en/mbb_issues/10/mbb_10.html

7%) is quite clear. Full subsidisation would imply comparatively low costs for governments (although households run into cash constraints if they are to share costs), while a single outbreak of disease can wipe out years of investments for a very high number of farmers. The rating of 4 for efficiency mainly refers to the low unit costs computed for dam construction and credit provision. However, water delivery efficiency can be improved, quality of water infrastructure needs to be monitored, because many dams have not been completed, and the rural finance component displays problems in credit discipline (low repayment rates).

V. RURAL POVERTY IMPACT

A. Impact on Physical and Financial Assets

51. **Methods.** To assess the impact of the project effectively, it should ideally be measured both against a baseline survey of potential beneficiaries prior to the start of the project and against non-beneficiaries once the project is complete. A baseline survey was conducted for LACOSREP II by the Faculty of Integrated Development Studies of University of Development Studies at Navrongo in 2000, but was sent back several times for analytic and methodological deficiencies and was only finally accepted with reluctance.³² For this reason IFAD-OE fielded preliminary quantitative and qualitative surveys in April-May 2005 analysing retrospective perceptions of change by beneficiaries, and non-beneficiaries. That exercise comprised a quantitative survey of 189 households (project and “control” observations, with double differences and recall method) and a qualitative survey of six dam sites (LACOSREP I and II).³³ A larger-scale survey of non-beneficiaries, preferably in settlements where no NGOs were operating, was conducted between the 1 and June 2005 in four districts of UER. Its main objective was to get an insight on general poverty trends in a sample of communities in the UER which had not received assistance by any project or initiative in the past ten years: 104 households were sampled and asked a variety of questions about changes in their life and production system since 1995, i.e. broadly when LACOSREP I became fully operational. While the handling of quasi-experimental data would in principal require more complex econometric techniques, this report relies primarily on simple descriptive and inferential statistics and triangulation between qualitative and quantitative techniques.

52. **Qualitative data.** According to individual and group qualitative interviews, physical assets have been enhanced at community/farmer level. Introduction and promotion of soil conservation and improvement has led to increased production. Introduction of improved small ruminant and guinea-fowl housing, nutrition and management has led to an increase in income and in some area (where effective health care has also been implemented) an increase in livestock numbers.

53. **Quantitative data.** In terms of physical assets in the household, it is possible to compare beneficiaries and non-beneficiaries. Data from the non-beneficiary survey suggested that even non-project households had experienced an increase in material possessions (tin roofs, bicycles, radios) in the past decade (Table 4).³⁴

³² Many figures given there seem to lack credibility given knowledge of the ground, and it was not used.

³³ The survey sample included stratification according to three categories of project activities: water management, agricultural extension and rural credit. For the water management component, LACOSREP I dam sites have been selected as LACOSREP II dams had been completed too recently to assess impact. The size of the project and control sub-samples was determined taking into account practical issues such as the need to establish comparison between “similar” households (matched control sample).

³⁴ This may seem at odds with the overall picture of malnutrition and poor health that emerges from statistics. But this type of one-off purchase is a typical result of labour migration and a remittance economy: whereby financial transfers (when available) are “invested” in household assets rather than deposited in banks.

Table 4. Non-beneficiaries reporting increases in household assets since 1995

Item (n = 104)	Numbers	%
Bicycles	57	54.8
Tin roofs	58	55.8
Radios	64	61.5

Source: OE Non-beneficiary quantitative survey (2005)

54. However, according to the OE preliminary quantitative survey, project households reported significant increases for a larger range of assets than was the case for control households. To put it in simpler words, households with project seemed to have experienced a more generalised household asset increase than those that had not been served by LACOSREP II (Table 5). This conclusion is supported by the mission's field observations. It seems reasonable to credit the project for this additional asset growth.

Table 5. Assets of IFAD beneficiaries before and after the interventions in UER

Beneficiaries	N	Mean Before	SD	Mean After	SD	Test - Statistic ³⁵
Beds	159	1.64	0.77	1.96	0.85	6.16*
Armchair	159	1.79	1.23	2.26	1.34	5.01*
Bicycle	159	1.79	0.91	2.20	0.96	6.58*
Table	159	1.99	0.92	2.38	0.91	6.37*
Lantern	158	2.20	0.80	2.57	0.90	5.80*
Radio/Tape	159	1.60	0.68	2.12	0.84	6.59*
Television	159	1.10	0.44	1.25	0.65	2.88*
Hoe	158	3.16	0.95	3.49	0.85	4.22*
Axe	157	1.59	0.84	1.85	0.94	3.99*
Cutlass	158	2.20	0.94	2.49	1.07	3.76*
Sickle	158	1.96	0.93	2.26	1.03	4.71*
Sewing Machine	158	1.19	0.45	1.46	0.73	5.27*
Canoe/Boat	158	1.01	0.11	1.13	0.53	2.76*
Fishing Net	158	1.09	0.42	1.14	0.46	1.54 ns
Bullock Plough	158	1.36	0.64	1.46	0.74	2.68 ns
Oxen	157	1.46	0.96	1.54	1.00	1.78 ns
Non-beneficiaries						
Beds	30	1.53	0.68	1.77	0.86	1.61 ns
Armchair	30	2.03	1.38	2.20	1.42	1.10 ns
Bicycle	30	1.53	0.57	1.83	0.95	1.64 ns
Table	29	1.93	1.03	2.03	1.02	0.60 ns
Lantern	30	2.10	0.61	2.27	0.78	1.67 ns
Radio/Tape	30	1.53	0.57	1.87	0.90	2.31*
Television	30	1.20	0.66	1.30	0.60	0.57 ns
Hoe	30	3.03	1.13	3.37	1.00	1.99*
Axe	30	1.63	1.00	1.63	0.93	0.14 ns
Cutlass	30	1.93	0.94	2.14	1.06	1.51 ns
Sickle	30	1.47	0.82	1.86	1.06	2.48*
Sewing Machine	30	1.10	0.31	1.14	0.35	0.58 ns
Canoe/Boat	30	1.00	0.00	1.00	0.00	0.58 ns
Fishing Net	30	1.07	0.37	1.00	0.00	0.58 ns
Bullock Plough	30	1.27	0.64	1.24	0.51	1.00 ns
Oxen	30	1.40	0.86	1.45	0.83	0.27 ns

*Significant at $\alpha = 0.05$; ns non-significant

Source: OE Preliminary quantitative survey of beneficiaries and non-beneficiaries (2005)

³⁵ Significant at $\alpha = 0.05$; ns non-significant

55. **Financial assets.** Those households that have received financial services from participating banks have reported benefits in terms of better opportunities for investments in trading and farming, but also activities that do not directly generate income but contribute to household welfare such as health and schooling. Project households appear also as more likely to save. Loans and savings can also contribute to income and consumption smoothing at household level. As already noted however, outreach of banks involved in LACOSREP II was lower than foreseen at appraisal. Our own survey data suggests that no more than 38% of project users have benefited from loans of the commercial or rural banks involved (Table 6). Households continue to rely on other formal and semi-formal credit sources. Suggested rating for impact on physical and financial assets: 5.

Table 6. Sources of credit for project households

Categories	Subtypes	% project hh receiving credit from the source
Informal	Family and friends	16.1
	Money lenders	9
	Saving Groups (<i>susu</i>)	8.3
Semi-formal	NGOs	11.6
	Credit Unions	0
Formal	Rural Banks	22.1
	Commercial Banks	16.5
Others		9.1

Source: OE Preliminary quantitative survey of beneficiaries and non-beneficiaries (2005)

B. Impact on Human Assets

56. **Farmers' knowledge.** The predominant approach was that of farmer field school, emphasising practical problem solving and carrying out a demonstration in one farmer's plot, rather than in research stations. Both participating farmers and members of adjacent communities show an increased implementation of soil conservation and improvement practices. Improved variety and certified seed cultivation techniques have been learnt by a larger number of farmers, many of whom are currently not able to practice because of input supply constraints. Improved small ruminant management, including housing, nutrition and health care has been taken up, sometimes partially, by farmers and communities involved in the livestock components. Those involved in the guinea-fowl demonstrations have clearly shown their increased knowledge and skill levels, other members have still to take-up the activity in the coming year in most cases. The OE IE pre-mission survey found that uptake of new farming practices by beneficiaries was statistically significant for almost all technologies.

Table 7. Proportion of farmers using a particular farming practice before and after project

Practice		Before IFAD		After IFAD		test- statistics
		frequency	percent	frequency	percent	
Manure	YES	157	88	159	86	<i>ns</i>
	NO	21	11	126	14	
Compost	YES	65	37	114	62	31.1*
	NO	111	73	70	38	
Household waste	YES	108	61	104	57	<i>ns</i>
	NO	70	39	80	43	
Chemical fertilizer	YES	80	45	97	53	4.64*
	NO	98	55	87	47	
Purchased seeds	YES	65	37	91	50	8.82*
	NO	112	63	93	50	
Crop rotation	YES	92	52	99	54	<i>ns</i>
	NO	86	48	85	46	

(McNemar test of related samples) *ns* – Non-significant; * - significant at $\alpha = 0.05$

The second column indicates whether households adopted (YES) or did not adopt (NO) the practices

Source: OE Preliminary quantitative survey of beneficiaries and non-beneficiaries (2005)

57. **Micro-credit capacity building.** The project undertook capacity building of all the institutions involved in the implementation of the credit component. These are the VGAs, the CCMCs, the banks and the staff of MoFA.³⁶ The VGAs and CCMCs were trained at district levels after training needs assessments. Because the training was organized at the district levels, the contents of the training of the VGA and the CCMCs differed from district to district. Despite this, some VGAs were barely literate and showed obvious lack of comprehension of their roles and the content of their training. Some members of the CCMCs were not satisfied with the methodology for their training and complained that the visual charts were not adequate for their proper understanding of the subject matters.

58. **Literacy.** The promotion of FLG was mentioned but not strongly emphasised in the original design. It has actually functioned to increase social capital. These use the REFLECT method developed by the NGO ActionAid, to assist voluntary associations to join together both to learn to read their own language (Buli, Frafra and Kusase in UER) and to develop projects to benefit their group. Groups usually consist of around 30 individuals and seem to have suffered only minor erosion in the last three years. Interviews with members suggest that they value numeracy as much as literacy and that the corporate nature of the group has enabled them to complete projects such as a day-nursery or a collective farm³⁷.

59. **Health.** Towards the end of LACOSREP I, health issues in relation to bodies of standing water were flagged as significant. The most important of these were schistosomiasis and malaria, although it has been shown that dams also contain significant amounts of biological contamination, notably coliforms, which are associated with an absence of sanitation³⁸. In the course of visits to WUAs, the team uncovered no evidence of training or advice to affected communities. This is a reason of concern, as the above diseases represent a potential case of negative impact following the introduction or expansion of irrigation. Rating for impact on human capital: 4.

C. Social Capital and Empowerment



Members of a Water Users' Association at Telania (UER). WUAs include all the users of water in dams (irrigators, pastoralists and fisherfolks). WUAs are in charge of management and day-to-day maintenance of irrigation infrastructure, however, WUAs do not have sufficient resources for major maintenance and rehabilitation works for which funds from the Government, NGOs or donors need to be sought. IFAD Photo by R.M. Blench.

60. **WUAs/other groups.** Many training programmes and activities were carried out during LACOSREP II both for newly established WUAs of LACOSREP II as well as for LACOSREP I groups. The older groups have benefited from greater cohesion, and more active participation of women. The new groups were very ready to start work as soon as irrigation infrastructure is completed. There was every sign that WUAs are viable and sustainable organisations capable of handling their affairs, but require further training in some of the technical areas of irrigation practice, such as irrigation scheduling and methods of field water application. The fact that some newly established WUAs have been trained

³⁶ For the definition of VGAs, CCMCs and DCMC, see the section on effectiveness.

³⁷ See Appendix VII for an extended note on FLGs.

³⁸ (Amankwa et al. 2003)

for over two years, but irrigation infrastructure is still incomplete is an issue of concern. Another issue of concern pertains to the minor and major maintenance costs of dams, for which neither WUAs nor regional or district agencies seem to be endowed with sufficient resources. This issue will be further discussed in the sustainability section.

61. **Impact on migration.** The single most important issue for beneficiaries is the impact on migration and thus on the coherence of households. Migration among non-beneficiaries is at high levels and there is little doubt that LACOSREP II has reduced the need for younger people to look for work elsewhere. But rapid demographic growth in UER and limited geographical coverage of LACOSREP means that it will be very difficult to detect its changes by simply looking at the overall regional statistics. Gender is discussed elsewhere, but it is also evident that the role of women is changing in the society as a whole and LACOSREP II has undoubtedly been influential in promoting these changes and cementing them in place. WUAs and FLGs have also had an impact in creating modalities for increased social solidarity; the previous patterns of dispersed household settlement are changing as communities develop and perceive a need to act together more coherently in accessing key tools and input in community development.

62. **Spreading of benefits to adjacent communities.** The principal impact on non-project communities is the spread of rainfed farming technologies outside the immediate area of extension. There is evidence for the diffusion of guinea-fowl production, composting, the use of neem for crop protection and access to literacy. However, more generally, there is evidence that non-project communities are impressed by the coherence of groups formed and the benefits of a socially cohesive approach to obtaining infrastructure development for villages, although priorities are usually schools and clinics rather than agricultural techniques. Rating for impact on social capital: 6.

D. Impact on Food Security

63. **Enhanced food security.** In the absence of a baseline anthropometric survey, we are forced to largely rely on qualitative perceptions elicited during interviews, as well on indirect evidence, such as the considerable increased yields due to improved varieties (Table 8) or cropping rates in the dry season (Table 9).

Table 8. Yield increases from improved variety FTDs

Crop	Farmer yield t/ha	FTD yield t/ha	% increase with FTD
Sorghum	0.3-0.4	0.6-1	200
Maize	0.8	2.2	175
Cowpea	0.1	0.35	250
Rice	1.5	3-4	100-160
Tomato	2-5	9-12	140-350
Onion seed	0.2 kg/ha	2.0 kg/ha	Ten fold increase
Onion bulbs	5.8	11.8-27.7	> 100

Source: LACOSREP II Work Programme 2005

64. All the beneficiaries interviewed acknowledged that the project has enhanced their food security, both through access to credit (consumption smoothing effect), cash earned during the dry season and better skills in marketing. Some use their profits or part of the loan to stock food for the hunger period. While some report having adequate food during the hunger period, others have the food scarcity of the hunger period reduced.³⁹ Furthermore, whilst previously some households were borrowing from moneylenders or buying food on credit to get through the hunger period, many households can now finance their needs substantially through their savings. Others use their profit margins or part of the loans to stock grains for the hunger period. Some 4% of project beneficiaries acknowledged that parts of their loans were used for this purpose. This is in marked contrast to non-

³⁹ A middle-aged widow said “The project has made it possible for me to feed myself and not go to my father’s house during the hunger period”.

beneficiaries, many of whom reported increased hunger. Suggested rating for impact on food security: 4.

Table 9. Dry season cropping

Beneficiary / non-beneficiary	Dry season cropping?	Frequency	Percent
LACOSREP beneficiary	Yes	90	59.6
	No	61	40.4
	Total	151	100.0
Non beneficiary	Yes	3	11.5
	No	23	88.5
	Total	26	100.0

Source: OE Preliminary quantitative survey of beneficiaries and non-beneficiaries (2005)

E. Environmental Impact

65. **Soil and water conservation.** The serious environmental degradation problems in the UER have been underlined in the introductory sections. The project has had a considerable positive impact both on direct increase of soil productivity in project areas and improving participant and neighbouring communities' awareness about soil conservation. This has been through a series of demonstrations and group actions on compost making, trash bunds, stone bunds, stone contouring and improved crop residue management. Indeed, over half the FTD groups have focussed on these issues. Planting of vetiver grass is the major activity in stabilisation of dam walls and in defining the bunds providing protection in the catchment protection areas. Vetiver has commercial importance in hat and basket weaving in the area (currently raw materials are brought in from Southern Ghana) and so is likely to receive adequate care and protection. Establishment is successful on bunds in catchment protection areas and on the lower slopes of dam walls but poorer on the upper areas of dam walls.



Composting at Saka (UER). Composting, the combination of organic matter, such as food and yard wastes to produce humus through degradation, is an example of a simple innovation introduced in the Upper East Region, where soil degradation is a serious problem. IFAD photo by M. Keating.

66. **Catchment protection strategy.** Catchment protection activities including tree planting and creating bunds were carried out at LACOSREP I sites, and the targets were largely achieved. More impact could be achieved in future if these types of interventions are better focused. For example, the project provided fencing material to protect young seedlings planted in the catchment area, but the fences have been diverted to fence gardens against livestock within irrigable area. This illustrates that protection of irrigable area was much more important to farmers than the catchment activities (the value of which is only evident in the long-term). Adequate training and right approach to involvement of communities, especially in the upstream area, is essential for future work on these problems, which will become even more prominent with an increased population.

67. **Fisheries.** The fisheries component was found on most project sites, with dams stocked with fingerlings from the Fisheries Department. However, timing of interventions, number of visits, and level of training for beneficiaries varies from site to site and does not seem to follow any discernible

pattern. Available data is not sufficient to evaluate environmental impact. Rating for environmental impact: 5.

F. Impact on Institutions and Policies

68. **Slight impact.** This is hard to gauge with the project still to finish, but is generally limited. Village institutions such as WUAs and FLGs are clearly valuable and sustainable but there is no evidence of a major shift in government mentality. Interactive approaches where ideas and concepts from the village make their way to project design were little in evidence. For example, the time spent at the inception of LACOSREP II ‘sensitising’ communities to the need for dams, when many had lodged applications with the Regional Assembly as early as 1998 does not suggest a full correspondence between the priorities of the communities and those of public agencies. In the case of livestock vaccination, donor-driven policies of cost-recovery were clearly not working because of widespread cash shortages with consequent economic losses due to animal deaths. LACOSREP II could have been taken as an opportunity to influence the government policy in this respect, especially in the light of its own and IFAD’s poverty reduction mandate.

69. **Impact on NGOs.** NGOs were used principally to carry out services for the LACOSREP II, such as the use of Rural Aid in hand-dug wells and ActionAid in the REFLECT literacy strategy. They were not generally involved in testing new technologies or assessing community well-being, in spite of the experience that they had accumulated. The impact of the project is thus slight. Rating for impact on institutions: 2.

G. Impacts on Gender

70. **Impact of a gender officer.** LACOSREP II employed a gender officer on a contract basis to ensure the objectives of appraisal were met, and this has been an effective strategy. Women were not traditionally land owners in this region, but the WUA system has given them direct access to irrigated land. As a consequence, women play a much greater role in the management of irrigation and this is highly visible at meetings where they speak up to represent their own views. The FLGs have also provided an arena for women to co-operate and organise collective income-generation. Husbands are said to be increasingly listening to their wives’ views on issues concerning the household and even passing on their financial responsibilities unto their wives, as they consider them to be financially sound. Access to greater capital and means of transport, such as bicycles, has undoubtedly accelerated women’s entry into the market. The livestock component, by increasing access to investments in goats, chickens and guinea-fowl, has played a similar role. Rating for impact on gender: 6.



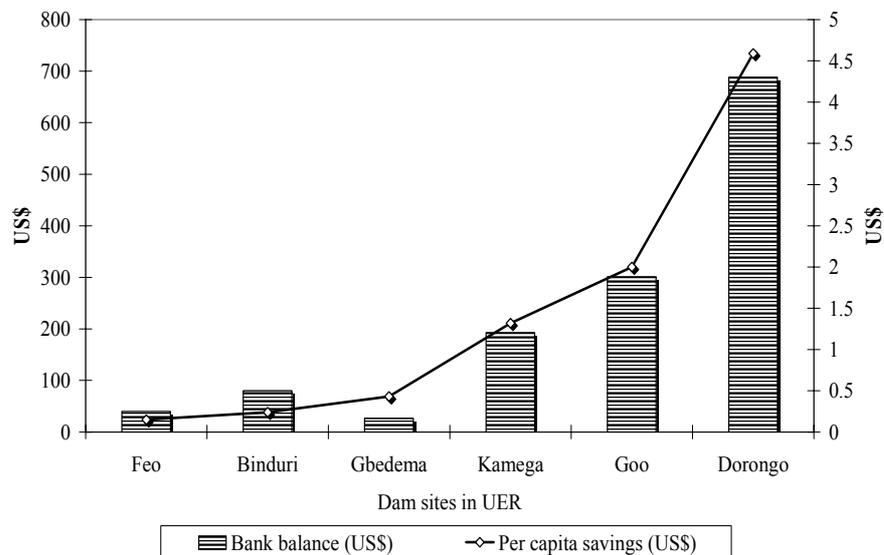
Gardens grown as a result of irrigation from the dam at Winkogo (UER). Vegetable gardens contribute to food security and quality of diet, as well as to cash generation. There is also evidence of increased women’s access to land through the attribution of irrigated plots of land. IFAD Photo by R.M. Blench.

H. Sustainability

71. **Infrastructure.** Roads, latrines and hand-dug wells require less maintenance and will probably be sustained locally; the issues relate to the dams, where maintenance is sporadic and completion of many in doubt. The main issues are as follows:

- Construction of new dams/rehabilitations for which studies were carried out but contracts have not been awarded. The project should have a defined exit strategy to cope with the outstanding Lot 3 and re-packaged projects. Communities where dams will not be constructed are owed a clear explanation about the situation by the PCU, District Authorities, etc., and offered a way forward.
- Completion of all outstanding works on dams under construction (the start of the rains may aggravate the situation further). Collaboration between the community, District Authorities, Contractor, PCU and all relevant parties in monitoring outstanding works is essential to success. Unless these works are completed under LACOSREP II, they may linger until another donor project.

Figure 3. Savings of six WUAs in UER



72. **Funding to face maintenance costs.** Responsibility for maintenance of dams has not been clearly spelled out. Some maintenance problems are beyond the WUA capabilities and even local government budget availability.⁴⁰ Financial contributions are used to pay expenses on the operations and management of the facilities. These include patching of broken slabs and repairs of outlet valves, purchase of materials and feeding of community members involved in communal labour. Other expenditure sources include membership fees and shares paid by the WUAs to the District WUA Councils and travel on official WUA engagements. WUAs vary substantially in their perception of responsibility for maintenance while the financial capacity of the WUAs to maintain the irrigation facilities is linked to their ability to mobilise financial resources. The overall sums of money are very small; often not enough to pay for more than a couple of bags of cement (Figure 3). Yet dams often require significant maintenance after some years, the district authorities have no budget for this and the option of seeking assistance by other donors is not sustainable.

⁴⁰ For example, during a visit to a LACOSREP I site it was reported that crocodiles had dug a hole in the dam causing the wall to crack and disrupting the dam's functionality. No budget was available for repairs at the district level; the WUA was fortunate enough to attract funding from an NGO.

73. **Environmental.** Technical innovations in agriculture seem to be sustainable, notably composting and vegetable production. The major issue in UER is decreasing soil fertility (which is in turn accelerated by increased soil nutrient extraction under irrigation and increased cropping rates). Decreasing soil fertility can be halted and reversed by agroforestry and the integration of legumes into rainfed cropping cycles and more emphasis has to be placed on these. Without more comprehensive oversight of catchment protection, at least some dams may end becoming sources of soil erosion.

74. **Financial.** The operational sustainability of all the participating banks except BESSFA RB is very low (10).⁴¹ BESSFA RB is yet to attain full operational self-sufficiency (OSS 94%), ADB has OSS of less than 10% whilst Naara RB is just over 10% (Table 10). Poor portfolio quality and low interest rate charged on retail loans of beneficiaries are the major contributory factor. Poor portfolio quality is due to weak credit discipline. The latter is in turn explained by transaction costs (high distance) that clients have to face and to the fact that banks do not have adequately trained staff for these operations. Rating for sustainability: 3.

Table 10. Operational sustainability of participating banks (%)

	Commercial banks		Rural banks		
	ADB	GCB	Narra	BESSFA	Bucobank
Operational Self Sufficiency (OSS)	8	50	11	94	31
Financial Self Sufficiency (FSS)	6	27	7	60	27

Source: Mission elaboration of project data (2005)

I. Innovation, Scaling-up and Replicability

75. **Innovations.** The most successful innovations promulgated by the project are those that can spread from farmer to farmer with little capital investment. Guinea-fowl production, composting, the use of neem for crop protection and literacy are all examples of such innovations, for which there is evidence of this type of spread even outside the project area. Demand for both rehabilitations and new dams in the whole of northern Ghana is at very high levels, but it is hard to see how these will be financed except through new donor projects.

76. **Scaling-up and replicability.** Replication of dam construction and major rehabilitation under LACOSREP II is only possible with comparable donor funding. Given the continuing food shortage in UER, there is no doubt that many of its innovations, notably dams, are in considerable demand. The reservations about the contracting system for dam construction set out in this evaluation imply that redesign is imperative. Many of the other interventions (improved livestock care, effective response to plant pathogens) are within the technical and financial capacity of MoFA without additional donor funding.⁴² Rating: 4.

⁴¹ In this section we will refer to OSS and FSS ratios, adopted by CGAP as indicators of sustainability. OSS is the (percentage) ratio between financial revenues and financial and operating costs (including loan loss provision). FSS accounts for the presence of subsidised credit lines and the effect of inflation on equity. For this reason it is normally lower than operational self-sufficiency. A ratio higher than 100% indicates that the MFI would be able to continue operations even if subsidies were discontinued.

⁴² IFAD has tested a different approach to supporting rural finance institutions in its Ghana Rural Finance Service Programme. An assessment or an evaluation of this programme would be required before taking any position on the related approach.

J. Overall Impact Assessment

77. **Overall impact** of LACOSREP II on beneficiary communities has been considerable in the areas of food security, income generation, corporateness, literacy and promotion of gender issues. However, delays in completion of dams for LACOSREP II make it difficult to assess their impact fully. For this reason, findings presented in this report are largely based on longitudinal data and observations of LACOSREP I sites as well as inferences from the early data and observations from the few completed LACOSREP II dams. The *ad hoc* non-beneficiary survey conducted by the mission made it possible to appreciate the context of the region:

- Conditions for agriculture have deteriorated in most districts of UER, with the striking exception of Bawku, where improved land management, onion cultivation and fertiliser availability seem to have made farmers' lives better. Many respondents commented that they were farming larger areas but yields were lower.
- Many interviewees commented on better access to schools, clinics, roads and water as well as the erosion of traditional beliefs which prevented families from taking advantage of these.
- Despite this, many people, especially in high-density areas do not have enough to eat and hunger is widely perceived to have become worse.

78. The achievements of LACOSREP in reversing this situation in some communities should be seen in the light of this grim background.

VI. PERFORMANCE OF PARTNERS

A. Performance of IFAD

79. **IFAD's approach.** IFAD finances projects in developing countries but, without few exceptions has no presence in the field.⁴³ IFAD projects are *de facto* managed by national governments and their agencies, while the supervision of execution, procurement and application for withdrawal of funds is normally contracted out to external organisations (UNOPS in the case of LACOSREP II). It is also due to these reasons that IFAD's performance can be only indirectly assessed through the review of its documents, and interviews with project and headquarters staff. IFAD has rightly insisted on the LACOSREP approach which, notwithstanding the critiques presented above, ultimately has important potentials for poverty reduction in the UER of Ghana. There are, however, certain flaws in the original design of the project that have been discussed and should be underlined. First the whole rural finance component which did little to enhance the sustainability of the concerned operations of participating banks; second, the limited degree of integration (which was partly dealt with during the implementation phase) between components. Third, the over-reliance on the GIDA to screen private contractors for the irrigation component. This created delays in the execution and did not ensure high quality of works.

80. **Remoteness of IFAD.** During the *implementation* phase, and notably due to IFAD's remote location, the effectiveness of the tandem IFAD-UNOPS in dealing with and sanctioning the execution delays has been constrained. It also appears that experiences such as that of LACOSREP I and II should be more systematically and better brought to the attention of other donors as well as local research institutions and NGOs active in the country. Regarding other developing agencies, the opportunity is the existence of a donors' coordination group for the agriculture sector. LACOSREP experience is grounded in the reality of one of the poorest region in Ghana and should be an element of any serious debate on rural poverty reduction. As far as NGOs and research institutions are concerned, there is need for a real exchange of experience and collaboration rather than simply

⁴³ The exception is represented by the Field Presence Pilot Programme, which involves 15 countries. Ghana is not one of them.

contracting out of specific work. Clearly, without presence in the country, the above tasks become more difficult. Rating: 4.

B. Performance of the Cooperating Institution

81. **UNOPS.** Supervision of LACOSREP II has been carried out by UNOPS, which makes a yearly visit of about ten days. A report is produced which lists a series of agreed changes and reports on progress made in the area of *those* recommended by the previous mission.⁴⁴ Since UNOPS processes requests for financing and forwards them to IFAD, it has some means of putting pressure on the PCU. The UNOPS team consists of two persons, a staff member and a consultant. MoFA staff agreed that these missions had been conscientiously carried out and that the detailed reports were critical but fair. However, there was a strong perception by MoFA staff that in recent years it was more difficult to have a dialogue with the UNOPS team, that the missions were more adversarial, perhaps due to a sense of frustration with delayed implementation. Moreover, the UNOPS consultant often did not have a speciality appropriate for the project. Project staff would rather develop a more responsive relationship with an adviser, who would be available more regularly on a less formal basis (perhaps through a retainer contract). However, it is hard to see how UNOPS missions could be different, given the pressure on their staff. Under the present type of contract, they cannot be available at unspecified intervals. IFAD should consider whether this supervision system is the most effective strategy. Rating: 4.

C. Government and Its Agencies

82. **PCU/MoFA.** In general, the PCU has performed creditably, and problems with day-to-day running have been resolved successfully in many cases. All types of training and sensitisation were carried out in a timely manner and there was a certain adaptation and flexibility in their implementation. In the area of irrigation infrastructure, the problems of managing contractors and an over-reliance on GIDA should have been resolved much earlier. The project should have been much more active in adherence to environmental procedures and developing links with health monitoring. Collaboration with NGOs was weak; rather than jointly developing strategies, PCU typically employed them as executing agents.

83. **Monitoring and evaluation.** The provisions for M&E in the appraisal document look rather optimistic in the light of actual achievements. Apart from recording statistical data on physical infrastructure, dams, wells etc., training courses and credit, M&E was also to research qualitative elements such as family welfare, gender relations, food security, health status and others. This was to be contracted out to a suitably qualified NGO or other body. In reality, all that happened was statistics were accumulated on quantitative elements such as FTDs (Appendix Tables 1-6).

84. **GIDA.** The decision to use GIDA as a sole consultant for the irrigation infrastructure on the project was a very questionable one, causing **many** problems in project execution, as well as delays in implementation. Innovations and new introductions in the area of irrigation, such as California valve, or pumping from the river, were all introduced by PCU, and not GIDA. In a region where irrigation is very important, the inflexible and old fashioned approaches by the main consultant have reduced the overall impact of the intervention and slowed down significantly benefits expected by the communities. Quality and timeliness of supervision is another area where the performance of GIDA cannot be considered satisfactory. In the many instances the poor performance of contractors, which is a common complaint with the project, can be at least partially attributed to the inadequate supervision by GIDA. Recent changes in the GIDA staff in the region, however, offer an opportunity for improvement in this attitude towards LACOSREP II interventions and successful completion of remaining works. However, any further intervention in the area of irrigation or other civil works in the

⁴⁴ Background information on the supervision of LACOSREP II has been provided by Ms Mariam Sissoko (Country Portfolio Manager at UNOPS) through email correspondence which is gratefully acknowledged.

region should be open for competition to interested consultants to try and improve the quality of services. Rating: 3.

D. Research Partners

85. **In agricultural extension**, the project collaborated with a number of research organisations to identify intervention needs, best **practices** and suitable intervention protocols for small ruminant husbandry, guinea-fowl husbandry, improved crop and pest management in rice and improved method of parboiling rice. The performance of the four research institutes involved, Animal Research Institute, Tamale, University of Ghana, Crop Research Institute in Kumasi and the Food Institute in Accra, was considered satisfactory to good by the project. However, reports indicate that the nature of the partnership was limited to one-off contracted survey work, with specific goals of FTD protocol formulation. While focussed and productive, this does not constitute a partnership, nor involve any follow-up or room for modification/ direction for further research in the light of field implementation. While the project made effective use of researchers to inform implementation, the vision of improved linkages between research and the field and further problem identification by researchers was not realised. In the case of the Food Research Institute existing knowledge with regard to tomato and vegetable processing was not utilised.

86. **SARI**. The performance of the major research partner as envisaged at project inception, SARI, was weak. Despite the considerable **infrastructure** support given to the institute during the previous phase, LACROSEP I, and complete renovation and improvement of the regional centre at Manga, no effective advice to counter the tomato disease complex was given. This was most unfortunate, as they were investigating control measures for the devastating tomato disease complex, and for which no effective measures were taken in the period 2001-2003. Piecemeal reports covering first one aspect of the disease, then another were produced from year to year, but no holistic view of the problem and its key causes taken. The major causes of non-performance for some four to five years were internal staffing problems within SARI that resulted in a lack of consensus on tackling problems.

87. **Infrastructure**. While the main emphasis of the LACOSREP II was on rehabilitation and construction of irrigation infrastructure, this was not accompanied with appropriate research. Typical examples include studies of soil physical characteristics (texture, infiltration rates, etc.), which were not site specific and were done solely by GIDA. As a result, dimensions of open channel laterals, spacing of turnouts, and other similar structures are general to project sites. This produces lower efficiency of water delivery and an irrigation system less responsive to the needs of the end user. Rating: 3.

E. Performance of Non-Government and Community-Based Organizations

The Central Bank of Ghana (BoG)

88. The BOG's role is to set up and manage the disbursements and replenishment of the Revolving Credit Fund for the participating banks. Although it is required that the clearing accounts of the participating banks be debited on due dates, as at March 2005 all the participating banks had balances overdue since December 2004. The project provides that BoG should ensure that the Reference Interest Rate charged by BoG to the participating banks be positive in real terms. The interest rate reviews should be held half yearly at the instance of the BoG. In fact the latest review was last done about 18 months ago when the nominal interest rate was fixed at 6%. This rate is not positive in real terms, given the estimated annual inflation rate of 15% and it also compares unfavourably with the one year Treasury Bill interest rate equivalent of 18% or the 15% BoG Prime Rate at which the central bank normally lends to the commercial banks. This makes the Revolving Credit Fund not sustainable and goes against the project concept.

89. **Interest rates**. The Participating Financial Institutions (PFIs) have a recommended spread of ten percentage units which brings the retail interest rate at which beneficiaries borrow to 16%. This is

in addition to 2% insurance premium on the gross loan which does not form part of the PFIs' income. This represents a further obstacle to the financial sustainability of participating banks.

Participating Banks

90. **Officers.** The project required that project/credit officers of the participating banks should be assigned exclusively to manage their participation, which was not the case (and probably it was an unrealistic expectation). All the participating banks have focus persons but apart from GCB, these persons are variously engaged on non project assignments, contributing to low repayment rates and poor record keeping and reporting. Record keeping and reporting at the participating banks leave much to be desired.

91. **Disbursement.** Total cumulative loans disbursed by the participating banks over the LACOSREP II period was ¢18.4 billion. ADB disbursed the largest amount (42%) followed by GCB (31%). The capacity of these commercial banks to take on such large loan portfolios as against those of the rural banks is due to the commercial banks maintaining higher Capital Adequacy Ratios which enable them to take on the relatively large portfolios without infringing on the regulatory requirements. A total of ¢16.8 billion of the amount disbursed to beneficiaries has become due by March 2005. Loan repayments to all the banks averaged 79% which is short of the project expectation of 80% minimum from the district. Only two participating banks, GCB and Naara, met this minimum rate. Most of the loan repayments are being made several months beyond the due dates. Recent court actions taken by ADB, Naara RB and GCB have improved the repayment from 74% in September 2004 to the present 79%.

92. **Portfolio quality.** These were very poor for the participating banks in December 2004. The lowest Portfolio at Risk >30 days of 27% achieved by Naara RB is poor by any standard. Behind all these problems there is a weak credit discipline due to high transaction costs (distances from clients to banks), inadequately trained staff and products that are not always well suited to the clients. The poor portfolio quality has led to GBC ceasing to disburse fresh loans since January 2005. Most of the contaminated portfolios are in default for less than 180 days, providing some assurance that they are recoverable. This cannot be said of the structure of ADB portfolio which has 25% of its loans overdue by 540 days. The participating banks are presently being sustained by the budgetary support from the Project. The banks are not rescheduling loans of defaulters to make them current in the books even though some of the beneficiaries are actually repaying at their own pace beyond due date. The project has constrained revenues of participating banks on one side, without offering systematic training and regular technical assistance with which to reduce transaction cost on the other. It does not appear that much emphasis has been paid on the development of profitable and customer-friendly financial products for poor clients with incentives for keeping a high repayment profile. The need for sustainable financial institutions (a central piece in IFAD Rural Finance Policy) does not seem to be fully understood. Recommended rating: 2. This rating should be considered as reflecting flaws in the original project design limited progress made by the project partners in supporting the participating banks and not simply a judgment of the latter's performance.

93. **Private contractors.** Timeliness and quality of work on dams by local contractors was a major problem throughout LACOSREP II. Procurement procedures for contractual services were supposedly improved to conform to the World Bank procedures and to ensure transparency and objective choice, but in reality, many problems still remain. The project also carried out some training programmes in order to improve quality of work by contractors in the area of irrigation infrastructure construction, but without a visible impact on quality. Much has been said during discussions with the PCU staff about change from local to a Chinese contractor, and improvements made due to this decision. However, the evaluation's field visits to some projects where work is carried out by the Chinese contractor do not encourage this view, as the same quality problems appear. Effective supervision of the contractors is the main problem, rather than the choice of local or foreign firm. Timeliness of execution is probably the area where a change of contractor was most useful. Rating: 2.

94. **NGOs.** Rural Aid, the main NGO concerned with excavation of hand-dug wells and household latrines, generally performed **satisfactorily**. ActionAid, whose REFLECT methodology was used in the formation of FLGs was evidently successful. The project provided for three NGOs to demonstrate partnership viability with the rural banks and three NGOs signed participation Memoranda of Understanding (MOU) to train 200 groups each. The MoU required that the NGOs would train the groups and link them to the participating banks continue providing non-financial support to the groups which have been given credit. Success in this area was patchy:

- Presbyterian Agricultural Station in Sandema trained 100 groups in the Builsa District and successfully linked 68 of them to Builsa Community Bank for credit.
- CENSUDI implemented the Family Credit Scheme in which women in groups acting as lead women brought in 3-5 members of their households to join the groups. 150 lead women in 30 groups were trained out of which 28 groups have received credit from Naara RB. CENSUDI's collaboration with the project ceased when the programme manager left for further studies and no replacement was put in place to prepare the work plan for 2004.
- Bawku East Women's Development Association (BEWDA) identified and trained 54 groups in the Bawku East District and linked them to BESSFA RB for credit. BEWDA dropped out of the project in the first year due to some misunderstanding of how the training was to be organized and the death of a key desk officer.

95. This record suggests that the **performance** of NGOs involved in the credit component is highly dependent on the presence of key individuals and is thus of limited sustainability. Rating: 3.

96. **CBOs.** Almost all the associations formed under LACOSREP I, notably WUAs, are still functioning and still managing the irrigation systems, albeit sometimes with reduced efficiency. They have also largely retained the gender equity that was a feature of the original design. This is very much in contrast to CBOs established by donor projects elsewhere in Africa. Functional Literacy Groups also appear to be stable or even expanding and have moved on from literacy to developing other collective projects. Problems with limited resources for major maintenance needs have already been highlighted. Rating: 5.

VII. OVERALL ASSESSMENT AND CONCLUSIONS

97. The most important conclusion is that overall, and in spite of serious implementation delays in the second phase, both phases of LACOSREP have benefited poor communities in UER, have increased levels of food security, enhanced capacity for collective action, improved material well-being and effectively heightened gender awareness. However, dilatory construction and completion of dams and the likelihood that many will be unfinished after closure of the project is a very serious problem. Although there is potential for technical innovations in rainfed farming to spread beyond the project, this is hardly the case with dam construction and rehabilitation. As a consequence, the overall impact on the population of UER remains difficult to detect in official statistics because of the project's limited geographical coverage and because it is counteracted by demographic growth and generalised decreasing soil fertility. Central government officers in Accra have argued that development investments in Northern Ghana have been ineffective. However, this evaluation is of the opinion that the relative success of LACOSREP II rather shows the levels of investment should be increased (within an improved framework along the below recommendations). In terms of IFAD's mandate, doubts can be raised about whether a strategy of dam rehabilitation actually targets the poorest communities, since many existing dam sites have had some dry-season cultivation for decades. Construction of new dams is not necessarily significantly more expensive than rehabilitation and increases welfare substantial in isolated areas. Delays in implementation combined with inconsistent monitoring, especially in the areas of credit and dam construction have created frustration in beneficiary communities and a waste of training resources. This situation is partly attributable to initial project design partly due to inadequacies in implementation. While credit provision has been

beneficial to clients, it is evident that participating banks are facing serious financial sustainability problems and a different approach, perhaps through a separate rural finance programme is required.⁴⁵

Table 11: LACOSREP II ratings

Project Performance		Impact on Rural Poverty		Performance of Partners	
Relevance	5	Physical & Financial Assets	5	IFAD	4
Effectiveness	4	Human Assets	4	UNOPS	4
Efficiency	4	Social Capital	6	Government	3
		Food Security	4	Research partners	3
		Environment	5	Contractors	2
		Institutions & Policies	2	Banks	2
		Overarching Factors		NGOs	3
		Gender	6	CBOs	5
		Sustainability	3		
		Innovation & Replicability	4		

Source: Ratings by the evaluation team (2005)

VIII. INSIGHTS AND RECOMMENDATIONS

A. Insights: Further investment?

98. **Integration and sequencing of components.** If IFAD is to consider further investment in UER, then the evaluation of LACOSREP II suggests the rethinking of some elements in project design. A key problem is that projects with so many components, but no clear integrative strategy, are open to activities being carried out with no linkages, with the consequence that management costs are high. Project design should consider sequencing more carefully.

99. **Considerations of equity.** LACOSREP II and comparable projects such as UWADEP also raise broader concerns. Focusing on the rehabilitation of existing infrastructure does little for communities that have not benefited from outside assistance in the past. Similarly, protection of special categories such as the blind or the physically impaired was not part of LACOSREP II design, but experience from UWR shows that this can be made to work and this should be included in future project design.

100. **What type of intervention?** In Ghana, in some sectors such as health and education, donors have started to fund multi-donor budget support initiatives. Although the pressure is not yet strong in the agriculture and water sector, the question is whether area development intervention deserve further funding. The experience of LACOSREP illustrates that there is a very significant need on the ground for projects and programmes that focus on geographical area and deliver services and inputs to impoverished farmers. Whatever the problems, the contention that development interventions in UER have not resulted in improved wellbeing is not supported by the empirical data. Moreover, ethical considerations, equity, the contribution of labour from UER to national development and Ghana Government's ratification of various poverty agendas all argue for continuing and indeed expanded investment, within an improved framework. In future investments, the priority of improving the design should be matched by the search of strategic partners, as the availability of IFAD resources allows only limited coverage.

⁴⁵ IFAD has promoted a different approach within its Rural Finance Support Programme. Assessing the latter is beyond the scope of the present evaluation and any further judgment on the approach should be based on an evaluation or thorough assessment.

B. Recommendations

Contributions to Policy Dialogue: Learning from the Ground

101. **Communicating and discussing project experience as a step towards policy dialogue.** The two phases of LACOSREP offer important lessons that are grounded in the reality of the field. These experiences should be documented and widely discussed not only at the regional but also at the national level, perhaps taking the opportunity of the donors' coordination group in the agricultural sector. This report has highlighted areas of weak institutional impact, resulting, for example, in little evidence of interactive approaches where ideas and concepts from the village make their way to project design. The same can be said in the case of livestock vaccination: donor-driven policies of cost-recovery were clearly not working because of widespread cash shortages with consequent economic losses due to animal deaths. On the other hand, a number of good practices have emerged from the two phases of LACOSREP and more can be learned from other experiences. A first step in policy dialogue would be to discuss the lessons stemming from the project experience with the Government and other donors.

C. Implementation Support

102. **M&E and supervision.** Collection of quantitative data on project delivery was relatively accurate.⁴⁶ The missing part was the assessment of impact on household welfare, food security and health. Supervision was conscientiously carried out within the constraints of the arrangements between UNOPS and IFAD. Both these findings relate to the "discrete" and short-term nature of implementation support arrangements within IFAD project. For effective M&E and project implementation, project staff would rather develop a more responsive relationship with adviser(s) that can be available on a more regular basis.

D. Specific Sectoral Recommendations

103. Agriculture

- **Need of real partnership for farmer-oriented action research approach.** Collaboration with research institutions was limited, during LACOSREP II, to short contracts for specific pieces of work. A fundamental area of action research for irrigated crops, ICPM, was given little focus and should be emphasised in the future. There are constraints for many research institutions in terms of staff at local level. Alternative arrangements, either with MoFA staff, or with NGOs should be sought with emphasis on more interactive feed-back sessions at field level.
- **Farmers cross visits and use of media (radio) to encourage adoption and adaptation.** In adopting FTDs messages, farmers were introducing adaptations, for example in terms of cheaper design of animal housing and less labour intensive compost storage. Where these are successful, farmer to farmer communication should be supported through cross visits. Media, notably radio, are valid communication tools. During the implementation, their use was insignificant, despite a vibrant vernacular radio programming in UER.
- **More emphasis and resources to processing and marketing** learning from options tested within the project implementation as well by other organisations including NGOs.

⁴⁶ Discrepancies emerged between figures at district and PCU level due to non-synchronised reporting.

Dams, Irrigation, Water and Roads

104. **Dams** are both in great demand and generally reflect well the mandate of IFAD. However, their construction and **maintenance** needs to be greatly improved. In particular there is need for higher transparency in the selection of contractors.

- **To avoid the repetition of past problems, IFAD may consider requesting an audit** of contract awarding under LACOSREP II.
- **Quality control and phased contracting of consultancy services.** A different approach should be considered in future. Opening the consulting to a wide range of professional companies should be non-negotiable. Services should be **segregated** into the phases according to project implementation schedule and contracts signed separately, subject to satisfactory performance.⁴⁷ A validation forum should be organised after completing the designs and before the construction commences at the project site. This should be followed with regular meetings to review the work progress. Validation fora should involve MoFA, district assemblies, consultants, contractors and WUAs. Payment schemes for work supervision to the consultant should include performance incentives, instead of being lump sum that are not related to work progress.
- **Recognise that irrigation infrastructure needs maintenance**, some of which beyond the capacity of WUAs. This should be reflected by realistic budgeting.

105. **Rural finance: sustainable financial** institutions. As in several projects built around the 'traditional' view, rural financial institutions in LACOSREP II have been seen as a mere conduit to provide an input (credit) to farmers. Institutional strengthening of financial institutions has not been seen as a priority. Strengthening rural finance institutions is a priority. There is a recent tendency for donors to support programmes dedicated exclusively to rural finance.⁴⁸ If this approach is retained, then the issue of coordination and sequencing with agricultural interventions should be considered very carefully.⁴⁹

106. Additional Areas:

- **The success of and the enthusiasm** grown around FLGs, originally not included in the project design, militates in favour of their replication.
- **Health issues** in relation to beneficiaries are urgent and may accelerate in the years following project closure. An effective sustainable monitoring system must be devised.

⁴⁷ Proposals should be sought from other qualified consultants to compete for the assignment in the downstream phase even where consultant has performed satisfactorily. Procurement of services should be in line with the Public Procurement Act No. 663 (2003).

⁴⁸ IFAD is currently financing a rural finance programme in Ghana. However, the mission does not have sufficient knowledge and an assessment of the same is beyond the scope of the present evaluation. Any conclusion on that approach should be made only after a thorough assessment or evaluation.

⁴⁹ Specific issues raised by this evaluation include the following: (i) training is very weak at all levels, especially for loan officers, VGAs and CCMCs. This can be remedied with proper manuals and courses; (ii) policies on interest rates are inconsistent and sometimes make loans uneconomic without project subventions; (iii) banking records are very defective and make assessment of credit records time-consuming and uncertain; (iv) the 2% for Risk Fund premium does not serve in any effective way to reduce loan loss expenses. It therefore has to be dropped to reduce costs to beneficiaries; and (v) need for technical assistance to participating banks, for example through national or regional microfinance hubs.

APPENDICES

APPENDIX 1

Implementation Results

Appendix 1-Table 1. Promotion of Income Generating Activities, appraised and achieved		
Output	Target Appraisal	Actual (03/ 05)
Groups formed/identified	2 100	1 739
Groups reached with credit	2 100	1 001
Training Courses for:		
VGAs	25	27
CCMCs	25	21
Group Executives & Beneficiaries	50	40
Credit Officers	2	2
Credit Group Durbars	6*	2
VGAs Trained	375	362
CCMCs Trained	0	146
Groups Trained:		
Old Groups	1 605	846
New Groups	2 100	960
Beneficiaries Trained:		
Male		3 915
Females		8 328
Total Beneficiaries Trained	32 000	12 243
Groups Weaned	1 540	0

* AW PARTICIPATING BANKS target

Appendix 1-Table 2. Loans and beneficiaries in LACOSREP II				
Frequency of Loans	No. of Groups	No. of Beneficiaries		
		Male	Female	Total
One	285	715	2 479	3 194
Two	578	1 910	3 155	5 065
Three	124	631	1 153	1 784
Four	14	67	141	208
Total	1 001	3 323	6 950	10 251
% Appraisal Targets		19.9	21.7	21.1

Appendix 1-Table 3. Water Resources Development, appraised and achieved				
Component	Unit	Target Appraisal	Target Mid-Term Review	Achieved To Date
Old dams Rehabilitated	No.	24	23	6
New Dam Construction	No.	12	9	1
Development of additional irrigable area	Ha	384	338	80
Provision of lift pumps for irrigation	No.	0	0	7
	No. Groups	0	0	7
	Ha *	0	0	20
Form and Register New WUAs at DAs	No.	36	36	36
WUA Farmers Training Sessions	No.	36	16	37
WUA Executive Training Sessions	No.	20	11	17
TOT for AEAs and DADOs	No. Sessions	5	5	3
Register WUAs as Co-operatives	No	36	32	36
Immediate land adjoining dam	No	54	54	54
Reservoirs bunded and grass	Ha	1 080	1 080	1 040

* 20 ha of maize established in April 2005

Appendix 1-Table 4. Rural Infrastructure Development, appraised and achieved			
Component	Unit	Target Appraisal⁺	Achieved by March 05
Hand-Dug Wells Excavated and lined	No.	450	450
Hand-Dug Wells Fitted with Pumps	No.	450	180
Household Latrines Excavated and sub structure lined	No.	2 250	2123
Household Latrines Superstructures built and roofed by beneficiaries	No.	2 250	463
Feeder Roads Spot-Improved	Km	75	75.1
Feeder Roads Re-gravelled*	Km	45	0
*All existing re-gravelling works were being undertaken by other donor-funded projects.			
+MTR left these figures unchanged			

Appendix 1-Table 5. Agricultural Development, appraised and achieved			
Output	Appraisal Target	Actual (03/ 05)	% Appraisal
Total No. of FTDs Established	300	197	65.7
Soil and Water Conservation and Soil Fertility Improvement	135	121	89.6
Improved Onion Storage	60	4	6.7
Small Ruminants and Improved Guinea Fowl Rearing	40	27	67.5
Dry Season Irrigated Crop/Fisheries Development	65	45	69.2
Total FTD Participants	9 000	6 266	69.6
Total No. Adopters	6 000	8 756	145.9
Adopters Producers Rainfed Crops	2 700	3 940	145.9
Total Adopters/ Producers of Irrigated Crops/Fisheries	1 300	1 897	145.9
Total Adopters Improved Onion Storage	1 200	1 751	145.9
Total Adopters Small Ruminants/Guinea Fowl Producers	800	1 167	145.9

Appendix 1-Table 6. Capacity Building, appraised and achieved		
Output	Target Appraisal	Actual (03/ 05)
Regional Project Promotion workshops held	1	1
T.O.T seminars	2	3
Project Promotion District Level	36	34
Area Level training	42	41
NGO/CBOs Self Assessment	1	1
NGO/CBOs Trained	3	5
Literacy Classes	30	40
Regional Land tenure Workshop	1	1
Radio Programmes Developed	25	26
Posters Developed	2	1
Banks Capacity Building	1	1

Appendix 1-Table 7. Schedule of outstanding balances in cedis as at 31/03/2005

PARTICIPATING BANK	Disbursement to Participating Banks			Outstanding Amount Due for Repayment		
	Drawn from RCF	Drawn from special USD A/C 'B'	Total Disbursed	Principal	Interest	Total
A. Agric. Development Bank	2 083 120 000	5 000 000 000	7 083 120 000	3 955 000 000	532 490 033	4 487 490 033
B. Ghana Commercial Bank	5 104 672 000	1 340 000 000	6 444 672 000	1 216 460 000	267 200 000	1 483 660 000
C. BESSFA Rural Bank	706 788 700	1 248 540 000	1 955 328 700	462 500 000	32 648 000	495 148 000
D. Naara Rural Bank	3 533 069 433	-	3 533 069 433	2 738 861 600	57 426 797	2 796 288 397
E. Buosa Community Bank	246 250 000	1 089 100 000	1 335 350 000	523 350 000	122 748 667	646 098 667
F. Pilot Credit Programme	52 399 325	-	52 399 325	57 925 224	-	57 925 224
Sub-Total	11 726 299 458	8 677 640 000	20 403 939 458	8 954 096 824	1 012 513 497	9 966 610 321
G. Balance on RCF(ADB) as at 31/03/2005				2 282 535 307	-	2 282 535 307
H. Balance on RCF (BoG) as at 31/03/2005				3 143 486 198	-	3 143 486 198
I. Balance on Pilot RCF (ADB) as at 31/03/2005				43 763 244	-	43 763 244
TOTAL	11 726 299 458	8 677 640 000	20 403 939 458	14 423 881 573	1 012 513 497	15 436 395 070

N.B. all outstanding loans due 31/12/04

Appendix 1-Table 8 shows the numbers of farmers using more fertiliser and pesticides since 1995. Herbicides and other inputs are at vanishingly low levels. Many other farmers commented that the cost was the main constraint on their use.

Item	No.	%
Fertiliser	18	17.3
Pesticide	19	18.3

Source: Blench (2005a)

n=104

Aboagye (2005) surveyed six WUAs in UER (Appendix 1-Table 9) in the context of the OE qualitative preliminary survey. The financial management of WUA contributions has been satisfactory as all the bank accounts earn interest on savings. Total bank balances for the nine dam sites where figures were obtained was ₦14 366 279.39, an equivalent of USD 1 579. Bank balances ranged between USD26 in the case of Gbedema and USD688 for Dorongo. The Gbedema facility is non – operational as explained in section 3.7 while the rehabilitation of Dorongo Dam was completed in 2004. There is an average balance of USD175. Funds mobilised per member ranged from ₦1 333 (USD 0.15) for Karni to ₦41 764 (USD4.59) in the case of Dorongo.

	District	Name of WUA	Bank	Bank Balance (₦)	Bank Balance Per Capita (₦)	Bank Balance (USD)*	Bank Balance Per Capita (USD)
1.	Builsa	Gbedema	Builsa Community Bank	240 000.00	3 934.00	26	0.43
2.	Kassena - Nankana	Goo	Naara Rural Bank	2 743 102.00	18 166.00	301	2.00
3.	Bawku West	Kamega	ADB	1 755 000.00	12 021.00	193	1.32
4.	Bawku East	Binduri	GCB, Bawku	726 000.03	2 148.00	80	0.24
5.	Bolga	Dorongo	ADB, Bolga	6 264 633.36	41 764.00	688	4.59
6.	Bongo	Feo***	ADB	360 000.00	1 385.00	40	0.15
Total				12 088 735.39		1328	
Average				2 014 789.00		221	

Source: Agboagye (2005)

* Exchange Rate – USD 1 = ₦ 9,100

** Feo WUA purchased shares in a Rural Bank totalling ₦250 000.00

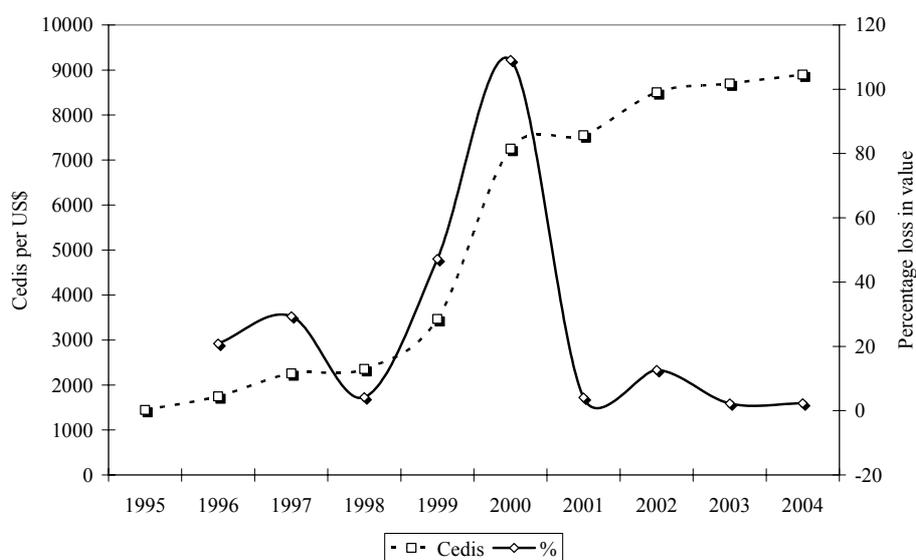
Appendix 1-Table 10 presents data on vaccination coverage for small ruminants, showing negligible percentages, due to the financial contribution requirements for farmers.

Appendix 1-Table 10. Small ruminant health care and vaccinations, July 2003-June 2004 by LACOSREP II

Activity	Type of small ruminant		% coverage of livestock population in Region	
	Sheep	Goats	Sheep	Goats
PPR	2 404	1 246	1.3	0.6
Anthrax	2 105	1 391	1.1	0.7
Deworming	13 820	11 514	7.2	5.9
Parasite control	1 954	2 791	1.0	1.4

Agricultural development component, November 2004

Appendix 1-Figure 1. Dollar-cedi exchange rates since 1995



Source: <http://www.oanda.com/convert/fxhistory>

Terms of Reference of the Mission and Its Composition
Approach Paper - Interim Evaluation
Republic of Ghana
Upper East Region Land Conservation and Smallholder Rehabilitation Project, Phase II; and
Upper West Agricultural Development Project

I. Rationale and Objectives of the Evaluations

1. Given the interest of both the Government of Ghana and IFAD's Western and Central Africa Division (PA) to proceed with further investments in the regions, in accordance to the IFAD Evaluation Policy, in 2005 the Office of Evaluation (OE) of IFAD will conduct *Interim Evaluations*¹ of (i) the Upper East Region Land Conservation and Smallholder Rehabilitation Project - phase II (LACOSREP II); and (ii) the Upper West Agricultural Development Project (UWADEP). The ultimate goal of the exercise is to provide an accountability and learning tool for the main stakeholders. More specifically, the evaluations will:

- Assess: (i) the relevance of project objectives to the rural poor, the country and IFAD strategies²; (ii) the extent to which these objectives were achieved and the efficiency of the intervention; (iii) the intended and non-intended impact of the project on rural poverty and the prospects for sustainability; and (iv) the performance of partners involved in the project design and implementation.
- Contribute to take stock of the achievements to enhance the effectiveness of future interventions by providing a constructive set of insights and recommendations in consultation with the partners (including IFAD, the government agencies and the cooperating institution).

2. The exercise will seek to strike a balance between, the need of accountability and of strengthening the 'learning loop' by placing emphasis on building trust with the evaluation partners. The two interim evaluations will be initiated in the first quarter of 2005 and undertaken within the overall framework of the Evaluation Policy. The evaluations will be concluded by November 2005.

II. Country and Projects Background

3. Located in West-Africa, bordering with Cote d'Ivoire (West), Burkina Faso (North), Togo (East) and the Atlantic Ocean (South), Ghana has an estimated population of 20.5 million, of which 63% rural. The total fertility rate (TFR) is estimated at 4.1 (5.8 is the average for West Africa), with an average annual population growth of 2.0% and a life expectancy at birth of 55 years (50 is the average for West Africa). The structure of the economy is characterised by a large (in relative terms) services sector (42% of the total GDP, compared to 34% for agriculture and 24% for industry). It has an annual GDP per capita of USD 304 and GDP growth has averaged 1.8% in the last ten years (i.e. below population growth)³. Agriculture continues to be the mainstay of the economy, employing about 60% of the labour force. Cocoa is the major export crop, followed by timber and non-traditional products such as horticulture, fish/sea foods and pineapple. The agricultural sector is vulnerable to shocks caused by fluctuations in world commodity prices and to plant diseases. Ghana is classified as 131th out of 175 countries, according to the UNDP Human Development Index (2003). The

¹ According to the Evaluation Policy of IFAD, an *Interim Evaluation* is a mandatory exercise undertaken at the end of a given programme phase, before the approval of the next phase. The IFAD Evaluation Policy is available at <http://www.ifad.org/evaluation/policy/index.htm>

² Key documents in this sense include the Ghana PRSP, IFAD Country Strategic Opportunities Paper (COSOP) of 1996, the IFAD Regional Strategy for West and Southern Africa.

³ Figures and information have been drawn from the UNDP Human Development Report 2003, the World Bank World Development Indicators 2004, and the EIU Ghana Country Profile for 2004.

percentage of households below USD 1 per day has been estimated at 44.8%, and the percentage of poor households according to a national poverty line at nearly 40% (WB, 2002). There is a moderate prevalence of stunting (25%) among children 0 to 5 years.

4. **Background of the project areas.** The Upper East Region Land Conservation and Smallholder Rehabilitation Project phase II (LACOSREP II) is located in the Upper East Region (UER), the smallest region of Ghana (slightly over 3 % of the total land area), with an estimated 1.2 million people (80% is employed in agriculture) and the highest population density in the country (115 persons/km²). The UWADEP project is situated in the Upper-West Region (UWR), north-west corner of Ghana, with an estimated total population of 600 000, of which about 90% is rural. UWR is one of the poorest regions of Ghana, with an annual per capita GDP of USD 170. UWR has abundant land both for crops and livestock and much lower population density; yet, rainfed crop production is hampered by an increasingly erratic rainfall pattern. Access to markets and off-farm opportunities is constrained in both UER and UWR by poorly maintained feeder roads and lack of transportation services. According to the Ghana Living Standards Survey, the percentage of the population living in poverty is 84% and 88% in the Upper West and Upper East regions respectively⁴.

5. **Project data.** The Upper East Region Land Conservation and Smallholder Rehabilitation Project, Phase II (LACOSREP II) was approved by the IFAD Executive Board in April 1999, became effective in January 2000 and will close in September 2005.⁵ The total project cost is USD 13.9 million, out of which IFAD has provided a loan for USD 11.5 m. As of January 2005, 68 % of the total loan amount had been disbursed. The Upper West Agricultural Development Project (UWADEP) was approved by the IFAD Executive Board in September 1995, became effective in March 1996 and closed in December 2004. Total project cost is USD 11.3 million, out of which IFAD provided a loan for USD 10.0 m. As of 25 August 2004, the disbursement rate reached 94.64 % of the total loan amount. IFAD is the only international financier of the two projects. Both are supervised by the United Nations Office for Project Services (UNOPS).

6. **Project design and objectives.** The two regions differ significantly in terms of population density and pressure on natural resources. Yet there are considerable analogies in the design of the two projects. Both aim at improving food security and increasing the income of smallholders in the regions and have similar components, including: (a) capacity building to strengthen project delivery and management skills of key implementing agencies; (b) water resources development (rehabilitation of dams, formation and support to Water Users Associations, catchment area protection, and demonstration/promotion of manually-operated tube wells); (c) agricultural development, including a programme of farmer training and demonstrations, support technology generation and research/studies, marketing and processing, and livestock development; (d) promotion of income generating activities through the supply of rural financial services; and (e) rural infrastructure comprising rural road rehabilitation and the construction of hand-dug wells for potable water and latrines. According to the appraisal reports, the targeting process would start with the selection of communities (based on community demand, feasibility technical surveys and participatory wealth-ranking methods) and would be inclusive (i.e. no restriction to participation, based on income or assets) for all households within the selected communities.

⁴ Income-based estimates, Ghana Poverty Reduction Strategy, 2003. Usual *caveats* on income-based estimates for rural areas apply also to this case.

⁵ In 1996 the Office of Evaluation (OE) of IFAD carried out the Interim Evaluation of the first phase of LACOSREP. It expressed a number of recommendations, including: (a) the need to develop and strengthen the Water Users Association concept; (b) irrigation technologies to maximise the effective use of water and thereby maximise irrigation area; (c) IFAD to support existing institutions conducting research programmes; (d) lack of funding should not hinder the livestock component; (e) formal credit institutions should continue to play an active role in loan delivery to target groups; and (f) an overall M&E programme should be prepared for the second phase of the project.

III. Evaluation Approach and Methodology

7. The evaluations will follow the IFAD Methodological Framework for Project Evaluation (MFE), which includes three main evaluation criteria and a series of key questions. The three criteria are: (a) rural poverty impact; (b) performance of the project, including an assessment of the relevance of project objectives, efficiency and effectiveness; and (c) performance of key partners, including IFAD, the Government of Ghana along with the relevant departments at the various administrative levels, and the concerned grassroots organisations involved in project operations. The evaluations will also pay emphasis to assessing the contribution of the projects to IFAD's policy dialogue efforts, partnership building, and promoting innovative approaches that can be replicated and up-scaled.⁶

8. The evaluation of the **impact on rural poverty** will encompass six domains of impact (when applicable to the projects): (i) household assets (physical and financial), (ii) human assets (education and health), (iii) social capital (people's organisations, social network and empowerment), (iv) food security, (v) environment and natural resources and (vi) institutions and policies. Over-arching factors to be considered across these domains are: sustainability, innovation/replicability and scaling up, and gender and women empowerment.⁷

9. The above will require some analysis at the macro, meso and micro (household) level. First, the evaluation will briefly review the agricultural development policies and the regulatory framework in the small-scale irrigation sub-sector and in the rural finance sector at the national level, the extent to which they were providing "compatible incentives" to enhance the performance of the programme, the consistency of the programme design to the existing policies and strategies in the rural sector and, conversely, the programme's contribution to the sub-sectoral policies (i.e. the changes that it induced at the national policy level and its coordination with programmes supported by other donors). The evaluation will also take into account the decentralisation framework in which the two projects have operated.⁸

10. Second, the evaluation will focus on the meso level. The latter comprises (i) community organisations, (ii) local (i.e. regional/district) government agencies and (iii) banks. At the community level supported or created by the programme (meso-level), such as the water users associations (WUAs) and seed growers associations. In particular, concerning WUAs, the issues to be considered will comprise: (i) the steps taken in supporting WUAs (e.g. uniform upgrading from informal to formal associations vs more flexible approaches); (ii) the effectiveness of their governance structure (motivation and legitimacy of management committees, their ability to diagnose and respond to needs and problems, conflict prevention and resolution); (iii) their outreach (breadth, poverty depth, women's participation), (iv) the services offered (and their relevance / acceptance to the members); (v) their financial sustainability (capacity to cover part of the recurrent and rehabilitation costs); and (vi) effectiveness in the management of natural renewable resources (e.g. soil conservation). Another aspect of the meso-level analysis pertains to the capacity building for regional and district-level project implementation agencies (e.g. improved ability to interact with poor communities in a truly participatory manner and provide services that are adapted to local conditions and constraints). Regarding banks, the evaluation will adopt standard CGAP tools to assess the quality of their credit portfolio, efficiency, profitability and suitability of financial products to clients' needs.

⁶ Attention will be paid to a new approach for supporting communities, now being tested in the IFAD-funded Northern Region Poverty Reduction Programme (NORPREP) and that may be considered for replication in the Upper East and Upper West Regions.

⁷ A complete list of impact questions is provided in the MFE.

⁸ To the extent possible, reference will be made to the lessons learned from a recent IFAD thematic evaluation on decentralisation in Eastern Africa.

11. Third, the evaluation will study the changes in households' welfare that can be attributed to the programme.⁹ The evaluation team will respond to the questions included in the MFE, adapting them as required so as to meet the specific circumstances of the two projects (e.g. Box 1). Sustainability, innovation and replicability of interventions will be overarching issues to be considered.

Box 1. Specific Evaluation Questions

- To what extent were the various project components (irrigation, extension, livestock development, rural finance and infrastructure development) integrated during implementation to maximize results, i.e. working in synergy rather than in isolation?
- To what extent has the project been pro-active/efficient in reaching very poor households? How was the process of identification of the target group (communities and households) carried out, and did it affect the cohesion of village communities?
- What was the process of creation of water users' associations (participatory? inclusive of all household segments?) Were traditional water management associations taken into account?
- To what extent can the water management approach be considered efficient and sustainable? Are related maintenance costs bearable by the WUA, or by the regular budget of Government agencies?
- Were research and extension activities in line with farmers' needs? What methodologies have been used for extension services, and to what extent have these been adapted to the needs of rural households and developed in consultation with farmers?
- Did the project contribute to improved access to financial services? What financial services were offered to farmers (loans, savings, insurance) and to what extent did they match the clients' needs (e.g. seasonal cash flow)? Did lending methods ensure repayment discipline and were financial operations profitable (net of subsidies)?
- Were the projects successful in promoting food security? To what extent was the project effective in improving risk management strategies to ensure adequate food supply to households across seasons?
- Did the project contribute to improving opportunities for market access (physical access, information, storage of products)?
- To what extent was the project effective to ensure women's participation during design and implementation, and what degree of development was achieved for poor women?

12. The evaluation of the **programme performance** will involve the assessment of (i) the relevance of the programme's objectives (i.e. was it justified to apply a similar project design in two different agro-ecological contexts? Were the project objectives consistent with the needs of the rural poor, and did they adapt to changing priorities?); (ii) the effectiveness of the intervention (were the major objectives reached at the time of the evaluation?); (iii) the efficiency (to what extent did the programme achieve, or is expected to achieve, benefits that are commensurate to inputs, based on costs of alternative options and good practices?) to be measured in terms of cost of service provision per household, but also with some analysis of economic internal rates of return for a sample of schemes; and (iv) the sustainability of the programme (the foreseen capacity to provide services to the intended users after its official closure).

13. The latter issue would comprise the following inter-related notions: (i) the technological dimension (e.g. the cost per ha and the rate of obsolescence / depreciation of the small dam irrigation infrastructure); (ii) the capacity of management committees of WUAs to maintain high level of motivation and enforce rules among members; (iii) the setting up of mechanism to negotiate and settle disputes over the use of water with other (upstream and downstream) communities of users; (iv) the capacity of WUAs to continue raising adequate financial resources to cover maintenance / rehabilitation costs; (v) the adoption of medium / long-term soil conservation practices to maintain

⁹ With very few exceptions, the contribution from an individual programme is only partially separable from other changes generated by other interventions in adjacent areas or from other transient or structural changes in the local socio-economic context. In spite of this inevitable and universal limitation, it is expected that some "weight" could be attributed to the implementation of SCP-II.

fertility, and control the risk of soil loss, siltation and salinisation; and (vi) the elaboration of an exit strategy to progressively reduce (although perhaps not eliminate) the reliance on public service for the provision of inputs and extension services and support to market access.

14. The evaluation of the **performance of partners** will analyse to what extent IFAD and the programme implementation agencies ensured a sound programme design, facilitated stakeholder participation, effectively supported implementation, and provided for participatory evaluation, learning partnerships and adoption of lessons. Attention will be given to the assessment of the supervision provided by UNOPS in terms of: (i) timeliness and frequency of supervision missions; (ii) mix of expertise and analytical skills; (iii) balance in the attention devoted to the monitoring of procedural requirements (e.g. procurement and audit), of physical outputs and the assessment of impact achievements; (iv) adequacy of geographic coverage; and (v) effectiveness in formulating and following up recommendations. The overall quality of partnership will also be assessed.

15. In order to keep a balance in the analysis, it will be very important to take into account the objective difficulties and institutional constraints in which all partners (the Government of Ghana, IFAD and UNOPS) have been operating during project design and implementation.

16. **Sources.** The sources of the findings will be based on a “triangulation” of evidence from

- a. desk review of the available programme documents and socio-economic literature;
- b. review of secondary data;
- c. the collection of primary data (quantitative and qualitative);
- d. interviews with staff and key informants.

Primary data will be collected during the mission, through a mix of focus group discussions, case studies and a mini-survey (about 200 – 300 households). The detailed primary data collection methodology and tools will be defined at the time of the reconnaissance mission (see below).

IV. The Partnership Involved and the Evaluation Process

17. IFAD’s Evaluation Policy, while underscoring the need for independence, recognises the importance of adequately involving the main stakeholders throughout the evaluation process. This is fundamental in order to ensure full understanding by the evaluators of the context, the opportunities and constraints faced by the implementing organisations, fully engage the stakeholders in a fruitful collaboration and facilitate the discussion of the recommendation and their adoption. In order to do so, the evaluation will first identify the stakeholders to be involved in the evaluation process in order to form a “core learning partnership”, the main users of the evaluation.¹⁰

18. At this stage, it is proposed that the core learning partnership would include representatives of: (i) the Ministry of Food and Agriculture of Ghana (MoFA) at the central level, (ii) Regional Deputy Ministers, MoFA, (iii) project management (Project Directors), (iv) UNOPS, (v) IFAD Regional Division for West and Central Africa (PA) and (vi) IFAD Office of Evaluation.¹¹

19. A proposed time schedule of the evaluation process and interactions with partners is presented in the work plan below. A draft approach paper will be shared with the partners in March 2005. The lead evaluator from OE, accompanied by the OE Evaluation Information Officer, will undertake a reconnaissance mission to Ghana in April 2005 to familiarise themselves with key evaluation issues, brief the members of the core learning partnership about the evaluation and discuss with them the draft approach paper, refine the key evaluation questions and define the primary data collection

¹⁰ See the IFAD Evaluation Policy, p. 9, paragraph 33.

¹¹ Other agencies involved in project implementation such as other donors, the Irrigation Development Authority, the participating banks, the Department of Feeder Roads and the NGOs involved in road rehabilitation will form a broader partnership and kept adequately informed at all crucial evaluation steps

methodology. At this time agreements will be made with the two project directors to prepare a short project self-assessment for discussion during the main mission.¹²

20. Taking into account the recommended time frame for the evaluation, OE's commitments and the availability of consultants, it is suggested that one evaluation team would be conducting field visits to the two projects from the second half of May to the end of June 2005. Apart from practical needs, this arrangement will ensure that: (i) a consistent evaluation approach is adopted for the two projects and (ii) opportunities for learning from both projects are exploited. After initial briefing meetings in the capital, the mission will start its visits in the UER, where LACOSREP II has been implemented. Although LACOSREP II has started after UWADEP, the former is a second project phase and there is presumably longer experience with the project approach in the Upper East Region. To benefit from this experience, the mission will visit selected LACOSREP I sites in addition to those developed under LACOSREP II. This is important, keeping in mind the typical long gestation period (in the range of 8-12 years) of small-scale irrigation interventions, before benefits fully accrue to farmers. At the conclusion of these visits, the evaluation team will present and discuss a short debriefing note with the project management team and the representatives of the executing agencies.

21. The team will then proceed to the Upper West Region and visit the UWADEP sites. At the conclusion of the visit a short debriefing note will be shared and discussed with the project management and the relevant agencies. Before the conclusion of the field mission a **synthesis wrap-up workshop** will be organised in a more 'central' location (Tamale in the Northern Region or Accra), with representatives of stakeholders from the two projects and from the central government (30 June 2005). The objectives of this workshop will be to (i) compare the first findings from the two projects, and (ii) discuss and cross-disseminate the first insights with the two groups of stakeholders. After the conclusion of the mission, it is planned for the team leader to conduct meetings for one-two days with key staff in charge of the Northern Region Poverty Reduction Programme (NORPREP) funded by IFAD in the Northern Region of Ghana, to gain insights on a new approach that IFAD may consider to extend to the Upper East and Upper West Regions in the future.

22. **Mission composition.** The mission will include (i) one mission leader (international specialist), anthropologist, with extensive experience in rural development, natural resource management and project evaluation in Ghana; (ii) an irrigation infrastructure and water management specialist (international but based in Ghana), (iii) a farming system and agricultural extension specialist (international, with several years of experience in Ghana), (iv) a rural finance specialist (local), (v) a rural sociologist and (vi) a statistician (local) for primary data collection, to be assisted by a team of local enumerators (University students).¹³ The lead evaluator will join the mission during the initial field visits and attend the synthesis wrap-up workshop to provide guidance and ensure OE's full understanding of the evaluation's findings.

23. **Communication strategy.** Following the requirements of the evaluation policy, the evaluation team will prepare two reports – one per project – and a set of technical annexes, which will be submitted to the partners for their comments in September 2005.¹⁴ At the end of the evaluation process, a joint LACOSREP and UWADEP **final evaluation workshop** will be organised in the country (Tamale or Accra) to elicit the partners' consensus on the main recommendations. This workshop will be the basis to prepare the 'Agreement at Completion Point', a document which illustrates the stakeholders' understanding of the evaluation, findings and recommendations, their

¹² This is a requirement of the Evaluation Policy. To avoid excessive workload, the projects will not be required to prepare long essays. The self-evaluations could consist of visual (e.g. PowerPoint or transparencies) presentations or hand-outs. The self-evaluation should encompass the same evaluation categories adopted by IFAD-OE and should mention the sources available to substantiate findings. A simplified self-evaluation format will be provided by OE.

¹³ With the exception of the mission leaders, the other mission members will 'swap' between the two project areas.

¹⁴ The team will immediately rectify in the main text any factual inaccuracy identified by the partners. Judgements that differ from those of the evaluation team may be recorded as notes to the main report.

proposal to implement them and their commitment to act upon them. This document will be published along with the evaluation report.

24. In order to facilitate the dissemination of lessons learned, in addition to the printing of the report and annexes¹⁵, the Office of Evaluation of IFAD will also produce an “evaluation profile”: a two-page document summarising the key conclusions from the evaluation in a reader-friendly format, with the objective of providing a ‘taste’ of the evaluation and thereby encouraging a broader audience to read the report. The main report and the profile will also be available and freely downloadable from the IFAD internet website (www.ifad.org/evaluation/list_eval.asp).¹⁶

25. The evaluation team may also consider other supplementary communication tools to be explored in consultation with partners, such as: (i) targeting specific segments of the readership by publishing customised evaluation-related material in periodical and electronic journals, and (ii) organising feed-back sessions in the field for the programme beneficiaries. However, these additional tools, if adopted, might require the collaboration and further funding from the interested partners.

26. **Work Plan.** The proposed timeframe for the evaluation process is as follows:

i. Communication to partners at the country level	Mid- February 2005
ii. Distribute draft Approach Paper	Mid- March 2005
iii. Reconnaissance mission	10-18 April 2005
iv. Briefing with consultants in Rome	3-4 May 2005
v. Finalise the Approach Paper and TOR	End of April 2005
vi. Evaluation mission	20 May – 30 June 2005
vii. Synthesis wrap-up workshop	30 June 2005
viii. Draft report shared with partners	End September 2005
ix. ACP Workshop	9 November 2005
x. Final report distributed	22 December 2005

¹⁵ Annexes will be available upon request.

¹⁶ The report will be posted on the internet IFAD website after the Agreement at Completion Point has been finalised.

Appendix 2 - Table A

<i>Evaluation Framework</i>							
Level	Impact Domain	Project Components	Summary evaluation's questions				Collection methods
			Relevance	Effectiveness	Efficiency	Sustainability	
<i>Macro</i>	<u>MFE Impact Domain 6</u> National policies (Agriculture, Food Security, Small-scale Irrigation)	-	Consistency to national policies and feedback to policies?		Review of existing documents/ literature, interview with key government staff		
<i>Meso</i>	<u>MFE Impact Domains 6 and 3</u> - Capacity of project agencies (region and district)	<i>Component (a)*</i> Training modules	Effectiveness of training (staff better able to target/interact with and serve poor clients?)		Interviews to key informants, review of training material		
	- Knowledge and capacity of communities/water users associations (social capital), seed growers associations	<i>Component (b)</i> PRA, sensitisation, group training, special sensitisation for women	Organisation of WUA and seed growers associations, governance, outreach, conflict resolution, financial performance, effectiveness in management of natural resources, interaction with Government agencies		Focus group discussion/ case studies		
	Banks:		Quality of banks' credit portfolio, efficiency, profitability and suitability of financial products to clients' needs		Financial accounts of banks, interviews with banks staff, interviews with users		
		<i>Component (d)</i> Refinancing facility, training for bank staff, vehicles					
<i>Micro</i>	<u>MFE Impact Domains 1,2,4 and 5</u> - food security - household assets (physical and financial)	<i>Component (b)</i> Rehabilitation of small dams/construction of dugouts to intensify agriculture (trough irrigation), increase yields and control drought risk.	Trends and abs. values in cropping rates, change in cropping systems, yields, household assets, net hh monetary income, proxy of hh food security		<i>Hh mini-surveys/focus group</i>		
		<i>Component (c)</i> Research, improved seed production (private growers), extension and agronomic packages	Adoption of improved varieties, changes in agricultural and soil management practices		<i>Hh mini-surveys/focus group/individual interviews</i>		

		<p><i>Component (c)</i> Provision of improved sheep and poultry breeds, veterinary services</p> <p><i>Component (d)</i> Provision of financial services (credit)</p> <p><i>Component (e)</i> Rehabilitation of feeder roads</p>	<p>Adaptation of Imported breeds to local feed and health conditions, revenues from animal products</p> <p>Use of loans, suitability of loans, credit discipline, trends in hh assets and income</p> <p>Matching of infrastructure with other project components, increased market access (distance, costs, information, market structure) of products</p>	<p><i>Hh mini-surveys/focus group/individual interviews</i></p> <p><i>Hh mini-surveys/focus group/individual interviews</i></p> <p><i>Review of documentation, interviews with key informants</i></p>
	- human assets (education and health)	<p><i>Component (c)</i> Knowledge of sound livestock land and water management practices</p> <p><i>Component (e)</i> Construction of latrines and wells for potable water</p>	<p>See above on adoption of varieties and practices; evidence on health trends</p> <p>Increased women's economic independence mobility and decision making</p>	<p><i>focus group, interviews with key informants</i></p>
	<i>environment and natural resources</i>	<p>Component (b) <i>Catchment area protection to control soil erosion and siltation of canals in irrigated schemes</i></p>	<p><i>Effectiveness of soil management</i></p>	<p><i>Field visits, focus group, interviews with key informants</i></p>

- The numbering refers to the classification on p. 2 of this Approach Paper.

Appendix 2 - Table B

Background Information on the Project Areas

	Land		Population		Pop. Density	Poverty Prevalence
	Size (sq km)	% of total	No. (millions)	% of total	Pers./sq. km	<i>No. (in millions)</i>
Ghana	238 537	100	18 845 265*	100	87.7	40%
UER	8,842	3.7	919 549*	4.9	115	88%
UWR	18,476	7.7	575 579*	3.0	31	84%

Data extrapolated from World Bank Development Indicators 2004 and African Development Indicators 2004.

* Data from 2000 census.

Impact and Effectiveness Matrices

Introduction to Impact and Effectiveness Matrices

As required by IFAD’s Methodological Framework for Evaluation (MFE), two matrices are presented, for impact and effectiveness respectively. In presenting these matrices, the evaluation team has a number of important reservations. First, LACOSREP is a complex project, working across many communities in UER. Consequently, it is unrealistic to generalise across the project in a number of impact areas. Second, in the absence of a monitoring system that gives credible results, the quantification of impact needs to be viewed sceptically.

In the “M/F” column, M signifies male dominated, F signifies female dominated, and M/F signifies that both benefit

The entries to the matrices include the following abbreviations: N/A – not applicable (either irrelevant to this project, or to this evaluation); blank – no data.

IMPACT MATRIX

MAIN DOMAINS OF IMPACT	Key Questions for Impact Assessment in Rural Communities Affected by the project (changes to which the project has contributed)	Assessment of Change (1)				Reach of Change (3)				Dynamic Processes ** (4)	Sus. Pot. *** (5)
		Presence and direction of change (+) (0) (-)	What has changed (Indicators)	Extent of Change		How many (households and people)	Who (1) (Poor/ poorest/ better off)	Who (2) M/F	Project contribution 4/3/2/1	4/3/2/1	4/3/2/1
				How much	(Rating)* 4/3/2/1						
I. Physical and financial assets	1.1 Did farm households’ physical assets change (i.e. farmland, water, livestock, trees, equipment, etc.)?	+	irrigation infrastructure; animal housing	n/a	5	n/a	poor	M/F	5	3	5
	1.2 Did other household assets change (houses, bicycles, radios, etc.)	+	tin roofs, bicycles, radios etc.	n/a	5	n/a	all	predominantly men	5	2	4
	1.3 Did infrastructure and people access to markets change? (transport, roads, storage, communication facilities, etc.)	+	roads	75 km.	4	n/a	all	all	3	2	4
	1.4 Did households’ financial assets change? (savings etc)	n/a	cash income	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1.5 Did rural people access to financial services change? (credit, saving, insurances, etc.)	+	access to credit	€18.4 billion	4	1001 groups (10,251 people)	n/a	F	4	2	2

MAIN DOMAINS OF IMPACT	Key Questions for Impact Assessment in Rural Communities Affected by the project (changes to which the project has contributed)	Assessment of Change (1)				Reach of Change (3)				Dynamic Processes ** (4)	Sus. Pot. *** (5)
		Presence and direction of change (+) (0) (-)	What has changed (Indicators)	Extent of Change		How many (households and people)	Who (1) (Poor/ poorest/ better off)	Who (2) M/F	Project contribution 4/3/2/1		
				How much	(Rating)* 4/3/2/1						
	3.5 Did rural producers feel empowered vis-à-vis the market place? Are they in better control of inputs supply and marketing of their products?										
IV. Food Security (Production, Income and Consumption)	4.1 Did children's nutritional status change?	n/a									
	4.2 Did household food security change?	+	dry-season crops, more land cultivated	n/a	5	n/a	all	all	5	4	4
	4.3 Did farming technology and practices change?	+	dry-season crops,	n/a	5	n/a	all	all	5	4	4
	4.4 Did the frequency of food shortage change?	n/a				n/a					
	4.5 Did agricultural production change (area, yield, production mix, etc.)?	+	dry-season crops	n/a	4	n/a	all	Women obtained parcels of land	5	4	4
V. Env't. & common resources	5.1 Did the natural resource base status change (land, water, forest, pasture, fish stocks...)?	+	dry-season cropping land, tree-planting	n/a	5	n/a	all	all	5	4	4
	5.2 Did exposure to environmental risks change?	+	catchment protection	n/a	5	n/a	all	all	5	4	4
VI. Institutions, policies, and regulatory framework	6.1 Did rural financial institutions change?	+	credit groups, rural banks	n/a	+2	n/a	all		3	1	1
	6.2 Did local public institutions and service provision change?	0			1						
	6.3 Did national/sectoral policies affecting the rural poor change?	0			1						

MAIN DOMAINS OF IMPACT	Key Questions for Impact Assessment in Rural Communities Affected by the project (changes to which the project has contributed)	Assessment of Change (1)				Reach of Change (3)				Dynamic Processes ** (4)	Sus. Pot. *** (5)
		Presence and direction of change (+) (0) (-)	What has changed (Indicators)	Extent of Change		How many (households and people)	Who (1) (Poor/ poorest/ better off)	Who (2) M/F	Project contribution 4/3/2/1		
				How much	(Rating)* 4/3/2/1						
	6.4 Did the regulatory framework affecting the rural poor change?	0									

* Rating: 4= High; 3= Substantial; 2= Modest; 1= Negligible. The rating here is based on the rural poor (and their partners) perspective in relation to the situation in the base year. *** Rating: 4= Highly likely, 3= Likely; 2= Unlikely; 1= Highly Unlikely.** This refers to cases where even though impact achievement is modest or negligible, the project in question has set in motion dynamic positive processes that will eventually lead to substantial impact achievement. The identification of the existence of these processes is left to the evaluator's judgment on a case by case basis.

PROJECT EFFECTIVENESS MATRIX

MAIN DOMAINS OF IMPACT	Key Questions for Impact Assessment in Rural Communities Affected by the project (changes to which the project has contributed)	Expectation of Impact (Project Stated Objectives)				Effectiveness Rating (Achievement Against Stated Objectives) 4/3/2/1			
		Reach Who?	Change What?	Change How Much?	Reach how Many?	Reach Who?	Change What?	Change How Much?	Reach how Many?
I. Physical and financial assets	1.1 Did farm households' physical assets change (i.e. farmland, water, livestock, trees, equipment, etc.)?	Rural people	(a) and (b) crop yields, income, nutrition, (d) access to food – through intensification, diversification, commercialisation, (c) soil conservation			5	5	5	5
	1.2 Did other household assets change (houses, bicycles, radios other durables, etc.)	Rural people	Not specified			4	4	4	4
	1.3 Did infrastructure and people access to markets change? (transport, roads, storage, communication facilities, etc.)	Rural people	Access to markets via new roads			4	4	4	4
	1.4 Did households' financial assets change? (savings etc)	Rural people	Incomes from cash cropping			2	2	2	2
	1.5 Did rural people access to financial services change? (credit, saving, insurances, etc.)	Rural people	Access to credit			2	2	2	2
II. Human Assets	2.1 Did people access to potable water change?	Rural people	More drinking water			3	3	3	3
	2.2 Did access to basic health and disease prevention services change?	No	n/a			2	2	2	2
	2.3 Did the incidence of HIV infection change?	n/a	n/a						
	2.4 Did maternal mortality change?	n/a	n/a						
	2.5 Did access to primary education change?	n/a	n/a						
	2.6 Did primary school enrolment for girls change?	n/a	n/a						
	2.7 Did women and children workload change?	Women farmers	Women can grow vegetables more easily.						
	2.8 Did adult literacy rate and/or access to information and knowledge change?	Farmers	Literacy in local languages, improved agricultural techniques			5	5	5	5
III Social capital and people empowerment	3.1 Did rural people organisations and institutions change?	Irrigation farmers	Establishment of WUAs, FLGs			4	4	4	4
	3.2 Did social cohesion and local self-help capacity of rural communities change?	Irrigation farmers	WUAs and FLGs show sustainability			5	5	5	5
	3.3 Did gender equity and/or women's conditions change?	Women farmers	Women's skills and incomes, family nutrition						
	3.4 Did rural people feel empowered vis-à-vis local and national public authorities and development partners? (Do they play more effective role in decision making?)	Irrigation farmers	No						

MAIN DOMAINS OF IMPACT	Key Questions for Impact Assessment in Rural Communities Affected by the project (changes to which the project has contributed)	Expectation of Impact (Project Stated Objectives)				Effectiveness Rating (Achievement Against Stated Objectives) 4/3/2/1			
		Reach Who?	Change What?	Change How Much?	Reach how Many?	Reach Who?	Change What?	Change How Much?	Reach how Many?
	3.5 Did rural producers feel empowered vis-à-vis the market place? Are they in better control of inputs supply and marketing of their products?	Farmers	Commercialisation is increasing anyway. Mobile phones and transport improves marketing						
IV. Food Security (Production, Income and Consumption)	4.1 Did children nutritional status change	Irrigation households	Greater consumption of vegetables						
	4.2 Did household food security change?	Irrigation households	Increased production, increased incomes			4	4	4	4
	4.2 Did farming technology and practices change?	(a) Irrigators (b) Women	(a) More efficient and more extensive irrigation (b) Vegetable production						
	4.3 Did the frequency of food shortage change?	Irrigation households	Dry season crops reduce hungry season						
	4.4 Did agricultural production change (area, yield, production mix, etc.)?	Rural people	Increased irrigation command area, yields, diversity of crops, composting, crop rotation						
V. Environment and common resources	5.1 Did the natural resource base status change (land, water, forest, pasture, fish stocks...)?	Farmers in catchment	Irrigated land increased, fish stocks increased						
	5.2 Did exposure to environmental risks change?	Farmers in catchment	Catchment protection implemented			4	4	4	4
VI. Institutions, policies, and regulatory framework	6.1 Did rural financial institutions change?	Rural people	Credit groups formed			2	2	2	2
	6.2 Did local public institutions and service provision change?	No							
	6.3 Did national/sectoral policies affecting the rural poor change?	No				2	2	2	2
	6.4 Did the regulatory framework affecting the rural poor change?	No				2	2	2	2

Bibliography

Official Documentation

- Assante, E.O. (Nana) and Dr. Kannae, L.A. (2003), *Impact Assessment of Upper West Agricultural Development Project*, Achimota (Ghana).
- IFAD (1996), *Republic of Ghana, Country Portfolio Evaluation Report (Volume 1, 2 and Executive Summary)*, Rome (Italy).
- IFAD (1998), *Republic of Ghana, Country Strategic Opportunities Paper*, Rome (Italy).
- IFAD (2001), *Republic of Ghana, Report and Recommendation of the President to the Executive Board on a Proposed Loan to the Republic of Ghana for the Northern Region Poverty Reduction Programme* (Executive Board – Seventy-Fourth Session, Rome (Italy).
- IFAD (2004), *IFAD Approach to Community Driven Development in West and Central Africa* (draft), Rome (Italy)
- Messer, N. (2003): “A Brief Institutional Assessment of Water User Associations in Northern Ghana: Early Stages of Pro-poor Local Institutional Development in Irrigated Smallholder Agriculture”, Working Paper 2, Ghana Country Portfolio Stocktaking Exercise and Strategy Mission (draft), IFAD, Rome (Italy).
- Nyari, B.S (no date): “Poverty and Access to Land and Water Resources in the Upper East and West Regions of Ghana”, Working Paper 3, Ghana Country Portfolio Stocktaking Exercise and Strategy Mission (draft), IFAD, Rome (Italy).
- WORLD BANK (1999), *Republic of Ghana, Reducing Poverty Through Improved Agriculture*, (Main Report) Prepared By the Government of Ghana for the Tenth Meeting of the Consultative Group for Ghana, Accra (Ghana).

Upper East Region Land Conservation and Smallholder Rehabilitation Project

- IFAD (1998), *Republic of Ghana: Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Appraisal Report (Volume 1 and 2), Rome (Italy).
- IFAD (1998), *Republic of Ghana: Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Interim Evaluation (Volume 1), Rome (Italy).
- Project Coordination Unit (2001), *MoFA/IFAD: Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Bolgatanga (Ghana).
- Project Coordination Unit (2002), *MoFA/IFAD: Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Bolgatanga (Ghana).
- Republic of Ghana, Ministry of Food and Agriculture/International Fund for Agricultural Development (2003), *Upper East Region Land Conservation and Smallholder Rehabilitation Project Second Phase* (Volume 1 and 2), Mid-term Review, Kumasi (Ghana).
- UNOPS (2000), *Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Supervision Report, Abidjan (Côte d’Ivoire).

UNOPS (2001), *Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Supervision Report, Abidjan (Côte d'Ivoire).

UNOPS (2002), *Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Supervision Report, Abidjan (Côte d'Ivoire).

UNOPS (2002), *Upper East Region Land Conservation and Smallholder Rehabilitation Project Second Phase*, Supervision Report, Abidjan (Côte d'Ivoire).

UNOPS (2003), *Upper East Region Land Conservation and Smallholder Rehabilitation Project*, Supervision Dakar (Senegal).

Socio-Economic Literature

Abdulai, Awudu & Christopher L. Delgado 1999. Determinants of Non-farm Earnings of Farm-Based Husbands and Wives in Northern Ghana. *American Journal of Agricultural Economics*, 81(1):117-130.

Abdulai, Awudu & Wallace Huffman 2000. Structural Adjustment and Economic Efficiency of Rice Farmers in Northern Ghana. *Economic Development and Cultural Change*, 48(3): 503-520.

Adongo, Philip B., James F. Phillips, Fred N. Binka 1998. The Influence of Traditional Religion on Fertility Regulation among the Kassena-Nankana of Northern Ghana. *Studies in Family Planning*, 29(1): 23-40.

Adu, S.V. 1972. Eroded savannah soils of the Navrongo-Bawku area. *Ghana Journal of Agricultural Science*, 5:3-12.

Ahenkorah, Y., Amatekpor, J.K., Dowuona, G.N.N., Yentumi, S.D. (1994), "Soil And Water Resources Of Ghana. Their Conservation, Management And Constraints To Their Utilization For Sustainable Development", *United Nations University Institute For Natural Resources In Africa*", Accra (Ghana).

Al-Bagdadi, H. (2002): *Microfinance Associations, The Case of the Microfinance Institutions Network*, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) gMBh, Eschborn (Germany).

Alebikiya, M.A. 1988. *Equity and the transformation of peasant agriculture: the case of the church agricultural stations in northern Ghana*. MA dissertation. The Hague: Institute of Social Studies.

Alebikiya, M.A. 1993. The Association of Church Development Projects (ACDEP) in Northern Ghana. In *Non-Governmental Organisations and the State in Africa*. K. Wellard and J.G. Copestake eds. 195-201. London: Routledge.

Amankwa, J.A., Agana-Nsiire, P., Yelifari, L. & S. Samari 2003. *Prevalence studies on schistosomiasis and soil-transmitted helminths in the Upper East Region*. Unpublished report. Bolgatanga: Ghana Health Service.

Amanor, K., Denkabe, A. and K. Wellard. 1993. Ghana: country overview. In: *Non-Governmental Organisations and the State in Africa*. eds. K. Wellard and J.G. Copestake. 183-194. London: Routledge.

Amanor, K.S. 1996. *Managing Trees in the Farming System: the perspectives of farmers*. Ghana: Forestry Department.

- Anafu, M. 1973. The impact of colonial rule on Tallensi political institutions, 1898-1967. *Transactions of the Historical Society of Ghana*, 14,1:17-37.
- anon. 1983. *The Northern Region, Ghana. Vol. I. A descriptive Overview*. NORRIP Technical Unit.
- anon. 1992. Soil degradation: a threat to Ghana. A case of the Upper East Region. *Green Forum I*. Accra: UNSO.
- anon. 1995. Deforestation in the North - Rural Forestry to the rescue. *Environment World Quarterly*, 3:8-10.
- Appa Rao, S. Melak M. Mengesha and D. Sharma. 1985. Collection and Evaluation of Pearl millet (*Pennisetum americanum*) germplasm from Ghana. *Economic Botany*, 39:25-38.
- Armstrong, R. P. (1996), *Ghana Country Assistance Review, A Study in Development Effectiveness*, (A World Bank Operations Evaluation Study), The World Bank, Washington D.C. (USA).
- Aryeetey, E. 1985. *Decentralising Regional Planning in Ghana*. Dortmunder Beiträge zur Raumplanung 42, Dortmund, Germany.
- Aryeetey, E., Harrigan, J., Nissanke, M., (eds) 2000. *Economic Reforms in Ghana. The Miracle and the Mirage*. Oxford, UK.
- Asenso-Okyere, W., S.Y. Atsu & Irene S. Obeng 1993. *Communal property resources in Ghana: policies and prospects*. Discussion Paper 27. ISSER, Legon, Ghana.
- Ashie Kotey, E.N. 1992. *Land and tree tenure and rural forestry in the savannah areas of Ghana: the report of a study*. Huntings Technical Services.
- Aubréville, A. 1939. Forêts reliques en AOF. *Revue Botanique appliquée*, 19:479-484.
- Bayor, 2005. *Field survey: Impact of IFAD projects UWADEP and LACOSREP II*. ms. Tamale: Ghana.
- Barker, Peter. 1986. *Peoples, languages and religion in Northern Ghana*. Asempa Publishers for Ghana Evangelism Committee.
- Bening, R.B. 1975a. Colonial development policy in northern Ghana. *Bulletin of the Ghana geographical association*, 17:65-79.
- Bening, R.B. 1975b. Foundations of the modern native states of northern Ghana. *Universitas (Ghana)*, 5,1:116-138.
- Bening, R.B. 1976. Land tenure and the traditional agriculture of the Sissala. *Bulletin of the Ghana geographical association*, 18:15-34.
- Bening, Raymond B. 1967. *The traditional Native agriculture of the Sissalas*. Legon, University of Ghana: Unpublished BA dissertation.
- Benneh, G. 1972. The response of farmers in Northern Ghana to the introduction of mixed farming: a case study. *Geografiska Annaler*, Series B, 54,2:95-103.
- Benneh, G. 1973a. Land tenure and farming systems in a Sissala village in Northern Ghana. *Bulletin de l'IFAN*, !!: 361-379.

- Benneh, G. 1973b. Water requirements and limitations imposed on agricultural development in Northern Ghana. In: I.M. Ofori *Factors of agricultural growth in West Africa*. 71-81. Legon, Ghana: Institute of Statistical, Social and Economic Research.
- Benneh, G. 1973c. Population and food production in a northern savannah village of Ghana. *Food and nutrition in Africa (Ghana)*, 12:134-146.
- Benneh, G. 1976. Communal land tenure and the problem of transforming traditional agriculture in Ghana. *Journal of Administration Overseas*, XV:26-33.
- Benneh, G. 1985. Population, disease and rural development programmes in the Upper East Region of Ghana. In: *Population and Development Projects in Africa*. J.I. Clarke, M. Khogali and L.A. Kosinski eds. 206-218. Cambridge: Cambridge University Press.
- Benneh, G. 1988. Types of farm labour in Northern Ghana. *Research Review*, NS 4(1):28-34.
- Benneh, G. Agyepong, G.T. and J.E. Allotey 1990. *Land degradation in Ghana*. London: Commonwealth Secretariat.
- Blench, R.M. and T. Slaymaker eds. 2002. *Rethinking Natural Resource Degradation in Sub-Saharan Africa: policies to support sustainable soil fertility management, soil and water conservation among resource poor farmers in semi-arid areas: country studies*. Vol. I. Tamale: University of Development Studies.
- Blench, R.M. ed. 1999a. *Natural resource management in Ghana and its socio-economic context*. London: ODI.
- Blench, R.M. ed. 1999b. Agriculture and the environment in northeastern Ghana: a comparison of high and medium population density areas. In: R.M. Blench ed. *Natural resource management in Ghana and its socio-economic context*. 21-43. London: ODI.
- Blench, R.M. 2005a. *LACOSREP II Working Paper: non-beneficiary survey in Upper East Region, Northern Ghana, 2005*. Rome: IFAD. Electronic ms.
- Blench, R.M. 2005b. *LACOSREP II Working Paper: Background conditions in Upper East Region, Northern Ghana, 2005*. Rome: IFAD. Electronic ms.
- Boateng, O. (1995), "The Pattern of Poverty in Ghana 1988-1992, A study based on the Ghana Living Standards Survey", *Ghana Statistical Service*, Accra (Ghana).
- Boone, C. (1998), "State Building in the African Countryside: Structure and Politics at the Grassroots", *The Journal of Development Studies*, 34, 4 p. 1.
- Bradley, P.N. 1991. *Woodfuel, women and woodlots*. London: Macmillan.
- Breth, S.A. (1997), "Women, Agricultural Intensification, and Household Food Security", *Sasakawa Africa Association*, Mexico City (Mexico).
- Brinkman, A. 1990. *Die sozio-ökonomisch Bedeutung der Tierhaltung in kleinbäuerlichen Betrieben der Dagomba in Nordghana*. Diplomarbeit, Universität Göttingen. [English translation also exists in SARI archives, dated 1992].
- Caldwell, J.C. 1967. Fertility attitudes in three economically contrasting rural regions of Ghana. *Economic Development and cultural change*, 15,2:217-238.

- Caldwell, J.C. 1969. *African rural-urban migration: the movement to Ghana's towns*. Canberra: ANU Press.
- Cardinal, A.W. 1925. *The natives of the Northern Territories of the Gold Coast*. London: Routledge.
- Canagarajah, S., Mazumdar, D., Ye, X. (1998), "The Structure and Determinants of Inequality and Poverty Reduction in Ghana," 1988-92, *World Bank*, Washington D.C. (USA).
- Chapman, R. Blench, R.M. Kranjac-Berisavljevic', G. and A.B.T. Zakariah 2003. *Rural radio in agricultural extension; the example of vernacular radio programmes on soil and water conservation in N. Ghana*. AGRen Paper. London: ODI. http://www.odi.org.uk/agren/papers/agrenpaper_127.pdf
- Cheshire, P.J. 1977. *Land use, agricultural production, land tenure and Administration*. Kumasi: Land Administration Centre, UST.
- Chilalah, G.C. 1957. Advances in agriculture in Kusasi, Northern Ghana. *Ghana Farmer*, 1:198-201.
- Chipp, T.F. 1922. *The forest officer's handbook of the Gold Coast, Ashanti and the Northern Territories*. London: Published for the Government of the Gold Coast by the Crown Agents for the Colonies.
- Chitsike, L.T. 1975. *Aspects of agricultural development in North-East Ghana*. Legon: Ph.D. dissertation.
- Clacey, J.L. and Ramsay, J.M. 1955. Land use, soil and water conservation in the northern Territories of the Gold Coast. *African soils*, 3:338-353.
- Cleveland, D.A. 1980. *The population dynamics of subsistence agriculture in the West African savannah: a village in Northeast Ghana*. Ph.D. University of Arizona.
- Cleveland, David A. 1991. Local Strategies, Local Explanations. Migration in West Africa: A Savannah Village Perspective. *Africa*, 61(2): 222-246.
- Collins, W. 1960. Extension work in Kusasi (1932-1959). *Ghana Farmer* 4,2:64-71.
- Coull, G.C. 1929. Foodstuffs in the Dagomba District of the Northern Territories. *Bulletin of the Department of Agriculture of the Gold Coast*, 16:203-215.
- Cowan, G. 1930. A note on mixed cropping in the yam-growing districts of the Northern Territories. *Bulletin of the Department of Agriculture of the Gold Coast*, 22:184-192.
- Dadson, J.A. 1970. *Socialised agriculture in Ghana, 1962-1965*. Ph.D. Harvard University.
- Dadson, J.A. 1973. Farm size and the modernisation of agriculture in Ghana. In I.M. Ofori ed. *Factors of agricultural growth in West Africa*. 193-202. Legon, Ghana: Institute of Statistical, Social and Economic Research.
- Dadzie, K. Q. (2003), "The Effects of Normative Social Belief Systems and Customer Satisfaction on Rural Savings Programs in Ghana", *Management Decision* 41, 3 p. 233.
- Davis, David C. 1987. "Then the White Man Came with His Whitish Ideas...": The British and the Evolution of Traditional Government in Mampurugu. *The International Journal of African Historical Studies*, 20(4): 627-646.

- Davison, R.B. 1954. *Migrant labour in the Gold Coast*. Accra: Department of Economics, Achimota. 41 pp.
- Dery, Benedict G. 1975. Colonial land policy in the Northern territories of the Gold Coast 1900-1957. *Universitas (Ghana)*,4,2:127-142.
- Dery, G.B., Asigri, V.L.L., Bayitaa, A. & A.R. Adam 2004. *Baseline study of intestinal helminthiasis and schistosomiasis in Catholic Relief Service (CRS)/Ghana's school health programme schools, Northern Ghana*. Unpublished report. Tamale: PRDC.
- Devereux, Stephen. 1989. *Food security, seasonality and resource allocation in Northeastern Ghana*. Oxford: M. Phil. thesis.
- Devereux, Stephen. 1992. *Household responses to food insecurity in northeastern Ghana*. Oxford: Ph.D. thesis.
- Devereux, Stephen. 1993. 'Observers are worried': learning the language and counting the people in northeast Ghana. In: *Fieldwork in developing countries*. 43-56. Boulder: Lynne Rienner.
- Dickson, Kwamina B. 1971a. *A historical geography of Ghana*. Cambridge: Cambridge University Press.
- Dickson, Kwamina B. 1971b. Nucleation and dispersion of rural settlements in Ghana. *Ghana Social Science Journal*, 1,1:116-131.
- Dickson, Kwamina B. 1972. Dynamics of agricultural innovation in Northern Ghana. *Ghana Social Science Journal*, 2,2:10-18.
- Diehl, L. and A. Runge-Metzger. 1985. Formen gartenartiger Landwirtschaft in Nordghana. *Entwicklung und Ländlicher Raum*, 19,4:13-16.
- Diehl, L. and L. Sipkens. 1985. The development of mixed cropping technologies in northern Ghana. In: *Appropriate technologies for farmers in semi-arid West Africa*. eds. H.W. Ohm and J.G. Nagy. Indiana: Purdue University.
- Donhauser, F., Baur, H. and A. Langyintuo 1994. *Small holder agriculture in Western Dagbon: a farming system in Northern Ghana*. Nyankpala Agricultural Research Report, 10. Nyankpala.
- Dresch, J. 1945. Les migrations des populations des colonies françaises vers la Gold Coast. *Bulletin de l'Association des Géographes Françaises*, 171-2:84-92.
- Duncan-Johnstone, A.C. et al. 1931. *Enquiry into the Constitution and Organisation of the Dagomba kingdom*. Accra: Government Printer.
- England Philippa 1995. Tree Planting, Sustainable Development and the Roles of Law in Bongo, North-East Ghana. *Journal of African Law*, 39, 2:138-155.
- Engmann, E.V.T. 1975. Migration and population pressure in northern Ghana: a note on methodology. *Bulletin of the Ghana geographical association*,17:38-55.
- Environmental Protection Agency (EPA), 1999. *Environmental Assessment Regulations*. Accra: Ghana Government.
- EPC. 1992. *A socio-economic survey in the Upper East region with reference to drought and desertification control in Ghana*. Report of the Environmental Protection Council, Accra.

- FAO 1998. Aquastat, FAO's Information System on Water and Agriculture. Land and Water Development Division of FAO, Rome. www.fao.org/ag/agl/aglw/aquastat
- FAO, 1967. Land and water survey in the Upper and Northern Regions, Ghana. Final Report, Vol. 3, *Soil Surveys*, Rome, Italy.
- FAO/IFAD. 1989. *Upper East Agricultural Intensification Project*. Preparation Mission, 2 vols. 149/89, IF-GHA. Rome: FAO.
- Finnegan, Gregory A. 1977. A Mamprusi Village. 1944. British Ministry of Information. *American Anthropologist, New Series*, 79(3):748-749.
- Fisheries Department (2005) Work plans for 2004-2006 period, unpublished.
- Fortes, Meyer and S.L. Fortes. 1936. Food in the domestic economy of the Tallensi. *Africa*, 9:237-76.
- Fortes, Meyer. 1943. A note on fertility among the Tallensi of the Gold Coast. *Sociological Review*, 35,2:99-113.
- Fortes, Meyer. 1945. *The dynamics of clanship among the Tallensi*. London: OUP.
- Fortes, Meyer. 1949. *The web of kinship among the Tallensi*. London: OUP.
- GSS [Ghana Statistical Services] 2002. *2002: population and housing census: summary report of final results*. Accra: Ghana Statistical Service.
- Haaf, Ernst 1967. *Die Kusase -eine medizinisch-ethnologische Studie über einen Stamm in Nordghana*. Stuttgart: Gustav Fischer Verlag.
- Hall, S.J.G. ed. 1999. Livestock production systems in northern Ghana in relation to environmental conservation and economic development. In: R.M. Blench ed. *Natural resource management in Ghana and its socio-economic context*. 44-59. London: ODI.
- Hart, J.K. 1969. *Entrepreneurs and migrants: a study of modernisation among the Frafras of Ghana*. Ph.D. Anthropology, Cambridge University.
- Hart, J.K. 1971a. Migration and tribal identity among the Frafras of Ghana. *Journal of African and Asian studies*, 6,1.
- Hart, J.K. 1971b. Migration and the opportunity structure: a Ghanaian case study. In: S. Amin ed. *Modern migrations in West Africa*. London: Oxford University Press.
- Haswell, M.R. 1953. *Economics of agriculture in a savannah village*. Colonial Research Studies, 8. London: HMSO.
- Hear, N. van 1984-5. "By-day boys" and Dariga men: casual labour versus agrarian capital in Northern Ghana. *Review of African Political economy*, 31-34.
- Hesse, Johann in press. *Changes in animal traction in Northern Ghana*. Paper presented at the ATNESA conference, Nairobi 4-7th December, 1995. To be published in the Conference Proceedings.
- Hill, H.L. 1930. The shea tree (*Butyrospermum Parkii*) in the Northern Territories. Paper XXIX, Annual Report of the Gold Coast Agriculture Department.
- Hill, P. 1985. *Indigenous trade and market places in Ghana 1962-4*. JOHLT 5. Jos: Jos University.

- Hilton, T.E. 1959. Land planning and resettlement in Northern Ghana. *Geography*, 44:227-240.
- Hilton, T.E. 1960a. Frafra resettlement and the population problem in Zuarungu. *BIFAN, Series B*, 22:426-442.
- Hilton, T.E. 1960b. *Ghana population Atlas*. London: Thomas Nelson.
- Hilton, T.E. 1961. Population and emigration in the Northern Territories of Ghana. *Proceedings of the 6th international West African Congress*.
- Hilton, T.E. 1962. Notes on the history of Kusasi. *Transactions of the Historical Society of Ghana*, 6:79-86.
- Hilton, T.E. 1968. Population growth and distribution in the Upper Region of Ghana. In: *The population of Tropical Africa*. J.C. Caldwell and C. Okonjo eds. 278-290. London: Longmans, Green and Co.
- Hunter, J.M. 1965. Regional patterns of population growth in Ghana, 1948-1960. In J.B. Whittow and P.D. Wood eds. *Essays in Geography for Austin Miller*. 272-290. Reading: University of Reading.
- Hunter, J.M. 1966. River blindness in Nangodi, Northern Ghana: a hypothesis of cyclical advance and retreat. *Geographical Review*, 56,3:398-416.
- Hunter, J.M. 1967a. Population pressure in a part of the West African savannah: a study of Nangodi, Northeast Ghana. *Annals of the Association of American Geographers*, 57:101-114.
- Hunter, J.M. 1967b. The social roots of dispersed settlement in northern Ghana. *Annals of the Association of American Geographers*, 57:338-349.
- Hunter, J.M. 1967c. Seasonal hunger in a part of the West African savannah: a survey of bodyweights in Nangodi, North-East Ghana. *Transactions, Institute of British Geographers*, 41:167-185.
- Hunter, J.M. 1968. The Clans of Nangodi. A Geographical Study of the Territorial Basis of Authority in a Traditional State of the West African Savannah. *Africa*, 38(4): 377-412.
- ISSER (1996) *State of the Ghanaian Economy Report, 1995*. University of Ghana, Legon, Ghana.
- Kasanga, K. and Kotey, N.A. (2001), "Land Management in Ghana: Building on Tradition and Modernity," *International Institute for Environment and Development*, London (United Kingdom).
- Kolbilla, D. and K. Wellard. 1993. Langbensi Agricultural Station: experiences of agricultural research. Pp. 202-212 in *Non-Governmental Organisations and the State in Africa*. Eds. K. Wellard and J.G. Copestake. London: Routledge.
- Konings, Piet 1981. *Capitalist rice farming and peasant communities in Northern Ghana*. Leiden: Afrika Studiecentrum.
- Korem, Albin 1985. *Bush fire and agricultural development in Ghana*. Tema: Ghana Publishing Corporation.
- Lance, James 1990. What the Stranger Brings: The Social Dynamics of Fieldwork. *History in Africa*, 17:335-339.
- Lynn, C.W. 1937. *Agriculture in North Mamprusi*. Accra: Department of Agriculture Bulletin, 34.

- Lynn, C.W. 1942. Agriculture in North Mamprusi: a review of a decade's progress. *Farm and Forest*, 3:78-83.
- Lynn, C.W. 1946. Land planning and resettlement in the Northern Territories of the Gold Coast. *Farm and Forest*, 7(2):81-83.
- Mahn, C. 1980. *Periodische Märkte und Zentrale Orte - Raumstrukturen und Verflechtungsbereiche in Nord-Ghana*. Heidelberg: Heidelberger Geographische Arbeiten, 59.
- Manshard, W. 1961. *Die geographischen Grundlagen der wirtschaf Ghanas: unter besonderen Berücksichtigung der agrarischen Entwicklung*. Wiesbaden: Franz Steiner.
- McKim, Wayne 1972. The Periodic Market System in Northeastern Ghana. *Economic Geography, Spatial Structure and Process in Tropical West Africa*. 48(3):333-344.
- Meier, Barbara 1999. "Doglientiri": An Institutionalised Relationship between Women among the Balsa of Northern Ghana (in Women's Practice of Kinship in Modern Ghana). *Africa*, 69(1): 87-107.
- Muir, J.C. and Williams, T.L. 1930. Agriculture in the Navrongo and Zuarungu districts of the Northern Territories of the Gold Coast. *Bulletin of the Department of Agriculture of the Gold Coast*, 23:230-244.
- Ngom, Pierre, Patricia Akweongo, Philip Adongo, Ayaga Agula Bawah & Fred Binka 1999. Maternal Mortality among the Kassena-Nankana of Northern Ghana *Studies in Family Planning*, 30 (2):142-147.
- Northcott, A.P. 1890. *Report on the Northern Territories of the Gold Coast*. Colonial Office, London.
- Nsiah-Gyabaah, K. (1994), "Environmental Degradation and Desertification in Ghana, A Study of the Upper West Region", Avebury, England (UK).
- Ofori-Sarpong, Edward 1985. The Nature of Rainfall and Soil Moisture in the Northeastern Part of Ghana during the 1975-1977 Drought. *Geografiska Annaler. Series A, Physical Geography*, 67(3/4): 177-186.
- Ollenu, N.A. 1962. *Principles of Customary Land Law in Ghana*. London: Sweet and Maxwell.
- Panin, Anthony. 1986. *A comparative analysis of hoe and bullock in farming systems in Northern Ghana*. Ph.D. thesis, Agricultural Economics, University of Göttingen.
- Patterson, K.D. 1978. River Blindness in northern Ghana, 1900-1950. In G.W. Hartwig and K.D. Patterson, eds. *Disease in African history*. Pp. 88-117. Durham, NC: Duke University Press.
- Pogucki, R.J.H. 1950. Report on land tenure in native customary law of the protectorate of the Northern territories of the Gold Coast. *Land Tenure in the Gold Coast, 1*. Lands Department, Accra.
- Priebe, H. 1972. *Entwicklungsmöglichkeiten der traditionellen Landwirtschaft in Nordghana*. Frankfurt.
- Rattray, R.S. 1932. *Tribes of the Ashanti hinterland*. Oxford: Oxford University Press.
- Republic of Ghana 2003. *Public Procurement Act (Act 663)*. Accra, Ghana Government.

- Riehl, V. 1989. The land is ours: *ten la a ten den* - research on the land use system among the Tallensi of Northern Ghana. *Research Review, University of Ghana, NS*, 5,1:21-36.
- Rouch, Jean. 1956. Migrations au Ghana (Gold Coast). *Journal de la Société des Africanistes*, 26:133-196.
- Runge-Metzger, A. and Diehl, L. eds. 1993. *Farm household systems in northern Ghana*. Nyankpala Agricultural Research Report, 9. Eschborn: GTZ.
- Sakaa, S.O. 1998. *Upper East regional profile*. Unpublished ms. Bolgatanga: EPA.
- Sam-Amoah, L.K., Gowing, J.W. 2001. Assessing the performance of irrigation schemes with minimum data on water deliveries. *Irrigation and Drainage*, 50: 31-39.
- Schott, Rudiger 1987. Traditional Law and Religion among the Balsa of Northern Ghana. Essays in Honour of A. N. Allott. *Journal of African Law*, 31(1/2): 58-69.
- Shepherd, A. 1981. Agrarian change in Northern Ghana. In *Public investment, capitalist farming and famine in rural development in Tropical Africa*. eds. J. Heyer, P. Roberts, and G. Williams. 168-192. London: Macmillan.
- Slaymaker, T. and Blench, R.M. eds. 2002. *Rethinking Natural Resource Degradation in Sub-Saharan Africa: policies to support sustainable soil fertility management, soil and water conservation among resource poor farmers in semi-arid areas: case studies*. Vol. II. Tamale: University of Development Studies.
- Smith, R. 1948. *Report on agriculture in Kusasi*. Unpublished report. File No. 463.
- Sutton, Inez 1989. Colonial Agricultural Policy: The Non-Development of the Northern Territories of the Gold Coast. *The International Journal of African Historical Studies*, 22(4): 637-669.
- Tait, David 1953. The Political System of Konkomba. *Africa: Journal of the International African Institute*, 23(3):213-223.
- Tait, David 1956a. The Family, Household, and Minor Lineage of the Konkomba. Part I. *Africa: Journal of the International African Institute*, 26(3): 219-249.
- Tait, David 1956b. The Family, Household, and Minor Lineage of the Konkomba. Part II *Africa: Journal of the International African Institute*, 26, (4):332-342.
- Tettey, W.J., Puplampu K.P. & Berman B.J. (2003), "Critical Perspectives In politics in Politics and Socio-Economic Development in Ghana, Leiden, (The Netherlands).
- The Economist Intelligence Unit (2004), *Country Report: Ghana*, The Economist Intelligence Unit, London (United Kingdom).
- Thomas, Roger G. 1983. The 1916 Bongo 'Riots' and Their Background: Aspects of Colonial Administration and African Response in Eastern Upper Ghana. *The Journal of African History*, 24(1): 57-75.
- Tripp, Robert 1978. *Economic strategies and nutritional status in a compound farming settlement in Northern Ghana*. Ph.D. Columbia University.
- Tripp, Robert 1981. Farmers and traders: some economic determinants of nutritional status in Northern Ghana. *Journal of tropical Pediatrics*, 27:15-22.

- Tripp, Robert 1982. Time allocation in Northern Ghana: an example of the random visit method. *The Journal of Developing Areas*, 16:391-400.
- Tripp, Robert 1992. Dietary consequences of changes in trade and agriculture for the Nankane of Northern Ghana. *Ecology of food and nutrition*, 27:249-258.
- Uchendu, V.C. and K.R.M. Anthony. 1969. *Field study of agricultural change: Bawku district, Ghana*. Food Research Institute, Stanford University.
- Vigne, C. 1936. Forests of the Northern Territories of the Gold Coast. *Empire Forestry journal*, 15:210-213.
- Walker, H.O. 1957. *Weather and climate of Ghana*. Accra:
- Wardell, D.A. 1996. *Consultancy Report on a mission for the World Bank Forestry Resource Management Project*. Accra: World Bank.
- Webber, Paul 1996. Agrarian change in Kusasi, North-East Ghana. *Africa*, 66(3):437-457.
- Webber, Paul. 1990. *Ecological energetics in the West African savannah: the flow of energy in a smallholder farming community in Kusasi, north-east Ghana*. Ph.D. thesis, Centre of West African Studies, University of Birmingham.
- Webber, Paul. 1996a. News from the village: agrarian change in Ghana. *Geography Review*, 9(3):25-30.
- White, H. P. 1956. Internal Exchange of Staple Foods in the Gold Coast. *Economic Geography*, 32(2):115-125.
- Wills, K.B. ed. 1962. *Agriculture and land use in Ghana*. Oxford: Oxford University Press.
- World Bank 1993. *Environmental Assessment/Analysis Reports*. Ghana Agricultural Sector Project EA Category B. Environmental Impact of Irrigation Development and Mitigation Measures.

Itinerary and Persons Met

Itinerary for IFAD evaluation mission of LACOSREP II 22nd May to 30th June 2005

MAY					
Day	Date	All	Kiff	Andah	Kranjac/Blench
Sun	22	Mission members arrive in Accra			
Mon	23	Mission internal meetings			
Tues	24	Mission meets MoFA liaison office in Accra; Ministry of Finance, Chairperson Agric. Donor coordinating group and WB			
Wed	25	Mission flies to Tamale and proceeds to Bolgatanga			
Thur	26	Meeting with LACOSREP II PCU			
Fri	27	Field visits, Bawku East district.	Bugri WUA Zuabulga WUA	Suguru Malsit credit group Abotikura women's credit group Ponyini women's credit group BESSFA Rural Bank, Garu	Ninsako WUA Binduri WUA Asintapeligu Functional Literacy Group (Binturi)
Sat	28	Field visits, Bawku West district.	Googo, compost FTD and 4 income generating groups Saaka, Onion storage group Saaka, WUA	Amaltinga women's credit group Tiekire women's credit group Sentaba women's credit group	Widnaba WUA Zebilla II WUA Wiiga Functional Literacy Group
Sun	29	Internal meetings and rest. Travel to Tamale			
Mon	30	Tamale, Visits to NORPREP, Action Aid, Water Research Institute.	Visits to NORPREP, Action Aid, Water Research Institute.	Agric Development Bank, Bolgatanga Builsa Community Ban, Sandema	
Tues	31	Tamale, visit ACDEP, meeting with SARI Director, evening	Livestock Research Institute SARI.	Naara Rural Bank, Paga	

JUNE					
Wed	1	Travel to Bolgatanga, Field visits, Bongo District	Dua, compost FTD and WUA Goo, ruminant FTD	Sentaba women's credit group Ataridaana Bisi women's credit group Anontalabi Leather & Basket group	Bongo WUA Yidongo WUA
Thur	2	Field visits, Bolgatanga	Datoko/Kulpelga, improved sorghum, composting Kantia, compost Pwalugu, 3-season cropping	VGAs%CCMCs, Bolgatanga Agric Development Bank, Bolgatanga	Dorongo WUA Winkogo WUA
Fri	3	Visit local NGOs, Environmental Protection Agency, Bolgatanga	Trax, Action Aid, Environmental protection agency.	BESSFA Rural Bank, Garu CENSUDI {NGO} Presby. Agric Station(NGO) Trade Aid Integrated{NGO}	GIDA, Feeder Roads, Rural Aid
Sat	4	Field visits, Kassena-Nankana district.	Gaane, Livestock FTD Korania, rice-fish culture Gwenia, guinea fowl FTD	Munumzora women's rice processing group Mumunwaga women's rice processing group PARTICIPATING BANKSs & VGAs, Navrongo	Goo WUA Telania WUA Tindon Boko Literacy Group
Sun	5	Internal meetings and rest			Revisit LG Tindon Boko
Mon	6	Field visits, Builsa district	Sandema research station Gbedemblisi, cowpea introductions Wiesi, fish processing Jeninsa, small ruminants	VGAs & CCMCs. Sandema Builsa Community Bank, Sandema	Loisa WUA (GK) Supervise students (RMB) Sinyansa WUA (GK/RMB) Sinyansa FLG Builsa DCE
Tues	7	Report writing			
Wed	8	Report writing	Seed process unit.		
Thur	9	Report writing, meeting with Reflect programme co-ordinator, Action Aid. Draft Aide Mémoire to LACOSREP II	Action Aid, Regional Director of Health services (LK, GK, RMB)		
Fri	10	Revisions to aide mémoire. Afternoon: Presentation of Aide Mémoire to RCC, Minister and LACOSREP II staff.			

Sat	11	Depart to Wa			
Tues	28	Meetings in Tamale			
Wed	29	Flight to Accra			
Thur	30	Synthesis wrap up meeting in Accra MoFA liaison office in Accra; Ministry of Finance + representatives of other donors; end of mission			

List of persons met by the mission during field work

Title	Name	Designation	Organisation
Government and project staff			
Hon	Ernest Debrah	Honorary Minister for Agriculture	MoFA
Mr	Kwaku Owusu Baah	Chief Director	MoFA
Mr	Joseph Y Faalong	Agricultural Programme Coordinator, AgSSIP	MoFA
Ms	Florence Oku	Principal Economic Officer responsible for IFAD, OPEC and BADIA projects	MoFinance
Upper East			
Mr	Roy Ayariga	Regional Director, Project co-ordinator	MoFA
Mr	Hypolite Bayor	Statistician	UDS, Tamale
Mr	Edward Aboagye	Rural Sociologist	Consultant
Mr	Salifu A-R Ziblim	Agricultural development specialist	MoFA
Ms	Augustina Benlu	Community and gender specialist	LAC
Ms	Lucy Awedega	Acting District Director, Bawku East	MoFA
Mr	Edward Abanga	Development officer, Bawku East	MoFA
Mr	Paul Siameh	District Director of Agriculture/ District project manager	MoFA
Mr	Charles Akwotiga	Deputy district project manager	MoFA
Mr	Sylvester Logo	Regional Development Officer, PPRS	MoFA
Mr	Samual Jerry Cossina	Environmental chemist	Water Research Insitute, Tamale
Mr	Emmanuel Chegeweh	District CEO	Kassena Nanakana
Mr	Fuseini Seidu	Credit supervisor	LACOSREP
Mr	J.E. Andanye	Rural Infrastructure Specialist	LACOSREP
Mr	Samuel Danso Asaare	Project Manager	GIDA
Mr	Joseph Amakwa	Regional Director Health Services	MoH
Donors and other international organisations			
Mr	Pape Djibi Kone	Resident representative (acting) Regional Forestry Representative	FAO
Mr	Yebowa	Deputy Resident representative	FAO
Ms	Nana O. Koranteng	Advisor. Responsible for study on funding and impact of projects in Upper East and Upper West areas over last 20 years	CIDA

Non-governmental organisations			
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Logframe at Appraisal

LOGICAL FRAMEWORK

Narrative Summary	Impact and Key Performance Indicators	Monitoring and Evaluation Sources of Verification	Critical Assumptions or Risk
<p style="text-align: center;">GOAL</p> <p>Sustainable alleviation of poverty; increased household food security and improved living conditions of rural poor, particularly women, in UER.</p>	<ul style="list-style-type: none"> - Increased incomes and reduced incidence of poverty. - Enhanced caloric intake and reduced malnutrition and disease. - Women utilize diversified income-earning opportunities and undergo less drudgery. 	<ul style="list-style-type: none"> - Key indicators for baseline survey and impact evaluation defined by workshop. - Baseline survey. - Studies of household incomes, food supply, nutritional and health status, and role of women. - Independent Impact Evaluation (IIE). 	<ul style="list-style-type: none"> - Stable macroeconomic, social and natural environment.
<p>Project Development Objective</p> <p>Rural poor (men and women) in UER enabled to access technology, services and capital to increase their incomes.</p>	<ul style="list-style-type: none"> - Beneficiary organizations (e.g., WUAs, credit groups) participating in decision-making bodies for project execution. - 31 800 families (50% of the target group) participate directly in the project. - Equitable division of benefits among participants (number of beneficiaries from each target group, e.g., women – at least 40% - poorer farmers, increases in income obtained by different groups, etc.). - 9 000 families benefit from participating in farmer training and demonstration programmes. - 13 000 persons (mainly women) are enabled to undertake financially viable IGAs. 	<ul style="list-style-type: none"> - Manual of participatory procedures for project implementation prepared and in use. - Monitoring reports and quarterly reports of project activities by PCU. - Baseline survey and IIE. - Midterm review. - Terminal evaluation/ ex-post evaluation. 	<p>Project development objective to sector goal</p> <ul style="list-style-type: none"> - Rainfall and weather patterns remain normal. - Commodity prices remain stable at levels attractive to farmers.
<p style="text-align: center;">Outputs</p> <p>(1) Demand-driven, participatory approaches at district and subdistrict levels developed and utilized.</p>	<ul style="list-style-type: none"> - Project implementation manual for using demand-driven participatory project implementation procedures for main components and sub-components prepared. - Publicity conducted (including use of public media) and public awareness created for project and its new demand-driven, participatory approach. - Project managers, district level planners, implementing agencies, NGOs and CBOs trained in new methodology. - implementing agencies (MOFA departments, NGOs) and service providers (banks, private sector) regularly informing target group organizations of available opportunities/services and responding to requests from them for these services. - Number of beneficiary-proposed sub-projects financed. 	<ul style="list-style-type: none"> - Project implementation manual in use. - Project's quarterly progress reports. - IIE assessments of awareness/knowledge of project among potential target groups. - PCU reports on training sessions conducted. - IIE evaluation of effectiveness of training. - Supervision reports of cooperating institution. 	<p>Outputs to Project Development Objectives</p> <ul style="list-style-type: none"> - Project fully funded with adequate staffing and counterpart funds released on time. - Strong links and good coordination among Government and NGOs acting as implementing agencies. - Decentralized administrations at district and subdistrict levels adopt demand-driven, participatory approach.

Narrative Summary	Impact and Key Performance Indicators	Monitoring and Evaluation Sources of Verification	Critical Assumptions or Risk
<p style="text-align: center;">Outputs (contd.)</p> <p>(2) Small irrigation schemes rehabilitated /constructed and managed sustainably using demand-driven, participatory methods.</p> <p>(3) Farmer-managed demonstrations of yield enhancing/ stabilizing technologies for rainfed and irrigated farming, livestock, fisheries and post-harvest activities carried out on demand and farmers trained in these technologies.</p> <p>(4) Efficient delivery of client-oriented credit and savings mobilization for income-generating activities.</p> <p>(5) Construction and proper maintenance of rural infrastructure to reduce the female labour burden and mitigate risks of negative health and environmental impacts.</p>	<ul style="list-style-type: none"> - 30 dams and irrigation systems rehabilitated and 6 new dams and irrigation systems constructed. - Irrigable area developed (387 ha) is fully used by target group (25/ha). - About 9 700 families benefit from irrigation development. - WUAs trained and successfully managing irrigation infrastructure, including O&M and repairs to irrigation system. - No. of ha of catchment area protected. - No. of demonstrations requested by farmers. - No. of farmers participating in demonstrations. - No. trained and adopting demonstrated farming techniques. - Increased yields and profits obtained through adoption. - Participating banks and rural communities trained in rural savings mobilization and credit operations. - Financially viable IGAs developed. - A range of social infrastructure facilities provided with accompanying training in their use and maintenance, in coordination with other ongoing projects (VIP). - No. of drinking water wells & latrines built. - Km. of feeder roads rehabilitated. - No. of cases of schistosomiasis and other water-borne diseases. - No. of Community Hygiene educators trained. - No. of target population receiving health and nutrition education. - No. of focal applications to reduce snail populations. 	<ul style="list-style-type: none"> - Supervision. - Project M&E reports. - Project periodical newsletter and communications with regional and central authorities. - Results of proposed "walk-through" of the irrigation systems at the end, and before the start, of every irrigated cultivation season. - Mid-term review and IIE reports. - Baseline survey. - M&E reports. - Annual IIE reports. - Final IIE evaluation. - IGA models. - M&E reports and IIE. - Records and annual reports of lending banks. - Interviews with bank officers and clients. - M&E reports. IIE Baseline survey and annual evaluations. Surveys of morbidity among target populations. - Project declared effective, personnel recruited and letters of appointment issued. - Quarterly and annual reports. - Supervision. - Evaluation reports. 	<ul style="list-style-type: none"> - Land allocation procedures do not lead to community conflicts. - Low risk of gluts in the commodities produced under irrigation. - Significant increase in income derived from dry season irrigated cropping. - Active demand among farmers for improved technology as a result of reduced climatic risk. Stable financial situation with interest rates at an acceptable level. Transaction costs are reduced and banks make special effort to lend to women's groups. Financial intermediaries trained and receptive to granting loans on time to rural clients. - Funds made available in a timely manner.
<p>(6) Project management.</p>	<p>PCUs and DPMUs set up.</p> <p>PCUs and DPMUs operating.</p> <p>M&E, reporting and accounting accurate and on schedule.</p>	<p>- Project declared effective, personnel recruited and letters of appointment issued.</p> <p>- Quarterly and annual reports.</p> <p>- Supervision.</p> <p>- Evaluation reports.</p>	

**List of Participants – Final Evaluation Workshop
LACOSREP II and UWADEP, Accra (Ghana), 9 November 2005**

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69	Patience Mensah	The World Bank

Some notes on literacy in Upper East

Roger Blench

I never read the proclamations of generals before battle, the speeches of führers and prime ministers, the solidarity songs of public schools and left-wing political parties, national anthems ...without seeming to hear in the background a chorus of raspberries from all the millions of common men to whom these high sentiments make no appeal.

George Orwell

The art of Donald McGill

Nine reasons for becoming literate

The literature on writing is notable for its high sentiments, both in terms of praising its benefits and emphasising its role in the development of empires and civilisations. Even where literacy is being developed in essentially oral languages in Africa and Asia, its proponents rather assume that its function is to promote health, education or spiritual development. The vast majority of local literacy programmes are inspired by Christianity, while for larger minority languages, government takes a role in preparing worthy booklets on sanitation, better nutrition for children and more recently AIDS or human rights. But curiously, none of these topics are on the minds of the newly literate, whose concerns seem to be rather different.

Secular literacy programmes in Africa are fairly rare compared with Christian ones, and successful ones rarer still. A recent programme devised by the NGO ActionAid and funded by the international donor organisation IFAD has been working with the Oti-Volta speaking populations [Buli, Kusaal, Kasem] in Upper East Region, Northern Ghana. I recently had a chance to interview some of these groups and to ask their members directly about their reasons for joining the group. There is something quite powerful about seeing people discover reading and writing, to talk with people who are amazed that it is possible to write down their words and read them back accurately, who have to rapidly work out for themselves the uses of this technique.

Being a member of these literacy groups is not associated with any financial benefit and they have no religious content, so those who continue to attend clearly are motivated by personal considerations. The members include a wide variety of ages, but are almost all monolingual, and the members are united by the fact of not attending school. Women often predominate in these groups, partly because labour migration has forced many younger men to go south for work. Some examples of their reasons for joining are as follows;

1. An old lady had a bowl for taking her goods to market, on which someone else had inscribed her name. The bowl was stolen and her lack of literacy made her unable to trace out the bowl and assert her ownership. She has now acquired a new bowl, which she has marked with her own name. Should it be stolen again she will now be able to check whether a bowl she sees belongs to her.

2. People travel regularly from Kumasi in the south to their homes. Sometimes they leave their property on the bus. Before, they were unable to read the writing on the bus and so could not find it to recover their goods. But now they can identify it and thus get their property back.
3. Before we used to go to the market and urinate anywhere. But now we see there are signs saying 'Don't urinate here', so we know not to do this.
4. When we couldn't read banknotes, people used to cheat us in the market, telling us they were giving us one amount when really it was another. Now we know what money we are being given.
5. When we go to hospital to give birth, they write our babies' names on cards. But we couldn't read them, so weren't always sure we were being given the right baby. But now we can check by reading the cards.
6. An old man used to be perplexed when his grandchildren came home from school and he couldn't ask them what they had been doing all day or appreciate their schoolbooks. But since learning to read he knows what they have been busy with and can ask them about their work in the evening.
7. When we go to the clinic people give us prescriptions. When go to buy the medicines, we now know whether the shopowner is giving us the right drug in the right amount.
8. When we go trading, we often don't know whether we lose or gain because we can't write down costs and payments. But now we can see whether we are doing good business or not.
9. When we travel on a bus with numbered seats, we used to sit on the wrong place, so we'd always be tossed about the bus. But now we can read the ticket, we know where to sit with no problems.

What these reasons have in common is that they are all supremely practical, and that numeracy plays as important a role as actual reading and writing. In all our interviews, no-one ever mentioned religion, health, nutrition or AIDS although the main reading materials are booklets are available on these topics. Even more striking is that the groups seem to have made no link with literacy programmes in these same languages run by Christians, even though many villagers and almost all members of the groups today are Christian. Groups like these are just a speck of grit in relation to the implacable progress of Western-style education, socially unaware and overwhelmingly consumerist. But perhaps we could listen a little more and teach a little less.

