

**ADRA/GHANA'S FOOD SECURITY PROGRAM
(PL 480 Title II)**

FFP-A-00-02-00015-0

FY 2002 - FY 2006

IMPACT EVALUATION

FINAL REPORT

Consultants

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16th February 2006

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List of Acronyms and Abbreviations

ADRA	Adventist Development and Relief Agency
AEAs	Agricultural Extension Agents
ANRM	Agriculture/Natural Resources Management
BHR/FFP	Bureau of Humanitarian Response-Office of Food for Peace
CRI	Crop Research Institute
CSR4	Cooperating Sponsors Results Report and Resource Request
CV	Curriculum Vitae
DAP	Development Assistance Program
DDHS	District Director of Health Services
DDO	District Development Officer
DHMT	District Health Management Team
EP	Evangelical Presbyterian
FEAs	Field Extension Agents
FFP	Food for Peace
FPOs	Field Project Officers
FY	Fiscal Year
GHS	Ghana Health Service
HAT	Health and Agricultural Team
HIV/AIDS	Human Immuno-deficiency Virus/ Acquired Immune Deficiency Syndrome
HQ	Headquarters
IPTT	Indicator Performance Tracking Table

IRs	Intermediate Results
KEEA	Komenda Eguafɔ Edina Abirem
KNUST	Kwame Nkrumah University of Science and Technology
LOA	Life of Activity
MDG	Millennium Development Goal
M & E	Monitoring and Evaluation
MOFA	Ministry of Food and Agriculture
MOH	Ministry of Health
MTE	Mid-Term Evaluation
MPT	Multipurpose Trees
NGOs	Non-Governmental Organizations
NRM	Natural Resources Management
ORT	Oral Rehydration Therapy
PVC	Polyvinyl chloride
SHEP	School Health Education Program
SOW	Scope of Work
SARI	Savanna Agricultural Research Institute
SPSS	Statistical Package for the Social Scientists
USAID	United States Agency for International Development
VIP	Ventilated Improved Pit Latrine
WATSAN	Water and Sanitation
WIAD	Women in Agricultural Development

EXECUTIVE SUMMARY

Background of Program

The current ADRA/Ghana PL 480 Title II Development Assistance Program (DAP), which runs from FY 2002 through FY 2006, provides substantial support to the achievement of USAID/Ghana's goal of assisting Ghanaians in establishing **“Equitable Economic Growth and Accelerated Poverty Reduction within a System of Sound Democratic Governance”** under the 2004 – 2010 Country Strategic Plan(CSP). The program uses an integrated strategy involving agricultural production, natural resource management, marketing, agro-processing, nutrition, water/sanitation, and preventive health education to address the problems of food unavailability, limited access to food and poor utilization of food. The overall goal of the current DAP is to enhance food security for 30,000 clients farmer household in targeted communities in the Northern and Coastal Savannas, the Transitional Zone and the Rural Forest areas in 9 regions in Ghana. This goal is being achieved through two strategic objectives namely (i) increased agricultural production and income of targeted farmers and (ii) improved health and nutritional status of beneficiary communities.

The purpose of the Impact Evaluation is to determine the extent to which ADRA has achieved the goal and objectives of the program.

Evaluation Methodology

Documents generated by the project including the original DAP document and mid-term evaluation, annual and semi-annual reports, and survey reports were reviewed. Project staff and stakeholders were interviewed. A random stratified sample approach was applied to obtain a sample of 47 communities representing 10% of the 468 project communities where ADRA operates. The Consultants developed data collection tools to obtain comparable information from interviews. Where possible, direct observations of clients' fields, other demonstration farms, VIPs, and soak-aways, was carried out. The information provided during intensive fieldwork and interviews with the stakeholders forms the basis for conclusions on project impacts and recommendations for future activities, including a possible follow-on project.

Accomplishments and Program Impacts

ADRA's interventions have made positive impact on the livelihood and general welfare of clients, and contributed to achieving the goal of the USAID/Ghana Mission. The two main food security strategic objectives stated above have been largely achieved.

The set of activities being promoted to increase productivity of food crops have led to a substantial impact on yield and increases in food available for family

consumption and of farm income through sales of part of the increase in production. The significant achievements include (i) reduction in months of household food shortages (ii) yield increases of maize, soybean and groundnuts (iii) high incomes from trees and tree crops, (iv) roadside amenity planting to reduce soil erosion and enhance biodiversity (v) increased clients' income due to the introduction of improved storage facilities (vi) Labor saving techniques such as the oxen-drawn technologies.

Among other things ADRA's intervention has significantly increased the yield of maize and soybeans by over 200% for its targeted client farmers. This in addition to the high incomes from trees and tree crops represent a very positive contribution to achieving food security for the targeted farmers. It is therefore not surprising that the months of household food shortages have reduced significantly from a pre-project level of 4 to 1.3 months at the time of this evaluation.

The introduction of improved storage facilities has increased clients' income by \$256 per acre of maize cultivated. Labor saving techniques such as the oxen-drawn technologies have significantly reduced labor input, and increased school attendance by children and relieved the burden on women to weed

In addition, the intervention which includes health and nutrition education, assistance with the provision of water and sanitation facilities, has made potable water available, resulted in improved sanitation and subsequently reduced related diseases and infections as well as improved nutritional status and food habits.

Despite these achievements the low yield of cashew presents a pressing problem. There was enough evidence to show that the Agency was trying to find solutions to the problem by setting up its own demonstration farm near Techiman as means of providing a model role for the farmers.

ADRA has stepped up its loan collection and repayment from farmers and this has resulted in the significant increases in loan repayment. Nevertheless there is the need for further sensitization of clients in order to achieve maximum loan repayment.

Recommendations and the Way forward

Agriculture and Natural Resources Management

1 *Recommendations for the Current Title II Development Assistance Program*

Farmers attributed the low yields of cashew to severe pest infestation. We **recommend** that ADRA should "speed up" the integrated pest management control measures to address the pest problem in the cashew growing areas.

The current intervention by ADRA to improve the marketing of cashew is a positive step. The Consultants **recommend** that ADRA should further explore ways of linking farmers with low yields and marketing problems in the Southern belt with markets in the Middle belt of the country.

To ensure timely repayment of loans, we **recommend** that clients should be sensitized not to wait till crop harvest before paying the loans. ADRA should institute a scheme where individuals could be assigned an Entry Card for monthly payments to be recorded.

In order to assess the financial benefits of ADRA's promoted technologies, we **recommend** that ADRA should train clients on simple record keeping and management of their farming activities. Furthermore, ADRA should design a user-friendly format to facilitate the recording of data by clients

We strongly **recommend** that ADRA put priority in developing a comprehensive exit strategy plan with different financial scenarios before the end of the project. This is to enable ADRA prepare for eventualities during shortfall or major cuts in funding during the next DAP.

2 *Recommendations for Future Development Assistance Program*

ADRA should fully support clients in land preparation in future by improving the arrangement of tractor services to the selected communities. Where animal traction is practiced, ADRA should provide credit for the purchase of more bullocks and donkeys by clients.

The planting of trees by school children around the school compounds has been very successful. Through this program, ADRA has helped inculcate Environmental Protection practices in the school children when they are young and made them aware of the need to protect the environment. Food for work (FFW) has assisted in the motivation of farmers and communities for the amenity and road side amenity planting. We **recommend** that the use of school children to plant trees with the aim of inculcating environmental protection practices should be encouraged. ADRA should continue with the Road Side Amenity planting.

The Consultants realized the need for ADRA to assess the diffusion and spill over of its promoted technology to the non-assisted clients in the community. We therefore **recommend** that ADRA should document the rate of diffusion and the level of adoption by non-clients.

Health, Nutrition, Water and Sanitation

1 *Recommendations for the Current Title II Development Assistance Program*

Where funding is available, ADRA should support the construction of VIP's and soak-aways, at least in the communities where members have expressed interest and have initiated the process.

The major constraints that militated against activities of the HAT (Health and Agriculture) and WATSAN members were difficulty in ensuring compliance to behavior change. In addressing this problem, we **recommend** that ADRA should strengthen its collaboration with community chiefs, environmental health officers and other leaders to find more effective strategies in ensuring compliance to behavior change.

2 Recommendations for Future Development Assistance Program

To ensure the sustainability of the quality water sources provided by ADRA, we **recommend** that staff of ADRA should strictly ensure that all WATSAN (Water and Sanitation) members collect and deposit all monies collected into bank accounts created for that purpose.

The current practice where WATSAN committee members go shopping for spare parts from open markets when hand-dug wells and boreholes break down should be discouraged. We **recommend** that ADRA should strengthen the collaboration with the district assemblies and other water agencies and explore if these agencies could buy some of the essential parts for hand-dug wells and boreholes and re-sell to WATSAN members.

Sustainability of Future Program Interventions

In order to avoid spreading too thin, ADRA should consider reducing the number of regions where it operates, and seriously consider decreasing the number of communities but increase the number of beneficiaries in the community.

ADRA should link farmers to rural banks and other financial institutions to obtain loans for the purchase of seeds, fertilizers and agro-chemicals. In this case, ADRA should identify an agro-input dealer in each operational area where clients could obtain seeds and fertilizers and the money paid to the dealers by the banks

In all communities, there should be continuous education on Health, Nutrition and personal Hygiene to keep beneficiaries abreast with current messages on health.

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction and Justification for Awarding Grant

The current ADRA/Ghana PL 480 Title II Development Assistance Program (DAP), which runs from FY 2002 through FY 2006, provides substantial support to the achievement of USAID/Ghana's goal of assisting Ghanaians in establishing **"Equitable Economic Growth and Accelerated Poverty Reduction within a System of Sound Democratic Governance"** under the 2004 – 2010 Country Strategic Plan(CSP). The program also provides support to USAID's goals of encouraging broad-based economic growth and agriculture development as well as protecting the world's environment and human health.

The program uses an integrated strategy involving agricultural production, natural resource management, marketing, agro-processing, nutrition, water/sanitation, and preventive health education to address the problems of food unavailability, limited access to food and poor utilization of food.

1.2 Goal and Expected Outputs

The overall goal of the current DAP is to enhance food security for 30,000 clients farmer household in targeted communities in the Northern and Coastal Savannas, the Transitional Zone and the Rural Forest areas in 9 regions in Ghana. This goal is being achieved through two strategic objectives namely (i) increased agricultural production and income of targeted farmers and (ii) improved health and nutritional status of beneficiary communities.

ADRA/Ghana proposes to improve agricultural production, income health and nutritional status of its clients through (i) assisting in land preparation and supply of agro-inputs on credit (ii) training and provision of agricultural technical assistance (iii) construction of improved storage facilities (iv) agro- processing (iv) rehabilitation of farm market roads and linking farmers to marketing organizations (v) community tree planting and watershed management (vii) school health and nutrition, and health education (vii) construction and management of water and sanitation facilities.

A mid term evaluation (MTE) was commissioned in September 2004 to determine the progress being made in the implementation of the DAP. The outcome of the MTE has helped ADRA fine-tune its program activities and implementation strategies in order to ensure effective achievement of project goals and outputs.

1.3 Purpose of Evaluation

The objectives of the evaluation are to (i) determine the extent to which ADRA has achieved the program goal and objectives, and identify the reasons for any over or under achievements of set targets (ii) determine the extent to which program

achievements can be attributed to ADRA and the advantages of the strategies being used to achieve household food security in the project areas (iii) document lessons learned and provide recommendations on the activities and strategies to be adopted in follow-on programs (Appendix 1)

2.0 EVALUATION METHODOLOGY

Participatory approach was the main strategy for the evaluation with all stakeholders playing an active role at the appropriate levels. The evaluation Consultants met at the ADRA/Ghana Head office during 17-18 October, 2005 to review the SOW, selected the communities for the focus group discussions and developed checklists for the interviews. After a review of documents prepared by ADRA including annual and semi-annual reports, evaluation reports, the Consultants held briefing sessions with ADRA program management and USAID to discuss issues of donor concern and agree on the methodology. Field visits began on 23 October 2005 and ended on 11 November 2005.

2.1 Review of Documents

A large number of documents were provided in hardcopy to the Consultants and were reviewed during the evaluation period. The Consultants also requested other documents and information that could help in the assessment of the program and its impacts. A list of the documents reviewed is attached as Appendix 2.

2.2 Selection of Communities

A random stratified sample approach using the SPSS made it possible to obtain a sample of 47 communities representing 10% of the 468 project communities where ADRA operates. The outcome of the selection was discussed with Dr Solomon Wako, the Director of Evaluation at ADRA Headquarters in Washington, DC who was in Ghana to participate in the evaluation. Data collection tools including interview guides for agriculture, natural resources management, health, nutrition, water and sanitation was developed and discussed among all the key ADRA staff to obtain a consensus on the usefulness of the questions and list of people to be interviewed. This guide was pre-tested in one of the communities selected, after which, the data collection tools were finalized. The Evaluation team was divided into two groups (each group comprising an Agriculturist and a Health/ Nutritionist) to accelerate the focus group discussions. A list of project communities visited by the two groups of Consultants is presented in Appendix 3.

2.3 Field Visits and Rapid Data Collection

2.3.1 Key Informants Interview

The impact evaluation team interviewed ADRA/Ghana Management and field staff, other cooperating partners including, MOFA, Ghana Health Service (GHS) Staff and Environmental Health Officers of the Ministry of Local Government in the selected districts and community leaders collaborating with ADRA in the DAP II. Discussions were also held with Private Sector Agencies, School Health Teachers, WATSAN committee members and HAT members.

2.3.2 Focus Group Discussions

The team also conducted focus group interviews of 20 to 60 community members. Where time allowed, direct observations of clients fields, other demonstration farms, VIPs, Soak-aways, was carried out. Discussions on health and nutrition focused on the groups' knowledge and practices to topics such as personal hygiene, Malaria, Diarrhoea diseases and HIV/AIDS. They were also asked to state some of the benefits they have derived from the ADRA project, and how they would sustain those benefits in the event of ADRA's exit from the community. They were also asked to mention what they will want ADRA to do for them if ADRA was to stay longer.

2.3.3 Nutritional Status and Pattern of Growth of Children under 5 years

A total of 340 children less than 5 years old, comprising 53.8% males and 46.2% females, with a mean age of 14.6 (± 5.6) months, were sampled from the 47 randomly selected ADRA communities to assess their nutritional status. In each community between 5 and 15 children of both ADRA and non-ADRA farmers were randomly selected from the mothers who turned up with their children. The reason for this selection being that the health, nutrition, water and sanitation component of the DAP did not target only the ADRA farmers, but was rather community based. The pattern of growth of the selected children was ascertained from the Child Health Records ("Road to Health Chart"). The dates of birth, weight and height measurements were used to determine Height-for-Age, Weight-for-Age, and Weight-for-Height nutritional indexes using Z-score with Epi Info 2002 software.

2.4 Composition and Qualifications of the Evaluation Team

The Evaluation team consisted of 4 independent Ghanaian Consultants, Joseph Adu-Gyamfi, Kwame Twum-Ampofo, Joseph Somuah Akuamoah and Anthony Kwaku Edusei, who have competencies in Agriculture, Natural Resources Management, Food Security Programs, Monitoring and Evaluation, Nutrition, Health, and Participatory Community Development. Joseph J. Adu-Gyamfi served as the Lead Consultant. The consultants were joined by Solomon Waku (Director of Evaluation, ADRA/Headquarters), representatives of ADRA/Ghana, Seth Abu-Bonsrah (Outgone Program Director) Victoria Daaku (Acting Program Director), Abigail Abandoh-Sam (M & E Officer), Anthony Mainoo (Technical Coordinator), Simon S. Saaka and K. Ampim-Darko (M & E Coordinators) and Victoria Tetteh (FPO, Health and Nutrition). Sabinus Anaele from the FFP Regional Office in Dakar, Alfred Osei (Food Aid Specialist, USAID/Ghana), Jemima Tettey-Cofie

(Program Assistant, USAID/Ghana) joined the team in the field visits. Abridged CVs of the Consultants are attached as Appendix 4.

3.0 PROGRAM IMPACT ASSESSMENT-Findings and Recommendations

3.1 Meeting the Set Targets (Strategies Used and Attribution)

In order to realize the strategic objectives of **improved Agricultural production and income, and improved health and nutritional status** of beneficiary communities, ADRA used six main strategies. These are:

- Community mobilization, sensitization and the creation of groups
- Training and promotion of improved agricultural and natural resource management practices
- Supply of agro-inputs (improved seeds/seedlings, fertilizers etc.)
- Training and equipping individuals/households on improved nutrition and health knowledge and practices
- Support the construction and management of water and sanitation facilities
- Collaboration with relevant public and private institutions/organizations.

During the field interviews, the Consultants, collected information from the ADRA and non-ADRA clients, to assess the extent to which ADRA have met the set targets in the IPTT as reported in the annual CSR4.

3.2 Improved Agricultural and Natural Resources Management Practices

In the view of the Consultants, the set of activities being promoted to improve productivity of crops and trees have led to a substantial impact on yield and increases in food availability for family consumption and farm income through sales of part of the increase in production. **Oxen-drawn technologies have significantly reduced labor input especially for weeding operations performed mostly by women.** Linking clients to markets and the provision of market information boards (MIB) and “in-kind payment” has helped improve the marketing of produce in the communities. Through the introduction of improved cribs and mud silos, clients have made substantial increases in income by storing produce till the “prices are right for sale” compared to when sold at harvest. A summary of the Consultants’ assessments on meeting the targets set in the IPTT is shown in Appendix 5.

3.2.1 Months of Household Food Shortage

Observations

Computed values from data obtained during the field visits indicated that months of household food shortage for ADRA clients has reduced from **4 months** before ADRA's interventions to **1.3 months** at the time of the evaluation (**Table 1**). A breakdown of the responses indicated that the Eastern belt recorded the lowest average period of 0.2 months with the highest average period of 1.9 months reported from the Northern and Mid-belt. The Consultants **commend ADRA for this positive achievement of assisting to further reduce the month of food shortage from 2.2 months (FY 2004 Results Report.) to 1.3 months.**

Table 1. Months of Household Food Shortage in the Selected Communities Visited

Parameter	Northern ¹	Mid Belt ²	Eastern ³	Central ⁴	Coastal ⁵	Average
Months of Food shortage	1.9	1.9	0.2	2.0	0.7	1.34

¹ Northern, Upper East and Upper West regions

² Brong Ahafo and Ashanti regions

³ Eastern region

⁴ Central region

⁵ Greater Accra and Volta regions

3.2.2 Yields of Annual Crops

During the field interviews, ADRA clients reported average yields of 10 bags per acre (2.5 t/ha) by growing quality protein maize (*Obaatanpa* or *Mamaba*), using improved practices compared to 3 bags per acre (0.8 t/ha) realized by the non-ADRA clients who continue to grow local varieties without improved practices. This achievement compliments the set target of 9 bags per acre for the LOA (FY 2006). The yield increase of 200% by clients is a positive contribution to improving household food security and income of clients. Similarly, reported soybean yields in the Northern sector ranged from 6-8 bags per acre compared to previous yields of 2-3 bags recorded by non-ADRA clients (Table 6, Appendices 7 & 8).

3.2.3 Plantation Crops (cashew, mango and citrus)

Observations

Trees crops are economically viable income generation venture. ADRA has made significant impact in the livelihood of farmers who cultivate citrus and mangoes. The citrus and mangoes have contributed to reduce poverty because clients

consider them as their “**pension**” during their old age. The introduction of improved varieties of citrus by ADRA has resulted in the availability of citrus throughout the year. Although the Consultants could not assess the target set for yields of mangoes and citrus because the fruits were not in season, most of the farmers interviewed were disappointed with the low yields of cashew. **“The cashew is our headache”** remarked one client. Another client also remarked **“I have regretted planting cashew”**. Field observations indicated that whilst ADRA has made significant progress in the Techiman / Kintampo operational area where yields of about 400 kg/acre was recorded, very low yields were reported in the other cashew growing communities visited. The Consultants could therefore not confirm the average yield of 400 kg/acre reported for cashew in the FY 2004 Results Report.

Although there could be a number of factors (variety planted, land suitability and routine maintenance), that affect yield of tree crops, farmers attributed the low yields in these areas to pest infestation. In few communities clients have cut down their cashew trees and replaced them with mangoes. The issue of pest problem was raised by the MTE but ADRA has achieved some success with pruning and pest control measures in the Techiman/Kintampo areas. This needs to be extended to other ADRA-assisted cashew growing areas in the Southern belt (See Appendix 13).

Recommendation

We recommend that ADRA should “speed up” the integrated approach to prevent further frustrations from cashew farmers who continue to cut down the trees to grow other crops because of low yields. ADRA should further explore ways of linking farmers with low yields and marketing problems in the South belt with markets in the middle belt of the country.

3.2.4 Animal Traction

Observations

Clients in the Northern sector realized the benefits of work animals (substantial reduction in the use of child labor, easier transport of manure, compost and fertilizers, harvest to/from fields and homestead and to the market). An ox-drawn technology for harrowing, ridging and weeding is effective to reduce the cost of production. The number of animals for traction (both oxen and donkey) is not sufficient to meet the needs of clients.

Recommendation

ADRA should increase the availability of credit for the purchase of animals by clients

3.2.5 Natural Resource Management Practices and Soil Fertility Improvement

Observations

Planting of Trees (Cassia, Moringa, Albizia, Mahogany, Eucalyptus and Teak)

Apart from serving as mitigation measures to environmental degradation, the establishment of woodlots by individuals is an economically viable income-generating venture. The establishment of woodlots has been very successful in most communities especially in the Coastal belt and clients mentioned some of the benefits as helping to reduce environmental degradation, improving agrobiodiversity and restoring underground and surface water resources.

The adoption of these fast growing multipurpose trees (eg. Cassia) that has the capacity to rejuvenate after cutting is high particularly in the Coastal belt and the Transitional zone where it is the main source of income to farmers. The Consultants were impressed with the high rate of adoption by the communities visited. At Nyamebekyere in the Offinso District (Ashanti), the community had planted trees along the catchments of River Tima the main source of water for 10 communities. The planting of trees has prevented the drying up of the river during the dry seasons and have helped provide shade and reduce the air temperature. **This village won the Best Tree Planting Group award in the Offinso District in December 2003 during the 19th National Farmers' Day celebrations in recognition of the Outstanding contribution towards the development of agriculture in Ghana (Appendix 10).**

The planting of trees by school children around the school compounds had been very successful. Through this program, ADRA has helped inculcate Environmental Protection practices in the school children when they are young and made them aware of the need to protect the environment (Appendix 10).

More encouraging is the Winneba Road Side Amenity Planting Project involving 5 communities in the Winneba operational area, in collaboration with MOFA, the Forestry Services Division and the Ghana Highway Authority. When completed, the project will reduce roadside soil erosion, enhance biodiversity and provide shade for pedestrians. Food for work (FFW) has assisted in the motivation of farmers for the amenity planting. The communities visited have also embraced the planting of Moringa because of its nutritional, medicinal and environmental benefits.

The average survival rate of the trees from data collected during the interviews was **72.9%**. In some of the communities, clients received the trees late in the rainy season, resulting in low survival rate. It was also noted that the trees in the

Northern belt were severely affected by drought resulting in low survival rate compared to those in the Southern belt.

Recommendation

ADRA should continue with the Road Side Amenity planting. The continued use of school children to plant trees with the aim of inculcating Environmental Practices should be encouraged.

3.2.6 Improved Storage Facilities

Observations

Communities reported that the introduction of the improved cribs and mud silos have resulted in drastic reduction in storage loss from 40% to less than 5%. Besides the reduction in storage loss, the availability of storage structures encourages farmers to increase production, and income through sales at the optimum time. The Consultants collected information on the price of commodities sold at harvest and when stored in the improved cribs. Apart from the significant reduction in storage losses due to the introduced technology, clients could make a net profit of ₦2.7 million (\$300) by storing their produce, compared to ₦ 279,000 (\$31) when sold at harvest (see Table 6; Appendix 7)

3.2.7 Marketing and Agro-processing

Observations

One of the principal causes of persistent poverty in the agricultural sector is lack of efficient markets. The poor state of roads affects the ability of farmers to get their products to market and at the same time discourages traders from coming to and competing in the buying of clients' products in their own communities. The rehabilitation of farm access roads by ADRA is a positive step towards improving the access to markets.

The provision of market information boards (MIB) and "in-kind payment" has helped improve the marketing of produce in the communities. Whereas we observed the prices of other crops were displayed on the MIB that of cashew was not found. The recent intervention by ADRA to link up with FEXIM Company limited for the bulk purchase of cashew from clients is a positive one. ADRA should revive the "**nucleus farmers' concept**" in each operational area, who will then facilitate the bulk purchases from its clients for the marketing companies like FEXIM, GHANANUTS etc.

It was also observed that the number of crackers was few in communities of the Southern Sector.

Recommendation

Provision of small-scale processing equipments should be on the priority list of the packages for the old clients in the Southern Sector. ADRA should arrange to supply “on loan basis” improved cashew nut crackers to communities other than Techiman, and train them to improve the recovery percentage of whole nuts during cracking.

3.2.8 Loan Repayment

Observations

Data collected from the field indicated that loan recovery ranged from 49.0% in the Coastal belt to 90% in the Northern and Mid-belt with an average of 78.0% (**Table 2**). This value is approximately the target set for the LOA (80.0%). Although clients are aware of the need to pay the loans, most of them did not realize the need to use incomes from the sale of other food crops to repay part of the loans. In communities where ADRA has instituted the in-kind payment, loan recoveries are very high. In the Northern sector, clients “give away” soybean to repay their loans and store maize for sale and household consumption.

Table 2 *Percentage of Loan Repayment*

Parameter	Northern	Mid Belt	Eastern	Central	Coastal	Average
Loan Recovery (%)	90.8	90.6	71.5	88.6	49	78.1

Recommendations

ADRA should step up the education on the need to use incomes from the sale of other food crops (eg. cassava, yams, plantains, groundnuts and millet, vegetables etc) livestock or other income-generating activities to repay part of the loans.

To ensure a smooth exit strategy, ADRA should arrange to link the communities directly to a credit source (Rural Banks).

To ensure timeliness repayment of loans, clients should be sensitized not to wait till crop harvest before paying the loans. ADRA should institute a scheme where individuals could be assigned an Entry Card for monthly payments to be recorded.

3.3 Health, Nutrition, Water and Sanitation

In general, the Nutrition, Water/Sanitation, and Preventive Health Education component of the program has resulted in significant improvement in the Nutritional status of children, improved feeding practices, access to potable water and hygienic sanitation facilities as well as increased knowledge in Preventive Health.

3.3.1 Nutrition

The remarkable achievements in nutrition of children under five are demonstrated in the Table (3) below:

Table 3. Changes in Nutritional Status Indicators over the Course of ADRA/GHANA DAP II (FY2002-FY2006) Food Security Project.

Nutritional Indicator	Period							
	Baseline	FY2003		FY2004		FY2005 (Impact Eval.)		FY2006
		Target	Ach'd	Target	Ach'd	Target	Ach'd	Target
Children 0-6 months Exclusively Breastfed (%)	30.0	-	-	36.0	61.0	-	74.3	40.0
Prevalence of stunting (severe & moderate) in children <5 years (%)	20.0	-	-	15.0	8.6	-	8.5	10.0
Prevalence of acute malnutrition (underweight & wasting) in children <5 years (%)	30.0	26.0	22.8	23.0	20.0	21.0	23.2	20.0

Remarkable changes occurred in Exclusive Breastfeeding (EBF) practices, and the prevalence of stunting (chronic) and acute malnutrition. Whilst the baseline study reports that the exclusive breastfeeding and stunting prevalence rates are 34.1% and 41.0%, respectively, the corresponding rates as reported on the IPTT in the Results Report are 30.0% and 20.0%. The apparent inconsistencies in this data make it difficult to draw any conclusion on the project impact with respect to these two indicators on the children under five years. However, on the basis of the IPTT figures, Exclusive breastfeeding practice increased by 247.6% from 30.0% to 74.3% by FY 2005, whilst stunting prevalence reduced by 57.0% from 20.0% to 8.6% by FY 2004. The stunting prevalence achieved in FY 2004 was sustained to a large extent in the FY 2005, which achieved a stunting prevalence of 8.5% (57.5% drop from baseline). This further suggests that the project realized its target

of 10.0% stunting prevalence before its last year (FY 2006). This achievement was quite impressive.

The significant reduction in stunting could be explained by a number of factors, including; i). The improved practice of exclusive breastfeeding, and the demonstrated high knowledge in infant feeding practices, that might have averted the growth stagnation and subsequent stunting which is likely to result from poor child feeding practices. ii). The mean age of the children studied for the impact evaluation (14.6 months) suggests that they were quite young and less likely to suffer stunting, especially where breastfeeding practices are good. The risk of stunting is rather high in children between age one and two years through inappropriate feeding. Though acute malnutrition increased from FY2004 (23.0%) to FY2005 (23.2%), probably due to intermittent food shortages and infections over the period, a percentage decrease (22.6%) from 30.0% baseline to 23.2% is remarkable.

The improvement in the nutritional status of children (0 – 59 months) is reflected in the observation that except in two communities in the Guinea savanna areas (Sakaa and Batiu), where only 40.0% of the children showed adequate weight gain in their growth curves, over 90.0% of children recorded adequate weight gain on their growth curves in the remaining 45 communities studied. This finding was easily recognizable from the physical features of children present at the Focus Group discussions. In all communities visited the people had adequate knowledge about the pattern of the growth curve, suggesting that the mid-term evaluation recommendation for emphasis on education on the growth chart was heeded by the ADRA staff. A very close relationship between the ADRA staff and community members was obvious, thus enhancing teaching and learning. A lady at Egeyikrom, in the Central Region sums it all ***“Oh as for Auntie Vic, she lives here with us. She is always here and talking to us so that our children will eat good food”.***

The following words by some of the beneficiary community members also reflect the positive impacts of ADRA's activities: ***“Before ADRA came we used to see our children developing kwashiorkor. But ever since ADRA came here, they have taught us what to feed our children with and have also introduced to us the ‘moringa’ plant which we add to the food of our children so we don’t see our children becoming malnourished again”***

“Before ADRA came here we used to stop attending weighing after one year when the child completes his immunization. ADRA has taught us to attend weighing until the child is five years. We can see our children growing well and also not falling sick frequently”, a woman at Drobon said this.

The nutrition education and cooking demonstrations embarked upon by ADRA, has resulted in the adoption of good nutritional practices in all their project communities. These include: preparation of nutritious meals with a mixture of a

variety of foodstuffs, extensive use of soy beans in various forms, regular use of *Moringa* which has been found to be very nutritious, thorough washing of vegetables before cooking, and cooking them in such a manner as to preserve the micronutrients they contain, regular consumption of fruits, and general hygienic methods of food preparation and storage.

3.3.2 Water, Sanitation and Personal Hygiene

Towards the realization of the objectives of this component of ADRA's DAP II (FY2002-FY2006), the agency has provided 260 water facilities (boreholes and hand-dug wells with pump) as against a target of 300, thus achieving 86.7% of target. As at the time of the impact evaluation, records in ADRA-Ghana indicated that a total of 1,642 Ventilated Improved Pit latrines (VIP's) and 1900 soak-aways, out of a target of 2000 of each, had been constructed for households in its operational areas. This was done by supporting community members financially and technically. The major constraints to the achievement of set target with respect to the hygienic sanitation facilities were occasional lack of funds in the course of the project. In most of the communities lacking these facilities, the desire to acquire them was obvious since applications had been submitted, and some level of commitment in terms of resources to be provided by the recipients was also evident. From FY2002 to FY2005, the percentage of households with access to hygienic sanitation facilities ranged between 22.2% to 42%.

The source of water for drinking purposes in all communities were either boreholes or hand-dug wells with pumps even though a few communities in the Central and Greater Accra regions had pipe-borne water which was not free flowing. Asunkwaa, Gomoa Adaa and Twerebo communities also use water from streams in addition to their boreholes or hand-dug wells. This indicates that they need more of the facilities.

Through ADRA's activities several people have access to potable and basic sanitation facilities, thus making a significant contribution to the Millennium Development Goals, and the objectives of Water for the Poor (WfP) initiative, one of the USAID Strategic Objectives.

All communities have WATSAN committee, which manages water resources in the community. Monies are paid by community members either monthly or when fetching water. Though most members could state how much monies they had collected so far, not all communities had deposited monies collected at the bank as required.

The Water and Sanitation component of ADRA's activities have been beneficial to both the ADRA clients and the larger community. The impact of such activities include; prevention of mosquitoes breeding through the construction of soak-aways, house to house education on preventive health by HAT and WATSAN members, construction and use of Ventilated Improved Latrines, provision of wells/boreholes and keeping of their surroundings clean, reduction of

indiscriminate defecation, reduction in diarrhoea outbreaks, and general improvement in cleanliness in the immediate surroundings.

The impact of all these activities on availability of clean and safe water, environmental sanitation and personal hygiene in the ADRA communities is tremendous. This explains why among all the selected communities the provision of good water from hand-dug wells and bore-holes, and construction of decent toilet facilities (VIP) and soak-aways to avoid stagnant waters in the compounds featured prominently among the most beneficial activities. These notwithstanding, 34 (72.3%) out of the 47 communities visited expressed the desire for more bore holes or hand dug wells due to larger population in the catchment area, whilst, 26 communities, (55.3%) wanted more VIPs constructed.

The general knowledge about what to do to maintain personal hygiene was very high among members present at the focus group discussions in the selected communities. All the communities (100.0%) knew the consequences for not keeping themselves and their communities clean. They mentioned diseases like cholera, diarrhea, typhoid, skin diseases, lice infection among others, as some of the problems associated with poor sanitation and personal hygiene. To reduce the incidence of diseases they mentioned the need to keep all food covered, eat hot food, wash hands before and after food and wash hands with water and soap after defecating.

The high level of knowledge of the community members is attributed to the effective preventive health education provided by the HAT and WATSAN teams which formed a major component of the project activities. As at FY2005, a total of 457 HAT teams had been formed, to train 1,371 individuals, whilst 156 WATSAN committees had been formed, with 799 individuals trained. With these teams in place, it was possible to provide several educational sessions in the community. The number of educational sessions increased gradually from FY2002, and by FY2004, a total of 33,346 of such sessions, each session benefiting between 60 to 100 community members were held.

The commitment and dedication with which the HAT and WATSAN teams provided the Health, Nutrition, Water and Sanitation information was confirmed by the community members during the group discussions. By the activities of these teams, the community members were confident to indicate that even if ADRA leaves, they will be able to sustain the gains in Health, Nutrition, Water and Sanitation component of the DAP.

ADRA also made a tremendous achievement in the School Health Education program. A total of 660 schools were reached with this strategy, with a total of 620 teachers trained. As at FY2005, an estimated number of 300,728 school children have benefited from this program. The high level of knowledge demonstrated by the school children during the focus group discussions on the causes and prevention of diarrhoea, malaria, and HIV/AIDS, as well as personal hygiene is

indicative of the immense benefit they have derived from the School Health Education program.

The HAT and WATSAN teams and the School Health Educators constitute a strong element of the beneficiary community's involvement in the project and hold the key to the sustenance of what ADRA has achieved in the areas of water, sanitation, and preventive health education. Therefore, their request for further training and provision of teaching and learning aids should be addressed as was also recommended by the mid-term evaluation. The harmonious existence of both teams, however, suggests the adoption of the mid-term evaluation's recommendation to address conflicts that existed between them.

3.3.3 Disease Knowledge and Prevention

In all the communities visited, the community members and school children demonstrated adequate knowledge on the causes and prevention of diarrhoea, malaria, HIV/AIDS. In the highly interactive and participatory focus group discussions that took place for each of the above groupings on the mentioned subject matter, over 90.0% of participants could give two or more correct answers. This could be due to the effective preventive Health education programs carried out in both the communities and the schools respectively by the HAT members and School Health Teachers, who demonstrated adequacy in their training and confidence in their new responsibility as health educators. The Environmental health officers have equally made significant contributions in this achievement, though they indicated insufficient remunerations, difficulty in mobilizing the people, and wide operational areas as their major constraints.

The community members, attested to the fact that, generally disease incidence, particularly diarrhoea and malaria, as well as sanitation related diseases has significantly reduced with the increased knowledge they have had on their causes and prevention. This fact was collaborated by two Senior Nursing Officers interviewed separately at the EP Church Health Center at Kpalba near Yendi, and the Boti/Akpamu Health Center in the Eastern Region.

3.3.3.1 Diarrhoea

With respect to diarrhoea, all (100.0%) of the communities mentioned death as a common complication. Oral Rehydration Salt (ORS) and home prepared salt and sugar solution (ORT) were mentioned by all (100.0%) the studied communities as some of the management methods. When asked when they will send the child to the clinic, most of them said they will do so when the child's condition worsened (refusing food, continuous diarrhoea and vomiting), or saw signs of dehydration which was given generally as sunken eyes, wrinkle skin and general weakness. The very high knowledge in diarrhoea management and prevention exhibited by

the community members is reflected in the low prevalence of diarrhoea (1.3%) in children less than 5 years in the communities sampled.

3.3.3.2 *Malaria*

The group's knowledge on the cause, signs and symptoms as well as prevention of malaria was very high, because all the communities (100.0%) were able to mention them. Their knowledge on the complications of malaria was good, especially for malaria in children. Approximately 46.0% of people present at the focus group discussions said they were sleeping in Insecticide Treated Nets. Prevalence of malaria among children under 5 years was quite low at 3.3% (Table 5).

Table 5 Health Indicator Rates in ADRA Communities, November, 2005

Indicator	Number present or counted	Number with characteristic of interest	Rate (%)
Malaria Prevalence in children under 5 years in past month	1355	45	3.3
ITN use among community members	1874	857	45.7
Diarrhoea prevalence in children under 5 years in past month	1355	16	1.2
Weighing Cards showing adequate growth	756	682	90.2

3.3.3.3 *HIV/AIDS*

All the community members and the school children were able to state more than three modes of transmission of the virus, viz:

- (i) Indiscriminate sexual activities
- (ii) Use of sharp, piercing and infected objects (needles, blades, knives, enema, among others)
- (iii) Infected blood transfusion.
- (iv) Mother to child transmission.

3.4 Attribution

ADRA collaborates with MOFA, GHS and Environmental Health Officers of the Ministry of Local Government, the Soil Research Institute and the Savanna Agricultural Research Institute of the Council for Scientific and Industrial Research (CSIR). These partners provide services that would be difficult for ADRA to do on its own. The combined effort of these partners facilitated program performance with its resulting synergies. Thus ADRA and its partners explore their collaborative advantages to carry out specific activities. The Consultants attempted to determine

the achievements of ADRA in the various intervention areas that could be attributed solely to ADRA. However, this was not realistic.

For example, it is worthy of note that though ADRA provided most of the water facilities in the operational areas, there were other organizations such as the Wa Catholic diocese, Evangelical Presbyterian church, Plan Ghana, Danish International Development Agency (DANIDA), World Vision International (WVI), and District Assemblies. In the provision of VIP's DANIDA, PLAN-GHANA, and District Assemblies were the other collaborators in the sector in the areas visited. ADRA also initiated the Amenity planting initiative that has helped reduced environmental degradation, and sustained the environment.

3.5 Achieving the Donor's Strategic Objectives

ADRA's program has contributed to achieving part of the USAID/Ghana Mission Goal of **Equitable Economic Growth and Accelerated Poverty Reduction within a System of Sound Democratic Governance**. Some of ADRA's contributions to achieving the goal have been fully discussed in the report. They include (i) reduction in months of household food shortage through increased production of annual and tree crops and reduction of post harvest losses (ii) amenity planting that is in line with the protecting the world's environment for long-term sustainability (iii) improved sanitation and subsequent reduction in water-related diseases (eg. diarrhoea, malaria etc.) through the provision of boreholes, soakaways and VIPs that helps to protect human health and (iv) the training and education in disease knowledge and prevention, and improved practice of exclusive breastfeeding.

4.0 SUSTAINABILITY ISSUES- Findings and Recommendations

This section provides information on sustainability issues of ADRA initiated projects in the community in which they operate.

4.1 Impact (Agriculture and Natural Resource Management)

The Consultants assessed the Community's competence and prospects to continuing sustainable and effective food security activities on their own for the foreseeable future. Most of the clients indicated that the improved technology acquired would help them sustain the production of the crops. ***“ADRA will leave with their money but the new technologies and team spirit we have will remain”*** In addition most of the clients indicated that the proceeds from the tree crops (Citrus, mango) and woodlots will sustain them at the end of the project period. Although some of the Groups had deposited some amount in the bank, it

was too small to be used as collateral to source for credit from the banks after “graduation”

4.1.1 Impact of Program on Livelihood

The Consultants were able to confirm the following impact on the livelihood of clients during the interviews.

- Increased yields as a result of new and improved cropping techniques
- Reduced storage losses in improved storage units
- Reduction in the months of household food shortage
- Increased income from food crop sales
- Most families can now afford to pay for the cost of children’s education
- Positive impact on the general family welfare (acquiring capital and fixed assets eg. houses, cars, bicycles, motorbikes, meeting health care expenses, finance children’s education),
- Income from produce is diversified to other income-generating ventures.

4.1.2 Financial Benefits of the Promoted Technology

In order to further assess the contribution of ADRA’s promoted technology in terms of financial benefits, the consultants collected information on the variable cost (labor and cost of inputs) from land preparation to the harvest and threshing of maize, soybean and groundnuts (Appendices 2,3 and 4). By helping to increase maize yields from 0.8 t /ha (3 bags/acre) to 2.5 t/ha (10 bags per acre) through the promotion of growing quality protein maize (*Obaatanpa or Mamaba*), improved practices, **ADRA has contributed to achieving Target 2 of the MDG). Another significant impact is the increased yields of soybeans from 0.5 t /ha (200 kg/acre) to 1.7 t /ha (700 kg/ acre).** Although there was no baseline for the yield of groundnuts, the reported yields of (6500 kg/acre) of unshelled groundnuts is more than twice the national average yields. (Appendices 7 and 8)

Table 6 shows that although the cost of operation for the improved technology was 1.8 million cedis (\$200) compared to 0.93 million cedis (\$103) for the existing practices, ADRA’s interventions of promoting improved maize and improved agronomic practices resulted in generating a net revenue of 2.7 million cedis (\$300). The net income realized per acre from the existing practices was 0.45 million cedis (\$50) per acre. By promoting the improved cultural practices and storage, ADRA has contributed to increasing the income of a client by ¢ 2.3 million (\$256) per an acre of maize cultivated. Similarly, ADRA has helped to increase the net revenue to soybean clients by 1.4 million cedis (\$ 156).

Table 6 Financial Analysis of Maize Production per Acre

Parameter	Northern	Mid-Belt	Coastal	Average (improved)	Average (Existing)
Total Cost of operation (¢*)	1,501,500	2,032,631	2,002,938	1,845,690	963,000
Price per bag at harvest (¢)	192,000	250,125	210,715	217,613	217,613
Price after storage (¢)	440,000	491,125	477,054	469,393	469,393
Average yield (bags/acre)	8.0	10.5	10.5	9.7	3.0
Net Revenue when sold at harvest (¢)	34,500	593,681	209,570	279,250	-310,161
Net Revenue after storage (¢)	2,018,000	3,124,182	3,006,129	2716,104	445,179

* 1US\$ = 9000 Ghanaian cedis (¢)

The contribution of ADRA in terms of the financial benefits to farmers is significant but usually not reported. ADRA's Results Report tends to focus much on Annual yields of promoted crops. Financial analyses should be priorities to enable clients assess the net benefits and the sustainability of the promoted technologies. In future, ADRA should help the communities keep records of the cost and benefits of their activities.

Recommendations

ADRA should train clients on simple record keeping and management of their farming activities. ADRA should design a user-friendly format to facilitate the recording of data by clients. This will help to routinely assess the profitability of any promoted technologies in the communities where ADRA operates.

In communities where payment in kind is established, clients should make contributions to the group account in the bank to boost their credit potential to solicit loans from the bank in future. Clients should also be encouraged to make contributions towards their savings at the bank after the sales of their stored products

4.1.3 Community Mobilization

It is a vital component of both impact and sustainability in the development of local capacity to identify and prioritize food security needs and feasible strategies to address them. Over the 4-year period, approximately 700 groups (25 clients) were created covering about 14,000 households. The clients are aware of the selection

criteria and that the selection procedure was participatory. The Consultants commend ADRA for the effort made for building team spirit, and the ability to work together among the clients in the community where they operate. This unity among the clients in the community would help them to come together and speak with one voice.

4.1.4 Feminization

Another important achievement by ADRA worth mentioning is **feminization**—improving economic status of women. The participation of women in communities to address household food insecurity, improved sanitation, improved nutritional status and food habits is a remarkable achievement. The Consultants observed the active participation of women in discussions during meetings. This is a good indication of an effort to achieve gender equality and improved livelihood for rural communities.

4.1.5 Collaboration with MOFA

Observations

ADRA collaborates with MOFA to carry out extension services and specific activities. A continuous collaboration between MOFA and ADRA is vital for the sustainability of ADRA’s future programs. Whereas most of the MOFA staff members interviewed were satisfied with the collaboration with ADRA, the need for ADRA to have a joint planning meeting with MOFA during the formulation stages of the project was raised as a concern. In Techiman (Brong Ahafo), MOFA raised another concern on the need for mutual recognition of the contributions of MOFA and ADRA in the collaboration. A request was made by MOFA to ADRA on the need for future collaboration on “Nutrition and Safety” programs.

4.1.6 Adoption of Improved technologies by non-Clients

Observations

During the field visits, the Consultants interviewed non-ADRA clients in the Mid, Central and Coastal belts to collect data for a rapid assessment on the percentage of adoption of the technologies promoted by ADRA in their communities. In most of the communities visited, the non-clients were more than the ADRA clients.

Table 7 Percentage of Adoption of Improved Technologies by non-Clients

Parameter	Mid Belt	Central	Coastal	Average
Improved Varieties (%)	34	20	40	31.3
Row Planting	82	26	76	61.3
Fertilizers	72	8	23	34.3
Owns cashew/mango/citrus	16	5	17	12.7

Computed values indicated an average of 61.3% adoption for row planting, but less than 35% adoption for improved seeds and fertilizer use. Only 12.7 % of the non-ADRA clients interviewed have planted cashew, mango or citrus. The main reason for the low adoption of technologies by the non-ADRA clients was the lack of credit to purchase the inputs. The percentage of non ADRA clients to adopt technologies that do not involve any financial commitments was high compared to those that involve money. The high adoption of the skills and technology by non-assisted clients is a positive move towards the sustainability and impact of the promoted technology by ADRA. The Consultants however realized the need for ADRA to assess the diffusion and adoption of their promoted technology in the nearby non-ADRA assisted communities.

Recommendation

ADRA should document the rate of diffusion and the level of adoption by non-clients. In this regard, independent Consultants could be engaged to assess the adoption and diffusion of various ADRA interventions. The problem of non-adoption should be documented for future interventions.

4.2 Impacts of Program on Livelihoods (Health, Nutrition, Water and Sanitation)

Improved sanitation and subsequent reduction of related diseases and infections, improved nutritional status and food habits is a remarkable achievement of ADRA's Food Security Project on the lives of the beneficiary communities. This is sufficient to motivate the community members to maintain and sustain what has been achieved.

Unlike the Agriculture and Natural Resource Management Component of the project which targeted farmers, the Nutrition, Water/Sanitation and Preventive Health Education was beneficial for all the community members. The VIP's that were provided for the ADRA clients served a good number of non-ADRA members in the vicinity. As one community leader in Kpachilo in the Savelugu/Nanton district of the Northern region put it in an informal conversation, ***“we have been saved from the shame of directing a visitor who has diarrhoea to go to the bush”***. The improved knowledge and practice in Nutrition, Environmental Sanitation, Personal Hygiene, disease prevention and the subsequent reduction in disease incidence has been beneficial to both ADRA and Non-ADRA members. It is encouraging to note that in Drobon, one non-ADRA community member had constructed his own VIP latrine.

4.2.1 Collaboration (Health, Nutrition, Water and Sanitation)

ADRA collaborates with staff of the Environmental Health Division of the District Assembly in the area of sanitation. This relationship was found to be very strong in all communities and the environmental health officers were key persons involved in the work of ADRA. Collaboration with the District Health Management Teams (DHMT) of the Ghana Health Service was, however, not clearly visible in some of the districts. In most of the districts, DHMT members knew of the presence of ADRA in their districts but with the exception of nutrition officers, others could not tell exactly what they were doing in the communities. This however, was different in the Techiman and North Tongu districts where the District Directors had been working with ADRA and has documentary evidence of ADRA's work in the communities. No wonder, in these districts, activities of ADRA is captured in the yearly DHMT health reports, which are sent to the regional health administration.

Collaboration with the School Health Education Program (SHEP) of the Ghana Education Service (GES) was also found to be very informal. Most SHEP Coordinators of the GES were invited to the meeting during the start of the project and in some instances participated at district training sessions. ADRA trained school health teachers are doing very well in the area of school health education. The general knowledge on preventive health of school children was found to be very high. Reports on activities conducted by these teachers are sent to the ADRA staff, with the SHEP coordinators of the GES completely left out. All the good works by these school health teachers are therefore not captured by the district SHEP Coordinators, who send their reports to the regional SHEP Coordinators of the GES. This anomaly needs to be corrected, and pave way for the SHEP co-coordinators to replicate the gains in non-ADRA operated communities.

4.3 Sustainability of Future Program Interventions

With an eminent budget cuts in the future operations of ADRA, the Consultant tried to assess its operations and identify what interventions to be maintained, and the areas of operation to reduce running cost (fuel, car maintenance, enumeration) in order to maximize funds for critical operations. The considerations below are suggested for the way forward.

4.3.1 Exit Strategy Plan

The Consultants are not aware of any documented Exit strategy plan for ADRA.

We strongly recommend that ADRA put priority in developing a comprehensive Exit strategy plan with different financial scenarios before the end of the project. This is to enable ADRA prepare for eventualities during shortfall or major cuts of funding during the next DAP.

4.3.2 Areas of Operation

ADRA currently operates in 9 of the 10 regions in Ghana. ADRA may not be able to sustain its operations in all these regions in the near future. **A similar concern was raised by MOFA that ADRA should consider reducing participating communities in order to achieve impact.** We observed that few of the communities visited were within the limits of the municipal town and were already benefiting from the projects by the municipal assembly. In future, ADRA should avoid selecting communities that are close to municipal capitals, because ADRA has no comparative advantage.

We recommend that In order to avoid spreading too thin, ADRA should consider reducing the number of regions where it operates through prioritization based on needs assessment. In addition, ADRA should seriously consider decreasing the number of communities but increase the number of beneficiaries in the community.

4.3.3 Interventions to be Directly Supported by ADRA

Timely preparation of the land is paramount to the success of enhancing agricultural productivity. Late preparation of the land will result in late planting, low yield and then low loan repayment. Farmers interviewed ranked assistance in land preparation as the highest among the other interventions.

ADRA should fully support clients in land preparation in future by improving the arrangement of tractor services to the selected communities. Where animal traction is practiced, ADRA should continue to provide credit for the purchase of more bullocks by clients.

4.3.4 Crops to be Promoted

ADRA should continue to promote maize, soybean, citrus, mango and vegetables. For the multipurpose trees, Cassia and Moringa are to be promoted. ADRA should consider supporting clients through the provision of improved hand-dug wells for vegetable production in the valleys on loan basis.

4.3.5 Instituting the Culture of Savings by Clients

In communities where payment in kind is established, clients should make contributions to the group account in the bank to boost their credit potential to solicit loans from the bank in future. Clients should also be encouraged to increase their contributions after the sale of their stored products on a more regular basis.

4.3.6 Agro-input Supply and Credit Facilities

Based on our earlier discussions on the exit strategy, we recommend that **ADRA should link farmers to rural banks and other financial institutions to obtain loans for the purchase of seeds, fertilizers and agro-chemicals. In this case,**

ADRA should identify an agro-input dealer in each operational area where clients could obtain seeds and fertilizers and the money paid to the dealers by the banks

4.4 Sustainability of Health, Nutrition, Water and Sanitation

When asked whether they could sustain whatever ADRA has brought to them, and if yes how they hope to do so, some of the responses were:

- From a male respondent from Drobon ***“Yes, the knowledge we have received from personal hygiene, malaria, diarrhoea and HIV/AIDS cannot be taken from us again if ADRA leaves. We will continue to practise the good practices to stay healthy”***
- From a female respondent from Baafi ***“Yes, we will continue to feed our children with protein rich foods like soybeans and Moringa which ADRA has taught us to cultivate. This will make our children grow well and healthy.”*** Throughout the 47 sampled communities, similar views were expressed.

The evaluation team was assured by communities as well as field collaborators (school health teachers, environmental health officers and district directors of health services) that much of what ADRA was doing was sustainable. Several communities have been selected for Global Fund for malaria activities and several communities have planted the ‘*Moringa*’ plant. The knowledge on childhood feeding as well as childhood diseases among community members was very high. A male community member from Nanvilli put it this way when the question was asked ***“Ah! Even if ADRA is no more, there is no way the knowledge we have gained from them regarding childhood feeding and prevention of childhood diseases will be forgotten. We will continue to feed our children well and also protect them from the common childhood diseases. Will they also take away the knowledge from our brains if they leave us?”*** This is seen as a positive indication for the sustainability of the Health and Nutrition component.

Some community members interviewed claim they will contribute and pay HAT members or weed their farms when ADRA was no more in their communities. In all communities, monies are collected by WATSAN committee members for water facility maintenance. This they hoped will ensure continuous water flow even when ADRA was no more. It was observed that beneficiaries’ capacity to sustain projects has been built through training and education sessions organized by HAT members and field staff.

4.4.1 Continuous Health Education

In all communities, there should be continuous education on Health, Nutrition and personal Hygiene to keep beneficiaries abreast with current messages on health.

The new policy on the management of Malaria should be shared with all HAT, WATSAN, School Health teachers and ADRA field officers. The ripple effects of continuous health education will no small way improve the health of the communities

5.0 PROGRAM MANAGEMENT AND FOOD SECURITY

5.1 Assessing Effectiveness and Efficiency

In the view of the Consultants, the proposed interventions by ADRA have helped to improve the basic food security needs of the recipient communities as stated in the project goal and objectives.

5.1.1 Monitoring and Evaluation

In an innovation systems approach, it is essential to have a means of quickly determining and explaining what works, what does not, not only within the Teams but also between the teams. From the beginning of the project, ADRA assigned a high priority to monitoring and evaluation by carrying out a comprehensive Baseline survey in 2002. We observed that the M and E set up very clearly defined indicators that were relevant and fairly simple to monitor.

5.1.2 Cost-Benefit Analysis of the Promoted Interventions

Based on the computed values, the Consultants were satisfied that the promoted innovations by ADRA is cost effective, As indicated in our earlier recommendations, ADRA needs to do more in tracking the financial analysis of promoted technologies by clients.

5.1.3 Implementation Compliance (MTE Recommendations)

The consultants reviewed the mid-term evaluation report and assessed the extent to which the recommendations have been implemented. Although the time between the MTE and the Impact Evaluation was too short, ADRA has made significant progress in addressing some of the MTE recommendations. The Consultants observations to ADRA's responses and implementation of the recommendations are attached as Appendix 13.

5.1.4 Ability of the Field Staff to Impact Technology to Clients

We are satisfied with the way the field staff has impacted the technology to staff. In our view, the field staff has the requisite qualification and experience to do the job. In order to take advantage of the expertise in the Universities and the other tertiary institutions, and further to reduce the fatigue on the field officers, ADRA should

continue with the engagement and training of National Service personnel for their services.

5.1.5 Educational Exchange Tours and Awards

ADRA should strengthen its inter-regional education exchange tours for clients to see some of the success stories in other regions. ADRA should continue with the prize awards for the best ADRA client at the District, Regional and National levels. This will serve as incentives to clients.

5.1.6 Sanitation Facilities

ADRA should continue to support the construction of VIP's and soak-aways, at least in the communities where members have expressed interest and have initiated the process of acquiring them.

5.1.7 Maintenance of Potable Water Sources

ADRA should in this area also continue to support the communities provided with potable water to establish funds kept at recognized banks, and used for equipment acquisition and maintenance of the water sources.

5.1.8 Advocacy Role

ADRA should play an advocacy role and strengthen collaboration with traditional leaders, Ghana Health Service, Ministry of Local Government and Rural Development, and NGO's to improve community mobilization, and complementarities in order to improve nutrition, health, and sanitation in the communities.

5.2 General Recommendations

5.2.1 Agriculture and Natural Resources Management

All the recommendations for the Agriculture and Natural Resources Management are highlighted in Sections **3, 4 and 5**.

5.2.2 Health, Nutrition, Water and Sanitation

Based on the findings of the impact evaluation, the following general recommendations are made on the Health, Nutrition, Water and Sanitation component of the current Title II Food Security Project implemented by ADRA and a future related project.

Recommendations for the current Title II Food Security Project.

- 1 ADRA should continue to support more households in the project communities to have their own VIP's, since many expressed the desire to own them. In a few of the communities, some members had applied for and had taken the initial steps of making deposit payments, as well as digging the pits, but the initiation of the constructional work was delayed. ADRA should work against all bottlenecks to ensure that as many households as have expressed interest should be provided with one. In the communities where clear evidence of the inability of households to meet their part of the total cost of constructing the VIP, ADRA could consider providing the facility to credit worthy ones, and recover the cost from sale of agricultural produce.
- 2 The soak-away concept has been fully embraced in the ADRA operated communities. The initial apathetic attitude of some community members when the technology was introduced necessitated staff of ADRA to request community members to show evidence of readiness before they are supplied with PVC pipes. Now several community members are ready and waiting for ADRA to provide them with PVC pipes for the purpose of their construction, while others had applied the technical knowledge given them to successfully construct soak-aways without PVC pipes. We recommend that ADRA should take steps to provide these materials to the communities, or exploit the latter strategy to cut down on cost.
- 3 The major constraints that militated against activities of the HAT (Health and Agriculture) members which was acclaimed excellent in majority of the communities, was difficulty in ensuring compliance to behavior change. In addressing this problem, we recommend that ADRA should strengthen its collaboration with community chiefs, environmental health officers and other leaders to find more effective strategies in ensuring compliance to behavior change. To the Environmental Health Officers, and upward adjustment of their allowances and provision of motor bikes will motivate them to work better.
- 4 The message on Exclusive Breastfeeding (EBF) has gone down very well to all community members as evidenced in the high EBF rates. Knowledge on appropriate complementary feeding among community members was also very high but there were pockets of poor practices noticed among some of the community members. We recommend that similar efforts should be directed at feeding the child aged 6 months and above on complementary foods to ensure a complete absence of chronic malnutrition in the communities.
- 5 The collaboration between ADRA, Environmental Health Officers, and HAT and WATSAN members has been beneficial, and accordingly appreciated. However, an upward review of the current level of remuneration and provision of a means of transport to HAT members and environmental health officers is recommended since their operational areas are large, and they often embark on house to house campaigns on foot. Remuneration of

WATSAN members should be discussed with chiefs and community members to sustain the good work they are doing. Provision of appropriate means of transport to WATSAN and HAT members will have a huge impact on their performance.

Recommendations for future Project

1. To ensure the sustainability of the quality water sources provided by ADRA, we recommend that staff of ADRA should strictly ensure that all WATSAN (Water and Sanitation) members deposit all monies collected into bank accounts created for that purpose. In the same vein a multipurpose fund could be established through contributions by community members, to sustain the other health related activities initiated by ADRA in the event of the agency's exit.
2. The current practice where WATSAN committee members go shopping for spare parts from open markets when hand-dug wells and boreholes break down should be discouraged. We recommend that ADRA should strengthen the collaboration with the district assemblies and other water agencies and explore if these agencies could buy some of the essential parts for hand-dug wells and boreholes and re-sell to WATSAN members.
3. With the exception of a few communities, more than 75% of the ADRA assisted communities expressed the desire to have clinics to address their health care needs. However, considering the financial implications for such a project, it is recommended that ADRA collaborates with the Ghana Health Service and the District Assemblies in the establishment of CHPS (Community Health Planning and Services) compounds, which had been initiated in a few of them including Akorley, and Akpamu/Boti in the Eastern Region.
4. Since knowledge, particularly those bothering on health is not static, the evaluators would want to agree with the school health teachers on their request to be given more periodic refresher courses, in order to be abreast with current information. Perhaps something similar could be done for HAT and WATSAN teams as well, especially to keep them informed on the new drug policy change for malaria.
5. To ensure that all the good work done by ADRA will be noticed and sustained and replicated elsewhere we recommend the strengthening of the collaboration between staff of ADRA and the following team:
 - District Director of Health Services
 - District Public Health Nurse
 - District Nutrition Officer
 - District Environmental Health Officer and

- District SHEP coordinator

In addition, all monthly or quarterly reports of ADRA activities should be shared among the team members.

6.0 GENERAL CONCLUSIONS AND THE WAY FORWARD

In the view of the Consultants, ADRA/Ghana has met most of its task set in the proposed components of the project. ADRA has targeted deprived communities and that beneficiaries have achieved higher income, become more food secured. Improved sanitation and subsequent reduction of related diseases and infections improved nutritional status and food habits is a remarkable achievement of ADRA's Food Security Project on the lives of the beneficiary communities. Despite these achievements, some bold decisions should be made by ADRA during the last year of the project to ensure (i) the sustainability of the achievements, (ii) and a successful completion of the project and follow-on activities.

General observations and recommendations have been highlighted in the other sections. The following are the summary of intervention specific recommendations presented to guide the way forward.

- 1 ADRA should "speed up" in addressing the pest problem through an integrated approach. To prevent further frustrations from cashew farmers who continue to cut down the trees to grow other crops because of low yields and lack of market, ADRA should explore the "in-kind payment" system for cashew.
- 2 Provision of small-scale processing equipments for cashew should be on the priority list of the packages for the old clients in the Southern Sector. ADRA should train Clients on how to improve the recovery percentage of whole nuts during cracking.
- 3 To ensure timely repayment of loans, clients should be sensitized not to wait till crop harvest before paying the loans. ADRA should institute a scheme where individuals could be assigned an Entry Card for monthly payments to be recorded.
- 4 ADRA should train clients on simple record keeping and management of their farming activities. ADRA should design a user-friendly format to facilitate the recording of data by clients. This will help to routinely assess the profitability of any promoted technologies in the communities where ADRA operates.
- 5 ADRA should document the rate of diffusion and the level of adoption by non-clients. In this regard, independent Consultants could be engaged to assess the adoption and diffusion of various ADRA interventions.
- 6 ADRA should continue to support the construction of VIPs and soak-aways, at least in the communities where members have expressed interest and have initiated the process.

- 7 ADRA should support the communities provided with potable water to establish funds kept at recognized banks, and used for equipment acquisition and maintenance of the water sources.
- 8 ADRA should play an advocacy role and strengthen collaboration with traditional leaders, Ghana Health Service, Ministry of Local Government and Rural development, and NGO's to improve community mobilization, and complementarities in order to improve nutrition, health, and sanitation in the communities.

The Way forward: Sustainability of future program interventions

This section is discussed in detail in **Section 4.3**. The summaries are presented in this Section. With an eminent budget cut in the future operations of ADRA,

- 1 We strongly recommend that ADRA put priority in developing a comprehensive Exit strategy plan with different financial scenarios before the end of the project. This is to enable ADRA prepare for eventualities during shortfall or major budget cuts in funding during the next DAP.**
- 2 In order to avoid spreading too thin, ADRA should consider reducing the number of regions where it operates through prioritization based on needs assessment. In addition, ADRA should seriously consider decreasing the number of communities but increase the number of beneficiaries in the community.**
- 3 ADRA should fully support clients in land preparation in future by improving the arrangement of tractor services to the selected communities. Where animal traction is practiced, ADRA should provide credit for the purchase of more bullocks by clients.**
- 4 ADRA should link farmers to rural banks and other financial institutions to obtain loans for the purchase of seeds, fertilizers and agro-chemicals. In this case, ADRA should identify an agro-input dealer in each operational area where clients could obtain seeds and fertilizers and the money paid to the dealers by the banks**
- 5 In all communities, there should be continuous education on Health, Nutrition, Water, Sanitation and Personal Hygiene to keep beneficiaries abreast with current messages on health. The new management of Malaria should be shared with all HAT, WATSAN, School Health teachers and ADRA field officers. The ripple effects of continuous health education will in no small way improve the health of the communities.**

Request from clients in future interventions

Numerous request were made by the various communities to be included in the interventions of the future DAP. ADRA should consider the following in the next DAP

- Assistance in the construction of hand-dug well for dry season vegetable production
- Training in Animal traction
- Knapsack sprayers
- Loans to women for petty trading
- Integration of livestock/honey harvesting in current cropping system
- Expansion of potable water
- Clinics
- Provision of more power tillers

Appendices

Appendix 1 SCOPE OF WORK FOR IMPACT EVALUATION

ADRA/GHANA'S FOOD SECURITY PROGRAM (FY2002-FY2006)

INTRODUCTION

ADRA/Ghana implemented a 5-year Title II funded Food Security Program in eight regions of Ghana from October 1996 to September 2001. The Development Assistance Program (DAP) for Fiscal Years(FY) 1997 – 2001 sought to enhance food security for 16,000 resource poor farmer households in selected districts of the country. The program used an integrated approach involving Natural Resource Management, Agricultural Production, Marketing, Agro-Processing, Nutrition, Water/Sanitation, and Preventive Health Education to address the problems of food availability, access and utilization in the targeted households.

The final impact evaluation of the program reported tremendous increases in food crop yields and household income, improved nutritional status among children of targeted households, reduction in sanitation related diseases and improved access to potable water in client communities.

As a result of that initial success, the agency received further funding for another 5-year program(FY2002-FY2006) which seeks to build on and expand the content and coverage of the first program. In addition to the first batch of 16,000 households from the first DAP who will receive support in marketing and agro-processing, 14,000 new farmer households in 9 regions will also be assisted to improve their food production capacity. The initial nutrition, water and sanitation education component of the first program has also been expanded to cover HIV/AIDS and malaria prevention in all client communities. A new strategy of targeting basic school children in the dissemination of educational messages on nutrition and health has also been introduced. Tree-planting and conservation activities are also being supported in the new program to help address issues of deforestation, loss of bio-diversity, land degradation and depletion of underground and surface water sources.

ADRA/Ghana's program provides substantial support to the achievement of USAID/Ghana's goal of assisting Ghanaians in establishing "**Equitable Economic Growth and Accelerated Poverty Reduction within a System of Sound Democratic Governance**" under the 2004 – 2010 Country Strategic Plan(CSP). The program also provides support to USAID's goals of encouraging broad-based economic growth and agriculture development as well as protecting the world's environment and human health.

This program is in its fourth year and an impact evaluation is to be done in line with USAID's Bureau for Humanitarian Response-office of Food for Peace(BHR/FFP) directive that "Cooperating Sponsors should conduct impact evaluations in the year prior to the program's final year and submit the evaluation report to FFP during the final year".

In the case of ADRA/Ghana, where a follow-on program is to be proposed, FFP requires that the evaluation report is submitted prior to the submission of the follow-on proposal.

PROGRAM GOAL, OBJECTIVES AND ACTIVITIES.

The overall goal of the current ADRA/GHANA DAP is to enhance food security for 30,000 clients farmer households(expected beneficiaries of approximately 300,000) in the targeted areas. This goal is being achieved through the following strategic objectives(SOs) and intermediate results(IRs).

SO1. Improved Agricultural production and income;

- IR1. Increased agricultural production,
- IR2. Increased access to markets,
- IR3. Increased access to agric credit,
- IR4. Increased natural resource management practices.

SO2. Improved Health and Nutrition Status;

- IR1. Improved nutrition and preventive health knowledge and practice,
- IR2. Increased access to potable water,
- IR3. Increased access to hygienic sanitation facilities.

Program activities include:

- Supply of agro-inputs on credit,
- Assisting in land preparation,
- Training and provision of agric technical assistance,
- Construction of improved storage facilities,
- Agro-processing,
- Rehabilitation of Farm to market roads,
- Linking farmers to marketing organizations,
- Community tree planting,
- Community education in agric, natural resources management, nutrition and preventive health,
- Construction and management of water and sanitation facilities.

PURPOSE AND OBJECTIVES OF THE IMPACT EVALUATION.

The purpose of the impact evaluation is to determine the extent to which ADRA has achieved the goal and objectives of the program.

Utilizing baseline and other survey reports, annual and semi-annual reports and qualitative and quantitative information from Rapid Rural Appraisals, the impact evaluation shall be done with the following specific objectives:

- 1). To assess the impact of the ADRA/Ghana food security program as per the established and approved performance impact indicators on the Indicator Performance Tracking Table(IPTT).
- 2). To compare set targets with achievements and identify the reasons for any over or under achievement of such targets.
- 3). To determine the extent to which program achievements can be attributed to

ADRA and the advantages of the strategies being used to achieve household food security in the project areas.

- 4). To identify the critical issues (community leadership, technology adoption and loan repayment rates, etc.) and lessons learned and make recommendations on activities and strategies to be adopted in follow-on programs.
- 5). To assess the unintended benefits, program effects on non-clients and prospects for the sustainability of program interventions and impacts.
- 6). To assess the contributions of the program to the achievement of the goals and objectives of the donor in the country.
- 7). To assess the effectiveness and efficiency of program management and the extent to which the recommendations of the Mid-Term evaluation have been implemented.

METHODOLOGY

The impact evaluation will be a joint activity by ADRA/Ghana and other stakeholders, mainly, the local USAID Mission, ADRA International and FFP Washington. Regular consultations will be held through out the evaluation planning, implementation and reporting to ensure joint ownership of the results by all partners.

The evaluation will use participatory rapid assessment techniques involving extensive interaction with management and technical staff at the head office and the field offices, clients and collaborators to solicit both qualitative and quantitative information. This process will be complemented with data from program annual and semi-annual reports or previous surveys.

The evaluation shall measure program outputs, results/effects, outcomes and impacts against baselines and performance indicators and assess the overall contribution to food security in the target communities.

The methodology shall include but not limited to the following:

Literature Review - The evaluation team shall conduct a literature review of selected program documents to identify the Title II program key issues. Such documents shall include the USAID CSP, ADRA/Ghana DAP, Annual and Semi-Annual Reports and Assessment/Survey Reports.

Key Informant Interviews – The team shall interview officials involved with Title II at ADRA Head Office, USAID Mission in Ghana, ADRA/Ghana Field Staff and staff of other Public and Private Sector Agencies and Community Leaders collaborating with ADRA in the DAP implementation.

Focus Group Interviews and Observational Field Visits - The team shall also conduct focus group interviews of sample clients and non-clients and observational field visits for qualitative and quantitative data on the impact of the program and the achievement of program objectives and targets.

The evaluation team will also be expected to come up with any challenges they might have encountered during the evaluation and document same to guide future actions.

COMPOSITION OF THE EVALUATION TEAM

The evaluation team will consist of the Director of Evaluation at ADRA International, Representative of USAID, two Ghanaian Consultants each for Agric/Nat. Res. Mgt. and Health/Nutrition and the Food Security Program Management Team in ADRA/Ghana.

The external Ghanaian consultants will be expected to have competencies or skills in some of the areas of Evaluation, Food Security, Agricultural Economics, Agricultural Extension, Natural Resources/Environmental Management, Nutrition, Health Education and Participatory Community Development

SCHEDULE OF ACTIVITIES

Activity	Timeline	Partners Responsible
Develop Scope of Work	July 2005	ADRA and USAID
Recruit Consultants	August 2005	ADRA and USAID
Review Relevant Program Documents and Develop Data Collection Tools	October 17 – 19, 2005	Consultants/ADRA/USAID
Pretest and finalize Data Collection Tools	October 20 – 21, 2005	Consultants/ADRA/USAID/Clients
Field Work	October 24 – Nov 11, 2005	ADRA Management Staff/USAID and Consultants
Presentation of First Draft Report	November 27, 2005	Consultants
Review of Draft Report	November 27 – Dec 23, 2005	Consultants/ADRA/USAID
Submission of Final Report	January 17, 2006	Consultants
Report Dissemination Workshop	January 2006	ADRA/USAID

REPORT FORMAT

The impact evaluation report will be written using the following format:

Title Page.

The title page will state the name and program number, names and titles of consultants, and date and name of the document.

Table of Contents.

The table of contents should outline each major topic section, appendices, figures, maps, tables, etc.

List of Acronyms.

Unusual or obscure acronyms should be identified at the beginning of the report.

Executive Summary.

The executive summary synthesis should be no more than two to three pages in length and will include: background of program, evaluation objectives, methodology, accomplishments and impact of the program, findings and recommendations:

Body of the Evaluation.

The body of the evaluation report will include the following in sequential order:

Introduction and background

The introduction and background will include at a minimum: justification for awarding grant, goals and objectives of the grant, implementation methods, and the purpose of the evaluation.

Evaluation Methodology.

The evaluation methodology will include at a minimum: description of data collection methods and evaluation sites selection processes.

Composition and Qualifications of the Evaluation Team

Brief description of the composition of the team and the qualifications of team members. Curriculum vitae of team members shall be included as appendices to the final report.

Program Impact Assessment:

This section will focus on the impact of program components.

The evaluation team will use information gathered to assess the impact of the program as per the established and approved performance indicators including an analysis of the strategies used, the critical issues and lessons learned. The team will also look at the program's contribution to the overall goals and objectives of USAID in Ghana.

Sustainability Issues:

This section will focus on an assessment of the prospects for the sustainability of the interventions and impacts

of the program.

Program Management:

The team will provide an assessment of the effectiveness and Efficiency of the management of the food security program in this section.

Findings and recommendations:

The team should clearly spell out its findings both positive and negative, if any, and provide concrete recommendations to the program staff as to how to proceed in the event of a follow-on program.

Results Highlight (optional)

If possible at all and if there exists an interesting human interest story related to some aspect of the program, supply a two page (maximum) narrative with supporting data, that may be used as a communication piece for ADRA or USAID to distribute or to post on the Office WebPages.

Appendices.

The appendices shall include but not limited to the scope of work, itinerary for the evaluation visit, list of individuals interviewed/surveyed during the evaluation, surveys and interviewer questionnaires, references cited, list of team members with CVs and maps. Additional appendices such as case studies, etc. may be included as determined appropriate by the evaluation team.

Distribution of the Evaluation Document

The ultimate responsibility for gathering and disseminating information from all of its regional offices around the world lies within ADRA/HQ. Therefore, ADRA/HQ expects the evaluation team particularly the hired consultants, to turn to ADRA/HQ all the data and other information which were used as the basis of the team's final inferences.

It is ADRA's position that no evaluation is final until it is presented to ADRA/HQ, discussed with the consultants in an open manner, engaged parties have a clear understandings of all conclusions and any differing views between the consultant and ADRA/HQ as reflected in the final document.

ADRA/HQ does not edit or change in any form or fashion the final report of the evaluation team without the Team's consent before final submission to USAID.

Appendix 2**List of Documents Reviewed**

- 1 ADRA/Ghana Food Security Program (FY 2002-FY 2006), Scope of Work for Impact Evaluation, September-October 2005
- 2 Semi-Annual Reports, Project Status Report FY 2002
- 3 Semi-Annual Report, Project Status Report FY 2003
- 4 Semi-Annual Report, Project Status Report FY 2004
- 5 Semi-Annual Report, Project Status Report FY 2005
- 6 Annual Results Report 2002
- 7 Annual Results Report 2003
- 8 Annual Results Report 2004
- 9 Baseline Survey Report
- 10 School Health Survey Reports
- 11 Indicator Performance Tracking Table, DAP 2003-2006
- 12 Monitoring and Evaluation Plan
- 13 ADRA/Ghana Development Assistance Program
- 14 ADRA/Ghana Development Assistance Program, Addendum
- 15 ADRA/Ghana FY 2002-FY 2006 Initial Environmental Examination

Appendix 3

List of Communities visited

Group A						
Date	Region	Operational Area	District	Community	Activities/ Interventions	
					ANRM	HNWS
24 October 2005	Ashanti	Mampong	Ejura Sekyere	Drobon	Mango, Citrus, Amenity, Cribs	VIP, Soakaways
25 October 2005	Northern	Tamale	Salelugu/ Nanton	Kpachelo	Bullocks, Amenity, Silo, Experimental farm	VIP, Borehole
	Northern	Tamale	Tolon Kumbugu	Woribogu / Kamona		
26 October 2005	Northern	Tamale	Nanumba	Lungni	Corn Mill, Amenity, Silo	VIP
27 October 2005	Northern	Tamale	Saboba/ Cherepon	Kpalba	Silo	VIP, Borehole
	Northern	Tamale	Saboba/ Cherepon	Nnalog	Bullock, Silo	Wells
28 October 2005	Northern	Tamale	East Gonja	Dagbambiya	Silo, Mango, Amenity planting, Road rehabilitation	
31 October 2005	Upper East	Bolgatanga	Garu Tempene	Wiidi	Silo, Bullocks	
	Upper East	Bolgatanga	Bawku West	Dagunga	Silo, Woodlot, Road rehabilitation	Wells
1 November 2005	Upper East	Bolgatanga	Kassena Nankana	Batiu	Silo, Bullocks	Borehole, WATSAN
	Upper East	Bolgatanga	Kassena Nankana	Sakaa	Mango, Woodlot, Silo, Bullock, PNO	Soakaways , Wells
2 November 2005	Upper East	Bolgatanga	Bongo	Tarongo	Silo, Bullocks, Woodlot, Bullocks, Corn mill	Wells
	Upper East	Bolgatanga	Bolgatanga	Nangodi	Mango, Woodlot Silo, Bullocks	Borehole, VIPs Soakaways
3 November 2005	Upper East	Bolgatanga	Talensi Nabdam	Gorogo	School tree planting, Bullocks, Silo	VIPs Soakaways , Wells
7 November 2005	Eastern	Nkawkaw	East Akim	Ahankrasu	Citrus	VIP
8 November 2005	Eastern	Oda	Kwaebibrem	Sakyikrom	Road rehabilitation, Citrus, Cribs, Water bank protection with tree	Borehole, Wells, Health education
	Eastern	Oda	West Akim	Afabeng	Road rehabilitation, Citrus, Cribs,	Health education

					Water bank protection with tree, Soil fertility improvement	
	Eastern	Oda	Suhum Kraboa Koalta	Doudukrom	Citrus, Cribs, Woodlot	Wells
9 November 2005	Eastern	Koforidua	Yilo Krobo	Oterkporlu, Central	Demo Crib, Mango	Borehole, Soakaways, Health education
	Eastern	Koforidua	Yilo Krobo	Akorley	Cribs, Woodlot, Amenity Mango	
10 November 2005	Eastern	Koforidua	Manya Krobo	Bueyonye	Mango	Soakaways, Borehole, Health education
	Eastern	Koforidua	Kwaebibrem	Boti Akpamu	Crib, Mango	Borehole
Group B						
Date	Region	Operational Area	District	Community	Activities/Interventions	
					ANRM	HNWS
24 October 2005	Ashanti	Mampong	Ejura Sekyere	Drobon	Mango, Citrus, Amenity, Cribs	VIP, Soakaways
25 October 2005	Brong Ahafo	Techiman	Techiman	Koase/Twimi a	Cashew, Mango, Cribs Amenity planting	Soakaways, Health education
26 October 2005	Upper West	Wa	Wa Municipal	Dodiyiri	Silo, Bullocks. Mango, Cashew	Wells
	Upper West	Wa	Nadowli	Nanvilli		
27 October 2005	Brong Ahafo	Techiman	Techiman	Bamiri	Mango, Cashew, Cribs, School tree planting, watershed project	Soakaways
28 October 2005	Brong Ahafo	Kintampo	Kintampo South	Dumso-Bethel	Mango, Cashew, Cribs,	VIP
	Brong Ahafo	Kintampo	Nkoranza	Baafi	Mango, Cashew, Cribs, Road rehabilitation watershed project	VIP, Borehole
31 October 2005	Brong Ahafo	Kintampo	Nkoranza	Asunkwaa	Mango, Cashew, Cribs,	VIP, Wells
1 November 2005	Brong Ahafo	Techiman	Offinso	Kyebi		
	Brong Ahafo	Techiman	Offinso	Nyamebekyere	Crib, Amenity planting, Road rehabilitation	
2 November 2005	Central	Cape Coast	KEEA	Egyekrom	Woodlots, Citrus, Amenity	VIP, Wells
3 November 2005	Central	Cape Coast	Mfantseman	Ekumfi Dunkwa	Woodlots, Citrus, Amenity	VIP, Wells
	Central	Winneba	Gomoa	Kyiren	Mango, Citrus, Woodlots, Crib, Amenity	VIP, Wells

4 November 2005	Central	Winneba	Gomoa	Obiri	Citrus, Cashew, Amenity, Crib, Corn mill	Wells
	Central	Winneba	Gomoa	Adaa	Citrus, Crib	VIPs
	Central	Winneba	Gomoa	Ajumako Ansa	Citrus, Cashew, Crib, Cassava processor	
7 November 2005	Central	Winneba	Gomoa	Osedze	Citrus, Amenity, Crib, Woodlot,	Soakaways , Borehole, VIP, Health education
	Central	Winneba	Gomoa	Fawomanye	Citrus, Woodlot, Amenity, Crib, Corn mill	VIPs
	Central	Winneba	Gomoa	Ayeresu	Citrus, Cashew, Woodlot, Amenity, Crib,	
8 November 2005	Volta	Sogakope	North Tongu	Wukokpo	Mango, Cashew, Amenity, Crib, Road rehabilitation	VIPs, Borehole, Health education
	Volta	Sogakope	North Tongu	Seva	Mango, Amenity, Crib,	VIPs, Soakaways , HAT
9 November 2005	Greater Accra	Accra	Dangme East	Afiadenyigba	Mango, Cashew, Amenity, Crib, Road rehabilitation	VIPs, Soakaways , HAT
	Greater Accra	Accra	Ga	Konkon	Maize, Mango, Cribs, Amenity Road rehabilitation	Weels, VIPs, Soakaways , HAT, WATSAN
	Greater Accra	Accra	Ga	Nankesu Asuom	Maize, mango, Cribs, Amenity, Citrus, Woodlot	Wells, VIP, HAT, WATSAN
10 November 2005	Greater Accra	Accra	Ga	Ashweniagm or	Citrus, Mango, Amenity planting	VIPs
	Greater Accra	Accra	Ga	Twerebo	Maize, Mango, Citrus	Wells, HAT, WATSAN

Appendix 4 CV of Consultants

Joseph Jackson ADU-GYAMFI, PhD (Systems Agronomist/Natural Resources Management Expert)

Nationality	Ghanaian
Address	E17 Sunflower Street, DTD Community 20, Lashibi , Tema, +233 242184771 (mobile)
Tel	
E-mail	adugyamfi_59@yahoo.com

Summary Experience

- Systems Agronomist/ Natural resource management (NRM) specialist, **more than 20 years of international and national experience** in project planning and implementation of agricultural research for development, including **4 years experience in executive level research leadership and management** in South east Asia, Southern and Eastern Africa, and West Africa
- Expert Consultant (i) monitoring and final evaluation of USAID Title II Development Activity Programs for **ADRA,/Guinea** and **TechnoServe/Ghana**, (ii) Finalizing the Sub-Saharan African Challenge Program for the Forum for Agricultural Research for Africa (**FARA**), (iii) evaluation of soil suitability and productivity for the Chinese Academy of Agricultural Science in **China**, (iv) Site Characterization of 6 districts in Upper East Region for **IFAD** (v) **Danida** Food Security and livelihood Projects in Tanzania and Malawi (vi) for **FAO/UNIAEA** on the use of isotopes to develop crops tolerant to nutritional stress.
- A proven record of scientific excellence supported by a publication records as author, co-author, or editor of over **100 research publications** including books, refereed journal articles, book chapters, and conference articles
- Strong background in **statistical analysis and computer skills** and proficiency in English and Japanese, and a fair knowledge in French language

Educational Qualifications

1991	PhD, Plant Nutrition and Physiology, Hiroshima University
1989	MSc, Plant Nutrition, Hiroshima University, Japan
1982	BSc (Hons) Agriculture (Crop Science), University of Ghana.

Professional Experience

July 2005–Present	Senior Lecturer, University of Ghana, Legon
2004-2005	Expert Consultant on Agriculture, Food Security programming monitoring and evaluation, natural resources management.
2002-2004	Technical Expert and Advisor, Danida-funded project Soil Fertility improvement in Tanzania and Malawi
2002-2003	Principal Scientist (Physiology), ICRISAT Regional Theme Coordinator West and Central Africa
2001-2002	Principal Scientist, ICRISAT Country Representative, Nigeria
2000-2001	Principal Scientist, ICRISAT Sahelian Center, Niger
1998-2000	Principal Scientist (Agronomy) and Project Leader , Government of Japan Project, ICRISAT, India
1994-1997	Scientist, Agronomy Division & Acting Team Leader,
1992-1994	Post Doctoral Research fellow, and Visiting Scientist, ICRISAT
1991-1992	Scientist, Soil Research Institute (SRI), Kumasi, Ghana.
1984-1985	Project Officer and Head, Planning and Development Ashanti Regional Development Corporation, Kumasi, Ghana

Joseph Otumfuo Somuah Akuamoah, MD. MPH

Contact Address P.O. Box KS 498, KASOA, Central Region, Ghana.
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Email josakuamoah@yahoo.com

Summary Experience

- Over 16 years experience in Program management and Progressive responsibilities in development, administration, management and evaluation; grant writing, implementation, monitoring and evaluation; linkages, networking and partnership building.
- Extensive experience in developing and implementing Community based Child Survival, Malaria and TB control, Adolescent Reproductive health and Family Planning, HIV/AIDS, Peer education, Gender and culturally focused programs.
- Highly experienced in Advocacy, Policy analysis, directing social agenda, Training of trainers, Conducting and designing Research, Program design, Monitoring and Evaluation, Networking, Event planning and Coordination.

Educational Qualifications

1995-1996 MPH from the School of Public Health and Community Medicine, Hebrew University, Hadassah, Israel.
1995-1996 Certificate in Health Sector Reforms, School of Public Health and Community Medicine, Hebrew University, Hadassah, Israel.
1986-1989 MD from the School of Medical Sciences, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.
1982-1986 BSc in Human Biology from the School of Medical Sciences, KNUST

Professional Experience

June 2004- Present West African Regional Coordinator, Malaria Consortium
Oct 2003-May 2004 Senior Specialist for Child Survival/Reproductive Health/ Infectious Disease for USAID/WARP
Sep 2000- Oct 2003 Program Director for BASICS II, (USAID funded, Child Survival project) Ghana.
Nov 1999 –Aug 2000 Assistant Director, Holy Trinity Clinic, Accra.
Sept 1992 – Oct1999 District Director of Health Services and Senior Medical Officer in charge of St. Mary's Hospital.
Sept 1989 – Aug1992 House Officer/Medical Officer- Komfo Anokye Teaching Hospital, Kumasi, Ghana

3. ACHIEVEMENTS

1. Conducted a rapid appraisal of the health system structure in the Upper West region and with this assisted PLAN Ghana, World Vision International, Catholic Relief Services and ENGENDERHEALTH to put up a Child health proposal to USAID-Washington.
2. Assisted with the Drug Policy change for the new Anti-malarial drugs in the West African sub-region
3. Developed, designed and implemented for JICA, the Establishment of Community net re-treatment centres in three districts of the Upper West region,
4. Developed, designed and implemented for the National Malaria Control Programme (NMCP), the Establishment of Community net re-treatment centres in ten districts of Ghana.
5. Member of the MOH team that produced the following health educational tools: - Child Health Records, IMCI counseling cards, Community Based Growth Promotion materials, CHPS modules and CIMCI materials for Community Based Agents etc.
6. Formed and chaired the NGO/PVO coalition for Community IMCI, which provided technical assistance to NGOs in Ghana.
7. Formed and chaired a team of health experts that developed the Ghana Health Service Integrated Supervisory checklist for district health managers.

Anthony Kwaku EDUSEI, PhD (Nutrition Expert)

Nationality	Ghanaian
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Tel	+233 244709687 (mobile)
E-mail	eduseiak@yahoo.com

Summary Experience

- A Nutritional expert with 11 years of experience in research, teaching and consulting in nutrition and health in general. He currently teaches in the School of Medical Sciences, of the Kwame Nkrumah University of Science and Technology, where he lectures in Human Ecology and Biostatistics, and co-ordinates six (six) short courses run by the Department of Community Health.
- Part-time lecturer for the School of Medicine and Health Sciences of the University for Development Studies, Tamale from 1997 to present. He serves as Nutrition and Health consultant to a consortium, called CANTRAD. Other consultancy services rendered are:
 - i. With CEDEP in a national exercise to study inequalities in access to health care, in which he was involved in the design of the research tools, and supervision of field data collection.
 - ii. With WHO (Human Resource Unit in the regional office for Africa) in the planning, design, conduct and analysis of data of a study into the “push” and “pull” factors related to the Migration of Health professionals from Africa.
 - iii. With CONTRAD in the PROMOTING PARTNERSHIP WITH TRADITIONAL AUTHORITIES PROJECT (PPTAP) run from the Manhyia Place, Kumasi. In this project, he developed a Training Manual on Health and Nutrition, and facilitated in all the training sessions organized for the traditional authorities.

Educational Qualifications

1997-2002 PhD University of Ghana, Legon
1991-1993 MSc (Applied Human Nutrition) University of Nairobi, Nairobi, Kenya
1985-1989 BSc (Hons) Biochemistry, University of Science and Technology, Kumasi, Ghana

Selected Publications

1. Addy, E. A., Ansa-Asamoah, L., Edusei, A. K.,: Diarrhoea and Oral Rehydration Practices by mothers at Obuasi in Ashanti Region, Ghana. U.S.T. Journal, Vol. 16 No. 1&2 Feb/June, 1996.
2. Kwaku E. A., Omwega A.M.,Mwadime, R.K.,; Evaluation of weaning diets in Peri-urban Kumasi, Ghana. East Afr, Med J. 75 (3) 142-7,1998.
3. Edusei A K., Asiedu M S., Sakyi-Dawson E., Owusu W B., “Nutrient and Energy Content of Quality Protein Maize Meal with Graded Supplementation of Anchovies fish”- Journal of Science and Technology (JUST) Vol. 24 No. 1, 2004, 5-9.
4. Nyarko KM, Edusei AK, Addy EA, Ansong D, Opoku-Agyeman A. “Haemoglobin levels in well pre-school children in Bibiani, Ghana” – Accepted for publication in the Ghana Medical Journal in July, 2004
5. Edusei A K., Asiedu M S., Sakyi-Dawson E., Owusu W B. “Capacity of Quality Protein Maize (Obatanpa) to improve Haemoglobin level and Leucocyte (WBC) counts of Malnourished Pre-school children.” Presented at the 2nd Biennial African Food Science and Nutrition Conference, held at Ghion Hotel, Addis Ababa, Ethiopia, from 28th November – 1st December, 2004.
6. Edusei A K., Asiedu M S., Sakyi-Dawson E., Owusu W B. “Improved Catch-up Growth and Protein Status of Malnourished Pre-school children fed Quality Protein Maize.” Presented at the 2nd Biennial African Food Science and Nutrition Conference, held at Ghion Hotel, Addis Ababa, Ethiopia, from 28th November – 1st December, 2004.

**KWAME TWUM-AMPOFO, PhD
(Natural Resources Management Expert)**

Nationality: Ghanaian
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Email: ktampofo2001@yahoo.co.uk

Summary Experience:

Natural Resources Management Specialist with 19 years experience in research, teaching, extension and consulting. Expert in Agroforestry and Forest Management issues (designing and developing appropriate agroforestry technologies for sustainable agriculture production and management of forest resources). Experienced in co-ordination and implementation of agroforestry and community-based forestry projects; technician/farmer training; monitoring and evaluation of field programmes and in farming systems and landuse surveying. Strong background in statistical analysis.

Educational Qualification:

1992-1995 PhD Agroforestry, Dundee University, Scotland
1988-1989 MSc. Resource Management, Edinburgh University, Scotland
1987-1988 Postgraduate Diploma in Forestry, Aberdeen University, Scotland
1984-1985 Certificate in Agroforestry, UNU, Tokyo/CATIE, Costa Rica
1979-1982 BSc. (Hons) Agriculture (Horticulture), Kwame Nkrumah University of Science and Technology, Kumasi.

Professional Experience

1989-Present Lecturing at the Faculty of Renewable Natural Resources (FRNR), KNUST, Kumasi.
2000-Present Part-time lecturing at College of Renewable Natural Resources, Sunyani.
1997-2000 Local Co-ordinator, Darwin Project. Collaborative Project between FRNR, KNUST and Department of Biological Science, Dundee University, Scotland.
2000-Present Agroforestry Specialist, ITTO/FORIG Project on Rehabilitation of Degraded Forest
1999-2003 Agroforestry Consultant – Centre for Biodiversity Utilization and Development (CBUD), KNUST, Kumasi.
2000-2004 Expert Consultant, Evaluation of ADRA-Ghana Food Security Programme, Title II Project.
1990-1992 Agroforestry Expert – National Rural Forestry team, FSD – Accra.
1996-2000 Agroforestry Consultant – “Recerca Incorporation” an Italian NGO.
1986-1992 Agroforestry Consultant – Canadian University Services. Overseas (CUSO) Agric Station, Bunkpurugu, Northern Region, Ghana.

Appendix 5

MEETING THE TARGETS

Performance Indicators	FY 2002 Baseline	FY 2004 Target	FY 2004 Achieved	FY 2006 LOA	F Y 2005 Field Data	Consultants Comments
Agricultural Productivity and Income						
Household Food Shortage (months)	4	3	3	2	1.3	Impressive achievement
Yield of Promoted Crops (kg/acre)						
Maize	400	800	790	900	1000	Target Achieved
Soybean	200	380	486	450	700	Target Achieved
Mango	700	1600	1855	2200	Not verifiable	
Citrus	354	7200	7587	8200	ND	
Cashew	12	480	384	600	320	Progress made
Total loans disbursed (\$)	0	946000	855113	5008000	Not verifiable	
Tree seedlings surviving (%)	70	82	81	85	73	Close to achieving target
Agro-processing units for Old farmers	0	63	48	200	Not verifiable	
Farm access roads rehabilitated (km)	0	100	91	350	Not verifiable	
Household outputs marketed (%)	15	30	35	40	Not verifiable	
Groups linked to marketing agents	0	300	108	400	Not verifiable	
Gross cash value of agric. Produce (\$)	1870000	3729000	4602000	19035000	Not verifiable	
Grain stored in promoted Cribs(%)	5	25	72	30	Not verifiable	
Farmers with access to Agric Credit(%)	4	50	80	60	Not verifiable	
Credit repayment (%)		70	60	80	78	Achieved
Adoption of NRM practices (%)	10	40	69	50	Not verifiable	
Adoption of Technology by non-clients						
Planting improved seeds of maize					31	Ok
Row Planting					61	Impressive
Fertilizer Application					34	Ok
Owns Citrus /mango/Cashew					13	
Owns Woodlots						
Area under NRM practices (ha)	5760	10200	7562	10800	Not verifiable	

APPENDIX 6 FGD GUIDE:

AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

IMPACT EVALUATION OF ADRA FOOD SECURITY PROJECT (October, 2005)

1. GENERAL INTRODUCTION

- a. Group Formation
- b. Criteria for the selection of Clients
- c. Activities in the Community before and after ADRA

2. AGRICULTURAL PRODUCTION

Land Preparation

- a. How do you prepare your land?
- b. What kind of assistance do you receive from ADRA?
- c. How has the provision of assistance contributed to your farming activities?
- d. How were the implements acquired?
- e. What are the main constraints to land preparation
- f. Did you feed your child the first 6 months? Give reasons for your answer.

Agro-inputs

- a. What are the sources of your inputs (seeds/seedlings, fertilizers/ manure)?
- b. Are you satisfied with the quantity, quality and delivery time?

Planting

- a. What type of technology did ADRA introduce?
- b. What benefits have you obtained from adopting ADRA's promoted planting technologies?
- c. Who is responsible for the survival of the tree planted?

Management Practices

- a. What are some of the management practices you undertake in your farm? (Fertilizer application, weeding, crop protection practices)

Soil Fertility Maintenance

- a. What new innovations have ADRA introduced to help improve soil fertility?
- b. What are the impressions on the introduced innovations to maintain soil fertility?

Harvesting and Storage

- a. What are the major constraints during and after harvesting?
- b. What are the constraints of the improved storage facilities introduced by ADRA
- c. What portion of the harvested produce is stored?
- d. How many months do you have food shortages in the household during the year?

Marketing

- a. In what ways has ADRA facilitated the marketing of your produce?
- b. How satisfied are you with ADRA's marketing strategies?

- c. What do you think can be done in future to improve the marketing of tree crops (cashew, citrus and mango)?
- d. What proportion of the harvested produce do you market?

Agro-processing

- a. How do you acquire your equipments?
- b. Are you satisfied with the process and terms of acquisition?

Credit

- a. How important is it for you to pay your loans?
- b. How satisfied are you with the ADRA credit scheme and its repayment arrangements?

Training and Education

- a. What type of training/education have you received from ADRA (frequency, quality, delivery time)?
 - General cultural practices
 - Natural resources management (seedlings production, nursery management, tree planting etc)
 - Agro-processing

Financial Analysis

Operations (per acre)	Cost (Improved Practices)	Cost (Existing Practices)
Land Preparation		
Labor for planting		
Cost of inputs (fertilizer and weedicides)		
Labor for fertilizer /weedicide application		
Labor for weeding		
Labor for harvesting		
Transport cost for carting produce to homesteads		
Storage cost		
Estimated yield (bags/acre)		
Price at harvest and after storage		

Impact and sustainability

- a. In what ways have you benefited from ADRA introduced interventions?
- b. When ADRA leaves, what will you do to sustain the increased agricultural production?
- c. How many non-ADRA farmers have adopted the ADRA supported technology and why?
- d. Are you satisfied with the tenure of the group leadership?

Future Interventions by ADRA

- a. Which of the ADRA activities have benefited you and your family?
- b. In your opinion, what would you want ADRA to do in future programs
- c.

3. NON-ADRA CLIENTS

- a. Why would you want to become an ADRA client in future?
- b. How many months do observe food shortages in your family
- c. How many bags of maize/soybean/groundnut do you get per acre cultivated?

Adoption of Improved technologies

No of Non clients present:

Activity	No of Clients adopting	% of Adoption
Improved maize/soybean		
Row planting		
Fertilizer application		
Owens a citrus/mango/cashew farm		

IMPACT EVALUATION OF ADRA FOOD SECURITY PROJECT (October, 2005)

FGD GUIDE: NUTRITION, WATER AND SANITATION

1. GENERAL QUESTIONS

- d. What are some of the activities (health, water and sanitation) of ADRA that you or your family are involved in?
- e. Of all the ADRA introduced activities, which have benefited you and your family most/least? Give reasons why?
- f. What are some of the difficulties/challenges and successes encountered with regards to ADRA initiated activities
- g. Is there anything that you would like ADRA to do differently? What would that be? Give reasons why?
- h. How could ADRA improve upon its activities?

2. NUTRITION

- g. How can you tell if a child (0-5years) is growing well? (**Inspect growth monitoring cards of 10 children**) *percentage of children under 3 years who show a normal Wt.-for-Age*
- h. What did you feed your child the first 6 months? Give reasons for your answer.
- i. What did you feed your child after 6 months onwards till 2 years?
- j. List ways in which you have changed in your method of food preparation and utilization since the teaching of ADRA? (For both adults and children).
- k. How many mothers practiced exclusive breastfeeding for their last child?

3. WATER AND SANITATION

- e. Mention all the things that you do to keep yourself clean
- f. What are the major constraints which prevent you from practicing the above?
- g. What practices should be adopted to prevent the outbreak of diseases in the home?
- h. Why do you have to keep yourself and your environment clean?
- i. Has the provision of inputs (potable water, VIP latrine, soak away, rubbish dump) from ADRA changed your behaviour? If yes, in what way?

4. DIARRHOEA

- a. What is diarrhoea? What causes diarrhoea?
- b. What do you do if a child has diarrhoea? Why?
- c. What are the signs of dehydration?
- d. When should you send a child to the clinic when he/she has diarrhoea?
- e. How can diarrhoea be prevented?
- f. How many children under 5 years your household have had diarrhoea within the past one month and what was used in the management?

5. MALARIA

- a. What is malaria? What causes malaria?
- b. What do you do when a child has malaria (what about the Adults)? Why?
- c. In which ways can malaria be prevented?
- d. What measures have you taken to prevent malaria in your home?
- e. How many children under 5 years have had malaria within the past one month, and what was used in the management?

6. HIV/AIDS

- a. Name the known ways a person can be infected with HIV/AIDS
- b. Name the ways to protect one self from HIV infection.

7. Management

- a. What difficulties / problems do HAT members face in carrying out their duties?
- b. What are the main problems in your community in relation to the operation of water and sanitation facilities (boreholes & wells, soak away, VIP latrines rubbish dump)
- c. How can they be solved?
- d. What recommendations can you make for improving the **management** of ADRA initiated activities?

8. Sustainability

- a. How does the community plan to manage, maintain, replace old facilities when ADRA is no more in the community?
- b. What would you continue to do when ADRA is no more in your community?
- c. Have other members of the community adopted ADRA introduced/initiated nutrition, health and sanitation practices? Which ones? Why?

FG DISCUSSION GUIDE FOR WATSAN MEMBERS

1. What are some of the topics you learnt during the training?
2. Which topics did you find useful. Give reasons why.
3. What would recommend for improving the training? (content / methods)
4. What are some of the problems / difficulties with regards to the operation of wells & bore holes, VIP latrines, soak away etc. (management, maintenance, replacement of parts, sustainability)
5. How are these problems solved?
6. What difficulties/ problems do WATSAN members face in carrying out their duties?

FG DISCUSSION GUIDE FOR TEACHERS

1. What were the topics on health you taught the school children?
2. What problems / difficulties did you encounter during the training of the children?
3. To what extent do you think the children are practicing what was taught?
4. Recommendations for improving the training of the children
5. How do you hope to continue with the school health program after ADRA has left?
6. Whom do you collaborate with as regards the school health program apart from ADRA?
7. What problems/ difficulties did you face during your (Teacher) training?
8. What recommendations did you have for improving your teacher training?

Appendix 7 Financial Analysis(¢) Maize Production in Communities Visited

AVERAGE		Northern	Mid-Belt	Eastern	Central	Costal	Improved	Existing
Land Preparation								
	Initial slashing/clearing		158,750	140,000	151,250	194,286	161,071	160,000
	Ploughing by tractor	144,000	160,000		160,000	222,857	171,714	
	Ploughing (Animal traction)			0				
	Cost of weedcides		148,586	160,000			154,293	
	Weedicide application		55,000	30,000			42,000	
	Cost of matchets/cutlass	27,000	27,000	27,000	27,000	27,000	27,000	27,000
	Wellington boots		20,000	20,000	20,000	20,000	20,000	
Planting								
	Labor for planting	60,000	95,000	100,000	95,000	125,714	95,143	93,333
	Cost of seeds for acre	58,500	58,500	69,000	58,500	58,500	60,600	
Fertilizer Application								
	Cost of fertilizer 15-15-15	180,000	180,000	180,000	180,000	180,000	180,000	
	Cost of Sulphate of Ammonia	133,000	129,000	129,000	129,000	129,000	129,800	0
	15-15-15 application	20,000	21,500	75,000	25,000	37,143	35,679	
	Sulp of amm application	20,000	21,500	75,000	25,000	37,143	35,679	
Weeding								
	Labor for first weeding	102,000	156,250	170,000	156,250	194,286	155,757	130,000
	Labor for second weeding	102,000		170,000	156,000	194,286	155,634	
Harvesting								
	Labor for harvesting	96,000	115,000	110,000	112,500	137,143	114,129	113,333
	Labor for gathering weeding	55,000	59,875	60,000	59,875	54,857	57,921	55,000
	Transport cost (Tractor)	208,000	208,125	183,000	195,625	124,286	183,807	250,000
Storage								
	Storage cost/acre	40,000	160,000	160,000	160,000	160,000	136,000	
	Labor for dehusking	91,000	84,374	100,000	84,375	84,000	88,750	85,000
	Labor for shelling (Obaatanpa)	145,000	129,750	150,000	129,750	120,000	134,900	
	Storage chemicals	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Total operational cost (Obaatanpa)		1,505,500	1,937,263	2,128,000	1,885,375	2,120,500	1,914,528	983,000
Sale								
	Price/bag at harvest	192,000	246,250	254,000	220,000	201,429	222,736	240,000
	Price/bag at time of final dispo	440,000	461,000	521,000	481,250	472,857	475,271	473,333
Yield (bag/acre)								
	Highest	9	13	12	13	12	11	4
	Lowest	7	9	8	10	8	9	2
Total Revenue at harvest								
	(Revenue/bag) x (No of bags stored)	1,766,400	3,293,594	2,971,800	2,860,000	2,244,490	2,627,257	960,000
	Highest	1,344,000	2,308,594	1,981,200	2,282,500	1,611,429	1,905,544	480,000
	Lowest	4,048,000	6,169,219	6,095,700	6,256,250	5,268,980	5,567,630	1,893,333
Total Revenue after storage								
	Highest	3,080,000	4,324,219	4,063,800	4,992,969	3,782,857	4,048,769	946,667
	Lowest	264,900	1,356,331	843,800	974,625	123,990	712,729	(23,000)
Net Revenue when sold at harv								
	Highest	(157,500)	371,331	(146,800)	397,125	(509,071)	(8,983)	(503,000)
	Lowest	2,546,500	4,231,956	3,967,700	4,370,875	3,148,480	3,653,102	910,333
Net Revenue to farmer after storage								
	Highest	1,578,500	2,386,956	1,935,000	3,107,594	1,662,357	2,134,241	(36,333)
	Lowest							

Obaatanpa was used for Improved Practice

Local varieties was used for the existing practice

Assume no fertilizer was applied to the existing practice

Cost of Wellington boots of ¢60,000 is spread over 3 years

Cost of constructing an improved storage of 1,600,000 cedis is spread over 10 years

Shelling cost is calculated per bag

1 bag of maize weighs 110 kg

1 US dollar = 9000 Ghanaian cedis (1 US\$ = ¢ 9000)

Appendix 8

Financial Analysis of Soybean and Groundnut Production

	N/R	UER	UWR	AVG	UER (G'nut)
Land Preparation					
Initial slashing/clearing					
Ploughing by tractor	144,000	120,000	200,000	154,667	120,000
Ploughing (Animal traction)		0	0	0	0
Cost of weedicides					
Weedicide application					
Cost of matchets/cutlass	27,000	27,000	27,000	27,000	27,000
Wellington boots					
Planting					
Labor for planting	80,000	83,000	80,000	81,000	75,000
Cost of seeds for acre	108,000	108,000	108,000	108,000	150,000
Fertilizer Application					
Cost of fertilizer 15-15-15	180,000	180,000	190,000	183,333	180,000
Cost of Sulphate of Ammonia	133,000	130,000	150,000	137,667	130,000
15-15-15 application	20,000	35,000	30,000	28,333	35,000
Sulp of amm application	20,000	35,000	30,000	28,333	35,000
Weeding					
Labor for first weeding	110,000	120,000	100,000	110,000	100,000
Labor for second weeding	110,000	120,000	100,000	110,000	100,000
Harvesting					
Labor for harvesting	120,000	126,000	100,000	115,333	150,000
Labor for gathering cobs	60,000	55,000	45,000	53,333	55,000
Transport cost (Tractor)	208,000	78,000	250,000	178,667	78,000
Storage					
Storage cost/acre	40,000	40,000	40,000	40,000	40,000
Labor for dehusking					
Labor for shelling (Obaatampa)	120,000	163,000	200,000	161,000	
Labor for shelling (local)					
Storage chemicals	20,000	20,000	20,000	20,000	20,000
Total operational cost (Obaatampa)	1,500,000	1,440,000	1,670,000	1,536,667	1,295,000
Sales					
Price/bag at harvest	195,000	216,000	270,000	227,000	240,000
Price/bag at time of final disposal	425,000	456,000	450,000	443,667	320,000
Yield (bag/acre)					
Highest	6	8	9	8	8
Lowest	4	6	7	6	5
Total Revenue at harvest					
(Revenue/bag) x (No of bags stored) (¢)	Highest				
	Lowest				
Total Revenue after storage (¢)	Highest				
	Lowest				
Net Revenue to farmer when sold at harvest (¢)	Highest				
	Lowest				
Net Revenue to farmer after storage (¢)	Highest				
	Lowest				

1 bag of soybean weighs 100 kg

1 US dollar = 9000 Ghanaian (1 US\$ = ¢ 9000)

1. ADRA Staff**Problems**

Almost all ADRA staff interviewed showed commitment to their work. Some of the problems they have include understaffing and some recalcitrance from the community members with respect to construction of soak-aways. In some communities e.g. Bamire, Twerebo, Ashe ni Agmor and Asuom-Nankese there was a general apathy towards the need to construct KVIPS among community members despite the good works of the ADRA staff.

2. Health and Agriculture Teams (HAT)

These are community members (usually ADRA group members) trained to support health and agricultural activities undertaken by ADRA. Members of HAT could recall topics of their training. Some of their activities undertaken by these members include individual home visits, community durbars, visits to churches, cooking demonstrations etc Community members at the Focus Group Discussions attested to this.

The main problem they face in their work is non-compliance to behavior change on the part of some members of the communities. To this they will want to be empowered to sanction deviant community members.

3. Water and Sanitation (WATSAN) committees

Most WATSAN members could mention some of the topic learnt during their training. Most of them were enjoying their work because the communities gave them recognition. Monies collected from the sale of water, which should be kept at the bank as per the regulations, are however kept by some of these WATSAN members in 10/26 communities.

The main problems faced by WATSAN members are:

- 1 Unavailability of essential spare parts for the immediate repair of bore holes and hand-dug wells. Even if they are found, they are usually sold at high prices. They suggested that ADRA should purchase these spare parts so that they could buy them at an affordable price.
- 2 Non-cooperative attitude of some community members when they are asked to pay for the water.

4. School Teachers

Almost all the school teachers interviewed mentioned topics like Personal Hygiene, Malaria, Diarrhoeal diseases, HIV/AIDS and Environmental sanitation as some of the topics they have taught their pupils. This was confirmed from their report books. Most of them said they received two refresher courses this year and they

felt that this was enough. The main collaborators of these teachers are the ADRA staff whom they send their reports to quarterly. Their activities are not reported to the school health coordinator of the GES. Specific request made by some of them include:

- KVIPs at the schools to improve sanitation
- Hand-Washing bowls with towels to enable the pupils practice what they are taught

5. School Children

The knowledge exhibited by school children in the communities visited was quite good. This was more so in the communities in the Ashanti and Greater Accra regions.

Figure 1 Improved Crib for storage at Baafi in Techiman District (*Photo by courtesy of J J Adu-Gyamfi*)

Figure 2 Inculcating environmental protection practices by school children around school compound at Egeikrom in the Central Region *(Photo by courtesy of J J Adu-Gyamfi)*

Figure 3 **District Award to ADRA Community (Nyamebekyere) in the Offinso District** *(Photo by courtesy of J J Adu-Gyamfi)*

Figure 4 **A well constructed soak-away at Wiidi (*Photo by courtesy of K Edusei*)**

Figure 5 **An improvised soak-away at Dagbambiya (*Photo by courtesy of K Edusei*)**

Figure 6 A standard VIP constructed by ADRA, with a bath and soak-away at Drobon (*Photo by courtesy of K Edusei*)

Figure 7 DANIDA constructed VIP in ADRA community (Ahankrasu) (*Photo by courtesy of K Edusei*)

APPENDIX 11 THE IMPACT EVALUATION TEAM

Consultants

Name	Designation	Address	Telephone	E-Mail
Dr J J Adu-Gyamfi	Lead Consultant	College of Agriculture and Consumer Sciences, University of Ghana, Legon	024 2184771	adugyamfi_59@yahoo.com
Dr K Twum Ampofo	Consultant	Institute of Renewable Natural Resources, KNUST	024 4277217	Ktampofo2001@yahoo.co.uk
Dr J Akumoah Somuah	Consultant	Malaria Consortium, West African office, Accra	0208136901	josakuamoah@yahoo.com
Dr A Kwaku Edusei	Consultant	School of medical Sciences, KNUST, Kumasi	0244709687	eduseiak@yahoo.com

ADRA Staff

Name	Designation	Address	Telephone	E-mail
Mrs Victoria Daaku	Ag. Program Director	ADRA-Ghana P.O. Box 1435, Accra	021 220779 0243108205	vicdaaku@yahoo.com
Simon S Saaka	Coordinator, M & E, Southern Sector	ADRA-Ghana P.O. Box 1435, Accra	021 220779 0208163633	simonsaaka@yahoo.com
Anthony Mainoo	Technical Coordinator	ADRA-Ghana P.O. Box 1435, Accra	021 220779 0208162555	mainooatony@yahoo.com
Mrs Victoria Tetteh	Field Development Officer	ADRA Ghana Office, P O Box 64, Cape Coast	042 30174 0244574607	abaluko333@yahoo.com
K Ampim-Darko	Coordinator, M & E, Northern Sector	C/o Quality Clinic Building, P O Box 336, Mampong-Ashanti	0208165886	K_ampimd@yahoo.com

USAID Staff

Name	Designation	Address	Telephone	E-mail
Dr Sabinus Fyne Anaele	Regional FFP Officer	USAID/Senegal B P 49, Dakar, Senegal	+221 869 6100	sanaele@usaid.gov
Alfred K Osei	Food Aid Specialist	USAID/Ghana P.O. Box 1630 Accra, Ghana	021 228440 0244 329947	aosei@usaid.gov
Jimimy Tetteh-Coffie	Program Assistant, Food Aid	USAID/Ghana P.O. Box 1630 Accra, Ghana	021 228440 0244	

List of ADRA staff Contacted (Group B)

Name	Designation	Area Office
Samuel Mensah-Asumadu	FPO-Agric	Techiman/ Offinso
Sabina Erksine	FPO-Health	Techiman/Offinso/Kintampo
Ernest Amoansah	FEA	Techiman/Offinso
Yaw Agyei Boahen	FEA	Techiman/Offinso
Daniel Asare-Kyei	FPO	Kintampo/Nkoranza
Victor Nkrumah	FEA	Kintampo
Fred Nketia	FPO-Agric	Mampong
Elizabeth Kuma	FPO -Health	Mampong/Nkoranza
Nana Opensah	FEA	Mampong
S B Fordjour	FPO (Team leader)	Wa
Felix Amofa	FPO-Health	Wa
Clement Gourri Purri	FEA	Wa
Victoria Tetteh	FPO health & Nutrition	Cape Coast
Agya Asamoah Muno	FPO-Agriculture	Cape Coast
Isaac Nsaidoo	FEA	Cape Coast
Isaac Kankam Boadu	FPO-Agriculture	Winneba
Richard Boateng	FPO-Health	Winneba
Evans Manu Frimpong	FEA	Winneba
Essie Sey	FPO-Health	Sogakope/Accra
Ernest Kodua	FPO-Agriculture	Sogakope
Divine Dogbe	FEA	Sogakope
Joshuah Awute Banana	FEA	Accra
Isaac Vanderpuye	FEA	Accra
Akwasi Agyeman	FPO-Agriculture	Accra

List of ADRA staff Contacted (Group A)

Name	Designation	Area Office
Stephen Awuah	FPO-Agric	Bolgatanga
Rhoda Mbimadong	FPO-Health	Bolgatanga
Abraham Lincoln	FPO-Agric	Bolgatanga
Wisdom Tulasi	FEA	Bolgatanga
Clement Atua	FEA	Bolgatanga
K Otchere Boadu	FPO-Agriculture	Tamale
Samuel Woode	FPO-Agric	Tamale
Eunice Odoom	FPO -Health	Tamale
Micheal Nortey	FEA	Tamale
Adu-Boahen	FEA	Tamale
Moses Akyem Peprah	FPO-Agriculture	Nkawkaw
Mirian Tetteh Atta	FPO-Health	Nkawkaw/Oda
Grace Osei Asibey	FPO health & Nutrition	Oda
Evans Lartey	FPO-Agriculture	Oda
John Obour	FEA	Oda
Ben Asare	FPO-Agriculture	Koforidua
Julius Fosu	FEA	Koforidua

LIST OF PERSONS INTERVIEWED BY HEALTH AND NUTRITION TEAM

NAME	TITLE	ADDRESS
Mr. Agyeman Sarfo	Sch. Health Teacher	Drobong , Mampong Ashanti
-	EHO. For Kpachilo and Tarikpaa	-
Mary Gbombgoma	Sch. Health Teacher	Lungni, Prim. School, Yendi dist.
Mr. Alhassan Napkali	WATSAN member	Kpalba, Saboba Chiriponi
Mr Dabbah Raymond	School Health Teacher	Kpalba, Saboba Chiriponi
Mr Offei Akoto	Senior Nurse in charge, EP Health Center District Director of Health Services	Kpalba, Saboba Chiriponi Techiman
Mr. Awudu Imoro	School Health Teacher	Wiidi, near Bolga
Mr. Ayemiga Samuel	School Health Teacher	Dagunga, near Bolga
Mr. A.M. Jasad	School Health Teacher	Batiu, Navrongo
Mr. Isaac	Environmental Health Officer	Gorogo, near Navrongo
Miss Azuure	School Health Teacher	Nangoode in the Talensi dist.
-	Chief	Nangoode in the Talensi dist.
Dr. Semenyo	District Director of Health	North Tongu
Mr. Robert Aryee	HAT member	Afabeng, near Akim Oda
Ms Florence Osaebesa	Opinion Leader	Afabeng, near Akim Oda
Nana Fianko II	Chief	Duodukrom, near Akim Oda
Mr. Paul Agbagba	Environmental Health Officer	Akorley, near Suhum
Ms. Beatrice Odah	School Health Teacher,	Akorley Presby Prim. Sch.
Mr. Samuel Otoo	Environmental Health Officer	Oterkpolu, ER
Mrs. Augustina Mireku	Environmental Health Officer	Boti/Akpamu, ER
Mr. Kadogbe Kofi Vadovic	School Health Teacher	Boti/Akpamu, ER
Ms. Grace Tsakpoe	Nurse in Charge	Boti, RCH center, Boti/Akpamu

List of other dignitaries met

- 1 Hon. Ambrose Dery, Regional Minister, Upper West region
- 2 Dr E A Mark-Hansen, Regional Director, MoFA, Wa
- 3 Mr John Manu, Municipal Director, MoFA, Techiman
- 4 Mr Samuel Ayobi, Development Officer Crop, MoFA, Techiman
- 5 Mr Atta Frimpomg Pruchasing officer, Ghana Nuts, Techiman
- 6 Marcellien Joosten, Technical Advisor, Ghana Nuts, Techiman

Appendix 12 Itinerary for the Final Impact Evaluation

Sunday	October 16, 2005	Consultants (Kwame Twum Ampofo and Anthony Edusei) arrive in Accra
Monday	October 17, 2005	Consultants (Joseph Adu-Gyamfi and Joseph Akuamoah Somuah) join colleagues at ADRA/ Office Overview of Achievements and Impacts of ADRA/Ghana by Program Director Meeting with Director of Evaluation, ADRA/USA Selection of Groups for Interviews Document review
Tuesday	October 18, 2005	Preparation of questionnaire (Checklist) Document review
Wednesday	October 19, 2005	Finalizing the selection of Communities and discuss itinerary for the Field visits Meeting with USAID/Ghana and discuss field data collection and plan Document review
Thursday	October 20, 2005	Finalize Data collection tools and Itinerary Discuss logistics and Grouping of Consultants (A and B) Document Review
Friday	October 21, 2005	Document Review
Sunday	October 23, 2005	Field visit begins Groups A and B travel to Kumasi

Monday	October 24, 2005	Interview focus group/clients at Drobon (Mampong) Travel to Techiman Discuss and finalized Checklist
Tuesday	October 25, 2005	Group A travels to Tamale Group B travels to Wa
Thursday	October 27, 2005	Group A (Tamale) Group B travels to Techiman
Sunday	October 30, 2005	Group A travels to Bolga Group B (Techiman)
Monday	November 1, 2005	Group A (Bolga) Group B travels to Kumasi
Tuesday	November 2, 2005	Group A (Bolga) Group B travels to Cape Coast
Wednesday	November 3, 2005	Group A travels to Kumasi Group B travels to Winneba
Sunday	November 6, 2005	Group A travels to Nkawkaw Group B travels to Accra
Monday	November 7, 2005	Group A travels to Oda Group B (Accra)
Tuesday	November 8, 2005	Group A travels to Koforidua Group B travels to Sogakope and returns to Accra
Wednesday	November 9, 2005	Group A (Koforidua) Group B (Accra)
Friday	November 11, 2005	Group A returns to Accra Group B (Accra)
Mon -Thurs	November 14-17, 2005	Report writing
Friday	November 18, 2005	Debriefing of findings and Recommendations to ADRA and USAID

Monday	November 21, 2005	Report Writing
Tuesday	November 22, 2005	Report Writing
Monday	November 27, 2005	Submission of Draft report to ADRA
Tuesday	December 22 , 2005	Received Comments on Draft Report from ADRA and USAID
Tuesday	January 10, 2006	Received Comments from MOFA
Wednesday	January 17, 2006	Submission of Final Report

Appendix 13

ADRA's Responses to the Mid-Term Recommendations

	MID TERM EVALUATION RECOMMENDATIONS	ADRA'S RESPONSE	ACHIEVEMENTS	CONSULTANT'S REMARKS
1	To improve agricultural production; farmers should be assisted to own bullocks and ploughs if resources are available and arrange with farmers for better tractor services	<ul style="list-style-type: none"> This is on-going More farmers are being assisted to own bullocks. In the 2005 season, ADRA improved Tractor Services by training and linking farmers directly with tractor service providers so they could negotiate with farmers on prices and work quality 	<ul style="list-style-type: none"> 30 clients were assisted to own 590 singles of bullocks and their accessories in 2005 ADRA is constrained by funds and time resources in the provision of bullocks for clients. This notwithstanding, more farmers have been assisted in the northern sector to own bullocks. FPOs interact regularly with tractor service providers to better organize and improve their services for clients. Increased capacity of clients to arrange for better land preparation services 	<i>Progress made is commendable. ADRA needs to do more to provide credit for the purchase of more bullocks in the Northern belt where loan recovery is very high</i>
2	FPOs Monitor downstream training organized for farmers by HAT,s and AEA's	Measures have been put in place to ensure greater interaction between Field officers and HAT. Itinerary forms and Monthly Extension report formats have been designed for FPO's to follow and for Supervisors at the Headquarters to cross- check to ensure efficiency ADRA has strengthened supervision of field work through improved team cohesion and increased interaction with HAT at district and community levels.	Staffs at various operational areas meet regularly to share ideas on program. AEA's present completed monthly itinerary forms and extension reports to FPOs. FPOs also submit copies of their own itinerary and extension reports to the program director. This process is results oriented and allows for greater efficiency in monitoring. Quarterly meetings are held with HAT at district levels to draw plan of work for the quarter to allow for more effective monitoring and supervision.	<i>Evidence of strong interaction between FPO's and HAT existed in all the communities visited. What the consultants learnt at ODA for example was that Mrs Grace Osei Asibey (alias "16 years") was almost always with them. The consultants are convinced that much of the community members' knowledge in preventive health education can be attributed to the effective supervision and monitoring of the educational activities of the HAT and WATSAN teams.</i>

3	ADRA in collaboration with MOFA should advise farmers on acceptable chemicals and application methods and expect advise on biological control of pest from CSIR and other research institutions	ADRA has instituted a scheme to upgrade the knowledge and skills of staff to respond to management needs of promoted crops. ADRA is working closely with agrochemical companies e.g. Dizzenghoff and CSIR finding appropriate solutions to pest problems of promoted crops	Five staff members have received external training in plantations management and extension and in turn provided training for colleagues. ADRA has collaborated with Dizengoff Ghana and MOFA to set up 10 demonstration plots round country to study yield responses of promoted crops to various cultural practices. The demonstration plots are serving as farmer field schools to diffuse knowledge to clients	<i>Success has been achieved in the Techiman and Kintampo Districts and this needs to be quickly extended to the other growing areas especially in the Southern belt</i>
4	ADRA assists farmers without skills to form marketing groups to improve marketing of farm produce, increase income and improve loan recovery	ADRA is upgrading the marketing skill and opportunities for clients Citrus and mango marketing associations have been formed in the Eastern Region and are being strengthened with training in marketing	ADRA is collaborating with Farm Serve Africa project of OICI, the Department of Cooperatives and marketing agencies to train clients to meet required standards for accessing local and international markets	<i>Progress made so far on mangos and citrus is commendable. The problem is the cashew. ADRA needs to speed up the links with FEXIM Company Limited. In addition, ADRA should revive the nucleus farmer concept in each operational area</i>
5	ADRA intensifies education on loan recovery, provide inputs for dry season vegetable gardening e.g. dug outs, wells, pumps, fertilizers etc increase income and thereby improve loan recovery	Measures have been put in place to ensure that loan recovery level improves.	ADRA has procured and supplied pumps to clients in Northern Ghana. Clients in the Volta Region and Greater Accra Regions have been assisted with inputs to cultivate vegetables to help improve loan recovery. In the Volta Region clients have dried chillies to pay their loans.	<i>Despite these advancements, loan recovery is lowest in the Greater Accra and the Volta regions. ADRA needs to step up the education component.</i>
6	Agro processing equipments: ADRA to recover loans so that more people and communities can benefit from support	Corn processing equipment beneficiaries have made significant repayment of loans		
7	Lightening work load of field health officers by reducing area covered by one staff.	ADRA continued with resourcing the EHO's to be able to work effectively in	Communities working closely with EHO's and their WATSAN groups to keep communities clean. EHO's involved in district Environmental	<i>The Consultants confirm the progress made so</i>

	For example, strengthening collaboration with EHO's.	the communities National service personnel were engaged to assist in the field work	Health Days organized by ADRA to give awards to clean communities.	<i>far, but are of the view that much more could be achieved if the allowances of the EHO's are reviewed upward and some cheaper means of transportation provided, as they requested.</i>
8	ADRA should formalize and strengthen collaboration with Ghana Health Service.	Work with agencies has been going on at the district levels. The basic problem is the high attrition rate of some of these MDA's. The health teachers of GES often leave for further studies.	In 2005, collaborators' meetings were held in all project areas and reports of ADRA's activities were given to collaborators. School Health coordinators of the GES are invited to these meetings. Officers are encouraged to leave behind information on ADRA activities when they have to leave. New teachers will be trained this year.	<i>Little collaboration was noticed between ADRA and the GHS. However, it was better with the GES, because in over 50% of the communities visited, the District School Health Education Program Coordinators were involved in the School Health Component of the DAP. The apparent gap in communication between ADRA and the GES office in respect the invitations to the School Health Teachers is an anomaly that should be rectified.</i>
9	Strengthen HAT concept by offering refresher course and properly resourcing and empowering HAT members.	HAT receive regular allowance and T shirts. Documentaries and other IEC materials are being developed.	<ul style="list-style-type: none"> • In 2005 T -shirts bearing various health and nutrition education information have been provided for HAT members in addition to regular payment of allowances. • Several district level refresher training programs have been designed to improve the knowledge of HAT members and to increase their extension efficiency. • ADRA is collaborating with CSIR to document best practices 	<p><i>The consultants consider this achievement very remarkable, since the T-Shirts serve as useful educational materials.</i></p> <p><i>ADRA is also commended for ensuring that the educational materials provided for the teachers</i></p>

			<p>and success stories in nutrition and preventive health education. These materials will be used by both staff and HAT for community education.</p>	<p><i>trained in the School Health Education are left behind for use by the incoming ones.</i></p> <p><i>The consultants will want to commend ADRA for planning and designing district level refresher courses to the HAT members. Since the HAT members requested for this kind of activity during the impact evaluation, ADRA should speed up on its implementation.</i></p>
10	<p>ADRA to explore the possibility of technical and financial resource pooling with agencies and bodies with interests in water issues.</p> <p>ADRA to tailor packages to reflect the specific needs, opportunities and constraints of communities for more effective application of resources</p>	<p>ADRA strengthens existing collaborations with agencies interested in water issues.</p> <p>Where communities will not be able to derive full benefit from ADRA's water and hygienic sanitation packages due to environmental constraints, ADRA will apply resources to the best available alternative.</p>	<ul style="list-style-type: none"> • ADRA organized 2005 collaborators meetings to share notes on program implementation, challenges and success. The quarterly collaborators' meetings will be expanded to include some community members so that vital feedback will be solicited from the beneficiaries especially opinion leaders who may not be ADRA registered clients. • ADRA has increased the frequency of interaction with communities through regular meetings with chiefs, queen mothers and opinion leaders; this has strengthened participation and of ownership project in communities. 	<p><i>ADRA is encouraged to sustain the achievement in this area.</i></p>