Final Evaluation of

World Vision Rwanda Title II, P.L. 480, DAP Program

World Vision Soil Fertility Improvement & Conservation DAP (FFP-A-00-00066-00)

Prepared by:
Dr. Richard Swanson
Mr. Claude Bizimana

Submitted to: USAID/Rwanda

Submitted by: World Vision US
Food Resources Team
300 I Street, N.E.
Washington DC 2002

World Vision, Rwanda
Kigali, Rwanda

June 2004

Final Evaluation of

World Vision Rwanda Title II, P.L. 480, DAP Program

World Vision Soil Fertility Improvement & Conservation DAP (FFP-A-00-00066-00)

Prepared by:
Dr. Richard Swanson, Development & Information Strategies
Claude Bizimana, Agricultural Economist,
Department of Economics, National University of Rwanda, Butare

With the special assistance of World Vision staff:

Simon Nyabwengi, DAP Manager, Kigali, Rwanda
Pascal Bimenyimana, DAP M&E Coordinator, Butare
Debebe Dawit, Commodities Manager, Kigali
Maliro Thaddee, DAP Farmer Associations Coordinator, Butare
Hatangimana Thomas, DAP Agricultural Coordinator, Butare
Francoise Urayeneza, Agronomist, Field Coordinator, Byumba
Munyandamutsa J. de Bonheur, Agronomist, Field Coordinator, Ruhengeri
Senzoga, Augustin, Agronomist, Field Coordinator, Gikongoro
Claude Nankam, Agronomist, World Vision US

Submitted to: USAID/Rwanda

Submitted by: World Vision US
Food Resources Team
300 I Street, N.E.
Washington DC 2002

World Vision, Rwanda
Kigali, Rwanda

June 2004

List of Acronyms

ACDI/VOCA	Agricultural Cooperative Development International/Volunteer Oversees Cooperative Agency
ADP	Area Development Program
ADRI	Association de Developpement Rurale Integrée
ATDT	Agricultural Technology Development & Transfer (USAID funded project)
CDC	Community Development Council
CRS	Catholic Relief Service
CSR4	Cooperating Sponsor Results Report and Resource Request
DAP	Development Activity Project (USAID Project)
DAP 1	Soil Fertility Improvement & Conservation – WV's first DAP in Rwanda (2002-2005)
DAP 2	Rwanda Livelihood Security Program – WV's second DAP in Rwanda (2005-2009)
DCHA	Democracy, Conflict, and Humanitarian Assistance Bureau of USAID
FANTA	Food and Nutrition Technical Assistance (USAID funded project technically supporting FFP programs)
FRMG	Food Resources Management Group
FFP	Food for Peace
FfW	Food for Work
GOR	Government of Rwanda
ICRAF	International Center for Research in Agro-Forestry
IPTT	Indicator Performance Tracking Table
ISAR	National Agricultural Research Institute of Rwanda
LOA	Life of Activity
MINAGRI	Ministry of Agriculture, Livestock, and Forestry
PEARL	Partnership for Enhancing Agriculture in Rwanda (USAID funded project)
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PIRS	Performance Indicator Reference Sheets (for Strategic Frameworks)
REAP	Rwanda Emergency Agricultural Recovery Program
SOW	Scope of Work
SO3	USAID Rwanda's Strategic Objective #3
SOW	Scope of Work
TAP	Transitional Activity Program
UNICOOPAGI	Union des Cooperatives Agricoles de Gikongoro
WV	World Vision

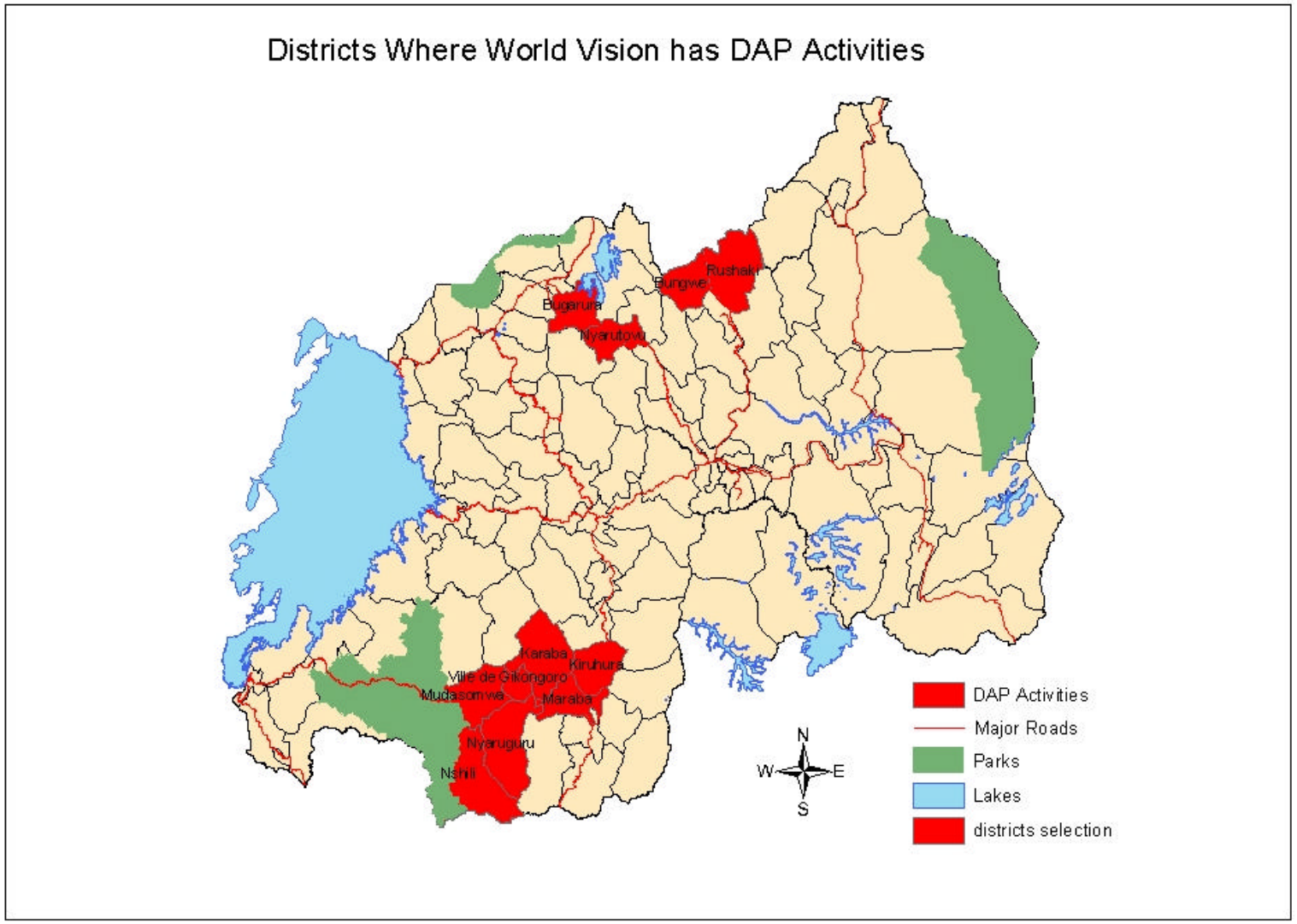

Districts Where World Vision has DAP Activities
Rushaki
Bungwe
Bugarura
Nyarutovu
Karaba
Kiruhura
Ville de Gikongoro
Mudasomwa
Maraba
Nyaruguru
Nshili
N
W
E
S
DAP Activities
Major Roads
Parks
Lakes
districts selection

Table of Contents

List of Figures

List of Annexes

List of Tables

Foreword

The principal consultant wishes to take this opportunity to thank the World Vision Rwanda field management team for their hospitality and active support throughout the three week in-country evaluation period. Those who provided particular assistance are listed above, being accessible and always ready to help in seeking to make the connections or providing the information requested. Coming as it did less than a year after completion of the mid-term evaluation process (August 2003), this evaluation re-affirms some of the earlier evaluation's observations and conclusions. This is necessary because they remain valid. Strategically, it became more important for World Vision Rwanda to establish a strong foundation for the new, follow-on DAP, to begin October 1, 2004, than to try to repair structural deficiencies of a DAP with only a year to run. By this final evaluation, a follow-on DAP 2 program had already been submitted and approved by USAID/Rwanda. This consultant was pleased to find that many of the recommendations made in this final evaluation were affirmed in the DAP 2 strategy. This is particularly the case in the strong orientation towards decentralization in DAP 2, with the DAP Manager given significantly more authority than in DAP-1, and with a system for decentralization of management authority to Regional Managers. Lessons learned from DAP 1, and the recommendations made here will further strengthen what appears to be a new DAP that has learned the lessons of the past four years.

World Vision Soil Fertility Improvement & Conservation DAP (2002-2005)

0.0 Executive Summary

During three weeks in mid-May 2004, this evaluation team visited with men and women members of many different associations in the four provinces of Gikongoro, Ruhengeri, Butare, and Byumba, with whom this World Vision Rwanda DAP has worked over the past four years. Discussions with staff of the WV field teams, DAP Manager, program coordinators and WV Kigali national staff, field agronomists and food monitors permitted us to better understand the context of the program as understood after the initial review of existing project monthly, quarterly, and annual reports and other documents. Visits with actual and potential project partners within the country, USAID's Agriculture and Rural Enterprise team, GOR personnel within MINAGRI and district administrations further helped the team to appreciate the perspective of those observing the program over this time. These sources, combined with a final quantitative survey with 436 members of 119 associations, qualitative interviews with numerous people, and completion of the indicator reference sheets for project monitoring within USAID's strategic objective #3 framework, provided the information presented in this document. This report will focus on the accomplishments, lessons learned and major recommendations for future World Vision activities within Rwanda.

0.1 Overall Impact of Project

The World Vision Rwanda DAP has been successful in reaching its stated goals of improving the food security of rural households in Rwanda. In doing so, it contributed very significantly to achieving USAID/Rwanda's Strategic Objective # 3 of increasing the ability of rural families in targeted communities to improve household food security. Some of the key achievements which can be attributed to DAP program efforts include:

- 2,878 hectares of bench terraces were constructed on the largely personal mountainside plots of some 10,451 members of 407 targeted associations in 15 communes in four Rwandan provinces (cf. Annex 5, Photos 13-18, 20).[1] The impact of these valuable assets, worth at least $1,500/hectare to construct, for crop productivity increases of the benefiting households, can not be underestimated. And this impact can be expected to continue to increase and expand in the years to come as access to inputs and markets is further developed.
- The use of organic and green manures, combined with lime and NPK fertilizers, and using improved maize, climbing beans, wheat, and Irish potato varieties quickly adopted by the above associations, is leading to at least 50% productivity increases, and perhaps as much as 100% increases in commodities on a per hectare basis. These households, not only meeting their food subsistence needs, have begun to experienced significant surpluses leading to cash infusions into these formerly poor households. Income is leading to acquisition of livestock, ability to pay school fees of children, and many other household objectives impossible to achieve only a few years ago. Virtually every DAP household surveyed in the quantitative survey reported having being able to acquire at least 2 animals as a direct result of DAP activities – and some admitted to between 33-40 animals!
- Thousands, perhaps over 100,000 households have had significant Food For Work resources paid to them for their work – impacting possibly as many as ½ million people within their respective households. These food commodities of maize, beans, and vegetable oil have permitted households to spend the time needed to be involved in not only their own but the fields of others through construction of bench terraces. In the process, they have learned how to do this and are capable of slowly increasing such terraces upon their own land through their own labor.

0.2 Issues

The World Vision Rwanda DAP program had a rough start that did have an impact on efforts of what was supposed to be a five year project, but ended up six months less. It did not actually get underway until almost a year following the signing of

[1] To visualize what this actually represents, the area shown being terraced by FfW teams in the photograph on the coversheet represents about 400 square meters or 4% of one hectare. One hectare would represent an area 25 times larger than that shown here. The project completed what amounts to 71,950 units of land the size of that shown in this photograph.

the contract. The principal reason for this was entirely outside World Vision's control – the project did not receive any of the promised monetized funds during the first year and only 50% of expected resources for the second year! This meant that personnel needed to implement the project could not be hired, and when funds did come they were not complete. The project ends with almost $1 million outstanding still unfunded. At the same time, it proved challenging to fill leadership positions within both World Vision's country office (program national director) as well as the top DAP position – the DAP manager. World Vision Rwanda was responsive to challenges encountered in moving from a largely quick response relief supporting program to one of longer term rural development agricultural based assistance, and has incorporated many lessons from this experience into the new DAP that is to begin October 1, 2004.

(1) Program Management

In what was a highly centralized program orientation, delays in filling key positions and inability to hire even what turned out to be the underestimated field personnel needs, had an impact on timely decision making and moving things forward during the initial two years. Lines of responsibilities and decision making authority need to be better outlined in a revised organogram and through detailed job descriptions. Field monthly and quarterly reporting to the DAP Manager and World Vision Program Director need to offer narrative details behind tables of progress orientated information provided. There remains clearly a need for greater decentralization of financial and operational management to improve timely responses to field-based needs. Furthermore, the M&E system of the project could be modified to include all members of the program as contributors, rather than placing the principal burden on a couple people to collect the necessary data for reports and management. A harmonized data management system also needs to be established that coordinates, in one place, all key information being tracked by the project.

The project developed very good working relationships with the local district and province civil and MINAGRI officials who gave high praise of the collaboration experienced. The establishment of Community Development Councils linking commune level and local leaders in the selection and construction of bench terraces was seen as a good way of fostering community ownership of these activities. As World Vision looks to the future, there are many opportunities to improve linkages with other regional and local organizations like Heifer International, their own ADPs, ACDI/VOCA, the PEARL project, ATDT, and others. Such partnerships will help World Vision to assist the members of associations who look to meet their input needs and expand commercial opportunities.

(2) Bench Terracing vs. Progressive Terraces

With rare exception, DAP program field staff, local community leaders, and farmers themselves pointed to the construction of so many bench terraces as the single most important contribution of the project. An extremely valuable productive resource was placed into the hands of small farmers who would not otherwise have been able to acquire such resources. An important lesson learned by World Vision Rwanda during these past years was the absolute necessity to assist recipients of bench terraces for at least two or three agricultural seasons to bring soils to productive capacity through the use of lime, chemical fertilizers and other organic materials (manures and green manure). Construction of new bench terraces requires also budgeting for input support on these terraces for a limited period of time. The project was not designed to respond adequately to this lesson and future DAP activities might consider verifying completion of this task. It would be more important to bring all 2,878 hectares of completed bench terraces to their full productive potential, with appropriate agro-forestry materials planted on **all** fields, with farmers being able to access the needed inputs (improved seeds and fertilizers) locally, than to seek to develop yet more such terraces. .

Furthermore, reinforcement of the 'progressive terraces' that most Rwandan farmers already have through better training and access to the same inputs needed for bench terraces would also have a significant impact on other Rwandan farmers. Progressive terraces were largely neglected by the project because large scale Food for Work employment can not be organized for these.

(3) Food for Work

The Food Commodity team of the DAP, with experience pre-dating the start of this DAP, achieved outstanding success in the acquisitions, coordination, and distribution of 20,548 metric tons of corn, beans, and vegetable oil to multiple destinations in four provinces. Because such distribution was linked to actual work completed on 1 hectare units of bench terraces, this team, with the assistance of the DAP agronomists, tracked 2,878 hectare contracts. A series of forms were used to monitor these contracts through the named identification of 295,554 individuals who actually did this work,

including the individual fingerprint signatures of all these people when they finally received their food allotments. The DAP team was very conscientious in applying set standards for selection of these workers, giving priority to the needy within the communities. Women were clearly the most important recipients of this FfW program and represented close to 80% of those actually doing the hard work on these mountain slopes. They were the ones bringing in the 20,548 metric tons FfW food distributed into their households and seeing that household food needs were met before small portions were sold to meet other critical household income needs (children school fees, medicines, spices for household consumption). Economists speak of the importance of velocity of money within communities – a dollar earned passing through many hands and generating economic activity. Food is money in rural communities. In much the same manner, the fact that some of the FfW commodities did reach local markets was also seen as very positive because frequently no other food was available for those needing it in the market, and this helped to generate some commercial activity for others.

(4) Inputs and Commercialization

World Vision Rwanda has not been the first development organization to promote the construction of bench terraces in Rwanda, but they certainly appear to be among the first to have quickly realized that the goal is not the construction of bench terraces themselves, but **after** their construction, the need to then exploit the productive potential of these flat fields on mountain slopes to their full potential through training in the appropriate use of agro-forestry materials and other inputs. The private sector remains extremely weak in Rwanda in the acquisitions and delivery of agricultural inputs to farmers and increased attention will need to be given on strengthening the economic chains linking farmers with input markets and with consumer markets for their products. With the capacity to produce crops twice each year, farmers with bench terraces also have a competitive advantage in the commercialization of their commodities as well. Greater attention will need to be placed in coming years on diversification into high value crops that could be cultivated on such terraces, and help given in identifying the commodities best adapted for existing regional and international export markets.

(5) Capacity Building through Training

Capacity building, both within the World Vision Rwanda DAP team, as well as among the farmers with whom they have been working over the past four years, remains a challenge. Within the limited resources available, WV Rwanda did provide opportunities for capacity development of its staff. DAP personnel were motivated in their work, technically capable for the tasks required and eager to learn more to advance themselves professionally. Yet, there was a strongly expressed need and healthy desire by project personnel at all levels for more mentoring and professional development. The need for further technical development of field personnel was evident to the evaluation team. Furthermore, additional opportunities need to be given for farmers to meet other farmers as innovations are introduced into the farming system. Identification of such opportunities must be the responsibility of World Vision technical leaders who have broader perspectives within the East and Central Africa regions to which they frequently travel and link with World Vision and other development projects. World Vision Rwanda might seek to identify some highly qualified technical people (agronomists, agricultural economists and economists) who can provide short term mentoring and training to staff. Suggestions have been made in this report on how this might be improved.

0. 3 Recommendations

Major recommendations from within this document are listed below. To better understand the context of these recommendations, and the lessons learned that lead to them, review of the document will be necessary.

(1) Give the DAP Manger the administrative, financial, and managerial authority needed (from the World Vision Rwanda national office) to lead the program successfully and such authority should be further delegated to field managers. Reorientations for DAP 2 appear to move strongly in this way.

(2) Harmonize and coordinate data management systems used for program monitoring among the different components of the program – particularly between the 'production' and 'commodities' sub-teams of the program. Keep a master list of all associations with which the DAP has worked from the beginning, showing number of members of each sex, as well as other information associated with each. This will be important as implementation of DAP 2 begins.

(3) Improve means of communication between program field personnel and regional and national level management.

(4) Develop a DAP program organogram that clearly shows hierarchy within all the positions within the project, and clarifies relationships between different components or functions of the project. If World Vision Rwanda national staff hold significant roles with respect to DAP implementation, these positions should be clearly identified as well. Develop clear job descriptions for all positions.

(5) Write reports, perhaps semi-annually, which consolidate all project activities in one place information that is useful for project management and general understanding of the progress being made. Fewer but more comprehensive field reports might be considered. Verify that project field district level authorities receive timely copies of annual accomplishment reports for their own reporting needs. The DAP Manager should be the principal editor of consolidated reports.

(6) Define project impact and process indicators in such a way that the data required to report on them can be acquired in the regular course of program activities as carried out by field sub-components of the implementing team. Give adequate time during the initial months of DAP-2 to work as an entire project team in a workshop environment to familiarize everyone with the objectives of the program, including mutual understanding of the key processes that need to be followed to reach objectives, who will be responsible for obtaining each of the key data sets required for program monitoring purposes, and when information is required. This will help build team unity and understanding of each others roles in reaching a common goal.

(7) Be an active partner with USAID and other SO7 partners in the implementation of DAP 2 and be proactive in creating synergies with other SO 7 team partners (like ACDO/VOCA, ATDT, PEARL project, Heifer International, and others).

(8) Provide greater emphasis to helping farmers develop progressive terraces upon the lands around their homesteads.

(9) Develop a long term strategy with respect to associations already supported by DAP-1 project interventions. *Diversification is going to become increasingly important for these associations if they are to truly maximize their commercial prospects as well as to decrease risks.* Build upon the DAP 1 foundation, as DAP 2 begins, of the 407 associations worked with, and 2,878 hectares of bench terraces completed. Households associated with these associations should be among the first recipients of continued efforts in productivity improvements, new commercial opportunities, efforts to improve health and nutrition and improved governance strategies. Help these associations in identifying and building sustainable linkages to sources of needed inputs and the short term credit needed to realize this and other farming objectives. These households, with their improving bench terraces, should be partners for applied research and extension in understanding impact on productivity and economic growth, and be linked to other farmers within their communities seeking to improve their own farming systems.

(10) Consider modifying World Vision Rwanda orientation with respect to input supplies for farmers to include the following (different provinces may require different approaches to achieve this):

- No improved seed or fertilizer inputs given by World Vision itself, even as a credit, directly to farmers.
- To provide farmers with inputs, World Vision might seek to develop local input suppliers and help support regional private sector efforts to provide inputs – in other words, to help develop sustainable market chains bringing inputs to farmers.

(11) Continue to provide the opportunity to have bench terraces for households without such. However, limit this to households currently without bench terraces and limit the size of terraced fields to perhaps not more than .5 hectare per household, adjacent to their households.

(12) Be more proactive in having field agronomists and food monitors seek out and identify sero-positive associations or groups within the communities being worked in to become recipients of bench terraces around and near their homesteads.

(13) Do not permit the pressure of delivering Food for Work commodities to drive program implementation, and if hectare goals are established for bench terracing, budget adequate resources to provide at least two seasons of support for improved seed, fertilizer, and other inputs required to establish productivity on completed terraces. FfW for other activities in DAP 2, such as feeder road improvements, also need to consider resources that may be needed to help establish community systems for maintaining these, once completed. Issue of sustainability of initial efforts completed by FfW need to be considered carefully prior to implementation.

0.4 Conclusions

Did the World Vision DAP project succeed in its goal to 'improve the food security of rural households in Rwanda'? Among the thousands of households [2] benefiting from the construction of bench terraces on their land, and the subsequent assistance of the project in helping them to 'increase the value of' this land by helping them to obtain improved seeds, organic and chemical inputs on this land particularly during the first two seasons after their construction – the answer would have to be a resounding "YES". And this was particularly true when these bench terraces were constructed near the homes of the concerned families. Household and food security was most certainly increased in these locations to the extent that many have become commercially active, obtaining goats and cattle, renting more land, looking at higher value crops.

World Vision Rwanda has learned many important lessons in helping small farmer households in Rwanda towards meeting their food security needs. It has helped to place them on the path of hope for increasing commercial success in the sale of commodities they are capable of producing with their own efforts. Much of this was made possible because farmers received a very valuable capital asset in the form of bench terraces, capable of truly ending soil erosion upon their lands and the loss of organic and fertilizer inputs when these were attempted. Finally, even these terraces would not have been possible without the FfW commodities that permitted employment of large numbers of people to construct such terraces – an expense that would never have been possible for these small farmers within their own means. On this basis, this DAP was certainly successful in meeting its most important goals and USAID's strategic objectives for this program.

Future success in DAP 2 will depend on building upon the foundation of good will and relationships established in DAP-1 with hundreds of associations to achieve true commercial success, however modest, for the thousands of households who have benefited from this program. The achievement of 2,878 hectares of bench terraces must be seen as but the first step to helping build a new generation of commercially orientated farmers. But they will need help in identifying those markets, in diversifying, and in obtaining the inputs needed to operate successfully. World Vision Rwanda is fortunate in possessing a highly motivated and loyal team of field personnel, agronomists, and commodity personnel who themselves are committed to helping the poor in their midst, and who have demonstrated their capacity of overcoming obstacles to reaching their goals.

[2] There were 10,451 members within the 407 associations worked with by this DAP project and most of these members represented different households. World Vision has estimated an average of 5 persons per household, ranging from single, widowed women led households to large husband and wife units with multiple children and other related family members.

World Vision Soil Fertility Improvement & Conservation DAP (2002-2005)

1.0 Introduction

This report presents the results of the final evaluation of World Vision's first five-year (February 28, 2000 – February 28, 2005) Development Activity Program (DAP) in Rwanda within four provinces: Gikongoro, Ruhengeri, Butare, and Byumba. Life of project cost was about $17,371,190.[3] Limited monetization funds at the end of the program limited the scope and duration of field activities by five months, requiring an early end in September 2004. A follow-on DAP-2 is expected to begin October 1, 2004 for another five years, and the results and lessons drawn from this evaluation will be important in informing and providing direction to this new effort.

As stated in the original project document, this World Vision Rwanda DAP

> *"has a goal of ensuring household food security among a total of 107,875 households (539,375 people) in the prefectures of Gikongoro, Ruhengeri, Byumba, and Butare. The project's overall objective is a sustained increase in the availability of food and household income in the target households in these prefectures…Key activities...include the construction of 2,400 hectares of bench and progressive terraces with Food for Work support,…on-farm training in improved cultivation practices,…training in financial and business management and in marketing, and the provision of credit to help farmers begin their agribusiness projects".*[4]

This DAP was funded out of USAID's Bureau of Democracy, Conflict, and Humanitarian Assistance (DCHA), Food for Peace, Title II, program in Rwanda, and was implemented by World Vision Rwanda. This evaluation combines results from both quantitative and qualitative surveys undertaken in Rwanda between April and May 2004. The major purpose of this evaluation was to assess the impact of the program on intended beneficiaries over the life of the project. The scope of work is provided in Annex 1. This evaluation has sought to include the input from experience of all the principal stakeholders of this project. Besides the Rwandan communities, various participating associations, and households themselves, stakeholders included USAID/Rwanda, ACDI/VOCA, civil authorities and leaders within the various provinces, Ministry of Agricultural personnel, ICRAF (for agro-forestry materials and advice), and the ATDT USAID funded project which has supplied improved seed varieties used by the project.

This report is divided into four major sections. **Section one** provides an overall introduction to the background and objectives of the World Vision DAP program, the methodology used for this evaluation, and a brief introduction to the project's results framework. **Section two** looks into the program design and approach itself, along with the M&E system that was designed to provide program management with information needed for making course corrections and assessing progress and impact. **Section three** provides a review of the strategic framework of this project – its objectives and sub-objectives – and how these fit within USAID's overall Strategic Framework. Here LOA results indicators will be reviewed against initially set objectives. **Section four** provides the results of the final project quantitative survey administered to program beneficiaries and is compared to similar baseline and mid-term data obtained in earlier years of the project. A final **section five** includes discussion of a number of cross-cutting issues and themes that have been key approaches or issues during the life of the program, and which have implications for the future Rwanda World Vision DAP # 2.

[3] At the writing of this report, DAP 1 had three months remaining.

[4] Grant Management Packet, DAP Food Security Program, Rwanda, World Vision US, March 2000.

1.1 Background

Immediately following the genocide of 1994, when the Government of Rwanda reported that there were at least 937,000 men, women, and children murdered, World Vision became involved, for the first time, in Rwanda. Beginning with the Rwanda Emergency Agricultural Recovery programs in September, 1994 and lasting through September 1998, (REAP 1, 2, and 3), funded by USAID's Office of Foreign Disaster Activity, World Vision provided seed multiplication, inputs, and agricultural training and implements to destitute families and returning refugees. Based on these field experiences in Gikongoro Province, World Vision designed and was funded, by USAID's Food for Peace program, a Transitional Assistance Program (TAP) between April 1998 and September 2000. It was at this time that World Vision began its major focus on the construction of bench terraces using Food for Work (FfW), seeking to achieve increased agricultural production and short-term food security for over 9000 households in this region.

In 2000, World Vision began its first ADP (Area Development Programs) within the country, with funding through its own child sponsorship programs, with a community development focus. It was also at this time that World Vision signed with USAID its first Development Assistance Program (DAP) in October 1999 - initially designed as a five-year project. The approaches proposed in this DAP were based on it's REAP and TAP experiences in Gikongoro Province, where it was noted:

> *"that training farmers in 'these technologies', including terracing of hillsides, improved cultivation practices such as 'power planting', and a variety of soil fertility and soil conservation techniques – can result in major increases in yield. World Vision farmers who have been taught these principles and who have received appropriate inputs on credit are now producing up to three times the average yields in the area without additional external assistance."*

This DAP program is the focus for this evaluation.

World Vision was awarded this DAP in February 28, 2000, but implementation was delayed until November 2000, principally because expected monetization funds were not available until almost twelve months into the project, and only reached 50% of expected levels the following year. To initiate activities, World Vision Rwanda had to fund some activities with its own money. As designed, implementation would begin in Gikongoro Province in year one and extend to Ruhengeri, Byumba, and Butare in subsequent years.

World Vision did not have a permanent National Director for their Rwanda programs until May 2002 – more than two years into the DAP project. Prior to this, three National Directors were in place for less than 1 year – in one case 6 months.[5] The first DAP Manager, Jean Nyemba, was not hired until August 2000, 8 months after the beginning of the DAP and a newly formed DAP field team only began working in the field by November 2001.[6] Funds were not available to hire these people. Nyemba provided important program leadership as DAP Manager for three years, until August 2003, and helped to launch an ambitious program. Following his departure, it was not until five months later (January 2004) that the new, and current DAP Manager, Simon Nyabwengi, could be fielded. Mr. Nyabwengi brings extensive experience managing and supporting other East and Central Africa World Vision DAP program efforts, including a very successful Uganda program.

Following guidelines established by the USAID FFP program and the Food and Nutrition Technical Assistance (FANTA) project supporting FFP programs technically, World Vision Rwanda programmed at the outset of the project to establish baseline, mid-term and final program data sets to track program achievements and impact across project years. These project requirements were fully met. In December 2000, based upon the project

[5] World Vision Rwanda National Directors: Warren Nyamubagira (March 01, 1998 to November 7, 1999); Edwin Asante (November 8 – December 31, 2000); Fulgence Binagwa (January 01 – December 30, 2000); Susan Barber (January 01, 2001 – July 08, 20001); Jim Carrie (July 9 – April 30, 2002); Kofi Hagan (May 1, 2002 – present).

[6] Gaudreau et al, Midterm Evaluation Report, 2003.

objectives initially defined, baseline socio-economic data were obtained from some 840 households in Gikongoro, and some 1,838 farmers were interviewed in Butare, Byumba, and Ruhengeri between May and June 2001.[7] Life-of-Activity (LOA) targets had been set in the initial project document. A mid-term evaluation was completed in September 2002, and one of the conclusions was that LOA targets were unrealistically high, particularly with respect to anticipated yields – which actually exceeded known yield levels of research station results! Some modifications were proposed and accepted by USAID for these targets. This final evaluation will assess project results against these later LOA targets. Lessons learned and major accomplishments of the project will be presented below, along with recommendations that need to be considered for future potential continuation of these and other similar activities within Rwanda.

World Vision undertook its mid-term evaluation in September 2002 in the Gikongoro and Ruhengeri Provinces where the project had been underway for about two years. Its stated purpose was "*assessing the level of achievement of the approved objectives and the impact of the program on the food security in the targeted communities*". Here, 184 people were interviewed, drawn from a random sample of members of 23 associations out of a total of 30 associations who had participated in project activities during the September 2001 – July 2002 cropping season.[8] The mid-term consisted of both formal survey, a modified version of the original baseline and informal interviews. World Vision had by this time only begun its activities in Butare and Byumba Provinces, and it was not reasonable to expect program impact in these areas, so they were not included in the evaluation.

At the implementation level, World Vision has been able to retain a strong program staff over the life of this DAP project. Such retention is one testimony to the common vision and mutual respect that World Vision has been able to build among its personnel and has certainly contributed to the impact it has been able to achieve at the field level in spite of structural/organizational problems and issues faced throughout the project. In fact, many of the key field program leaders have been with World Vision since its first days in Rwanda in the earlier REAP and TAP projects.

Implementation of DAP program activities was undertaken within four Provinces of Rwanda (see Map 1), but because of early budgeting and logistic issues, not enough staff were able to be fielded in the early years. DAP activities began in Gikongoro towards the end of Year one, expanded to Ruhengeri in Year two, and to Butare and Byumba by year 3.

- Gikongoro (south)
- Butare (south)
- Ruhengeri (north)
- Byumba (north)

Because of the two agricultural cycles in Rwanda, program activities were closely tied to farmers needs for seed materials and fertilizers during planting and growing seasons, while labor-intensive construction of bench terraces was associated with periods of time when farmers could shift to such activities (cf. Figure 3, p. 46 for seasonal agricultural cycles).

[7] Results of this study are summarized in two reports by Jean Nyemba, et. al, dated October 2000, and August 2001.
[8] World Vision Inc., FY 2002 Results Report, November 1, 2002

1.2 Evaluation Team & Methodology

The final World Vision DAP program evaluation team was led by Dr. Richard Swanson, an economic anthropologist (cf. Annex 1 for SOW, Annex 3 for persons and organizations interviewed, and Annex 6 for the evaluation team's daily schedule log.) He was assisted by World Vision Rwanda's M&E Coordinator, Mr. Pascal Bimenyimana, and a locally recruited agricultural economist, Mr. Claude Bizimana (cf. Annex 11 for SOW). Five World Vision Field Agronomist/ Coordinators also provided very significant support and supervision of twelve field enumerators specially recruited (and trained) for the purpose of the quantitative survey portion of this evaluation. The evaluation team was joined during the last week of the evaluation by senior World Vision project support staff from the United States, Mr. Anthony Koomson and Dr. Claude Nankam, an agronomist.

For the purpose of this evaluation, four major sources of information were obtained.

(1) Dr. Swanson reviewed program documentation in the form of quarterly reports, annual reports, various monthly field reports to program supervisors, and other program monitoring data (e.g. FfW bench terrace construction supervision and commodity distribution forms)(cf. Annex 2).

(2) A final quantitative survey was administered over a two-week period within four provinces among 476 members of 119 associations in 16 communes within the provinces of Gikongoro, Butare, Ruhengeri, and Byumba[9] (cf. Annex 16 for copy of survey). Five project agronomists, 12 enumerators, and Mr. Claude Bizimana's efforts were focused in this area, under the overall supervision and support of Dr. Richard Swanson and Pascal Bimenyimana.

(3) A qualitative survey was undertaken, led by Dr. Swanson, through informal interviews using a list of prepared initial questions – which would lead to others. In Kigali, Dr. Swanson asked the DAP Manager, M&E Coordinator, and USAID to provide to him a list of the people in Kigali and elsewhere whom he should meet for these interview. Names provided included program partners, World Vision DAP national office and regional staff. Interviews were held with members (men and women) of several associations in each of the four provinces, as well as with bench terrace work group participants actually in the process of creating these terraces. Dr. Claude Nankam, World Vision's senior agronomist, participated in the interviewing of farmers and market associations. As part of field discussions held, Dr. Swanson also prepared a two page questionnaire for DAP agronomists and coordinators to fill out (anonymously), with 9 key questions concerning their own perceptions on program implementation (cf. Annex 17).[10] This was also translated into French. Many of their responses have been incorporated into this report, and helped focus the attention of the consultant on some of the issues raised.

(4) Updating of data from program records to complete the third and fourth year indicators found within the strategic framework objectives and intermediate objectives of the project, established at the beginning of the project. This effort was led by Pascal Bimenyimana and evaluated and reviewed by Dr. Swanson in this report.

---

[9] Since the beginning of the DAP in 2000, Rwanda has changed its administrative unit names, as well as combined a number of these units. For example, what were initially called 'Prefectures' (the largest administrative unit) have become known as 'Provinces'. The term 'district' has replaced 'commune'. For the purposes of this evaluation, we have retained the term 'commune' for ease of comparison with past surveys, while using the term Province for the regions of work. Though a number of communes have been joined in the new 'district' borders, we have kept them separate here. The future DAP will need to begin to use the correct administrative units in its data collection efforts.

[10] This was done principally because it would not be possible to meet with each field staff agronomist and coordinator individually for the time needed and the consultant wanted each person to have an opportunity to express themselves, should they wish to do so.

1.3 World Vision Rwanda DAP Strategic Framework

World Vision Rwanda DAP Managers have consciously and consistently sought to communicate program accomplishments within the overall framework of USAID Rwanda's Strategic Framework, and most specifically Strategic Objective #3. WV Rwanda's DAP project level objectives and sub-objectives contributed to SO #3. Project documents identify these objectives and refer to 'intermediate results' (IRs). A review of monthly, quarterly and annual reports produced by the World Vision Rwanda team always reported activities within this framework (cf. Annex 8 for an example of the DAP March 2004 monthly report, Annex 9 for July-September 2003 quarterly report). The World Vision Rwanda Cooperating Sponsor Results Report and Resource Requests (CSR4) also followed this format.

The World Vision Rwanda DAP activities were intended to fit within one of USAID's framed strategic objectives, with a number of intermediate results designated, and with targets and indicators set for achievement in each, as illustrated in Figure 1 below. The overall **goal** of the DAP program was to:

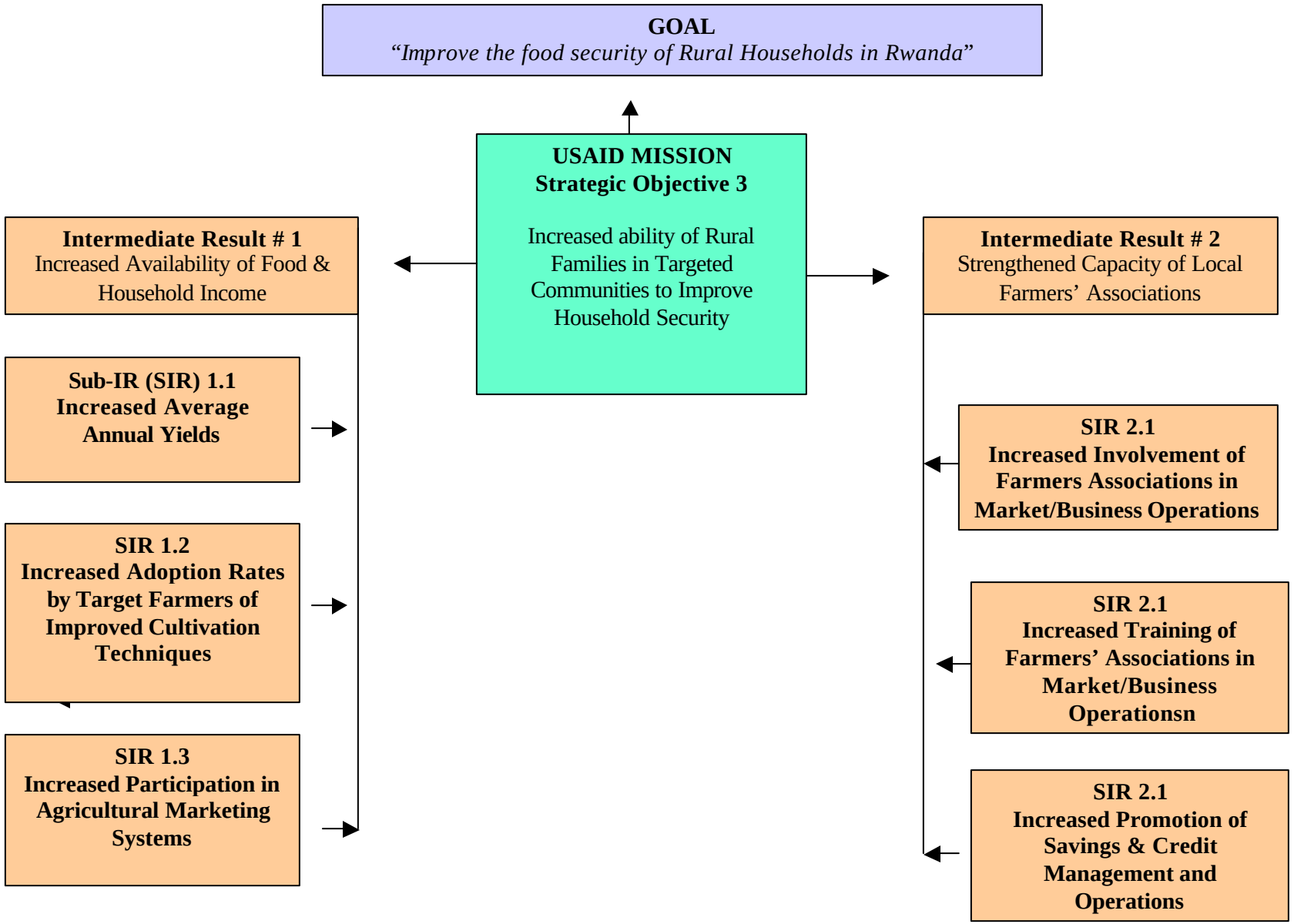
"Improve the food security of Rural Households in Rwanda"

World Vision's DAP activities were seen by USAID as contributing to **USAID/Rwanda's Strategic Objective # 3***:*

"Increased Ability of Rural Families in Targeted Communities to Improve Household Food Security."

World Vision Rwanda subsequently identified, in program documents, two 'project level strategic objectives' within which DAP activities would fall. Seen hierarchically within the context of USAID's Strategic Framework, World Vision Rwanda DAP activities fit into the following framework, as illustrated in Figure 1 below. Here intermediate results (IR) and sub-intermediate results (SIRs) are given.

Figure 1: Rwanda DAP 2000-2004 Results Framework



2.0 Program Design & Effectiveness of the M&E System

From its earliest days, the project has experienced a number of challenges directly related to the initial design and structure of a highly centralized program, which has impacted on implementation. Some of these were outlined in the mid-term evaluation, and some changes were subsequently made. Other issues do not seem to have been adequately addressed to date and have continued to be problematic. World Vision program management, recognizing the desirability to make some changes, nevertheless, did not do so because of the amount of dislocation such changes would have made to the overall program and considered it better to remain with the system, as designed, until its end.

2.1 Program Management

World Vision Rwanda's first DAP proved to be a period of transition and considerable learning as program activities struggled to move from a relief program orientation to one of longer term, sustainable development. World Vision Rwanda did not adequately change its relief orientated operational management structure to accommodate the new DAP program. Many of the challenges and obstacles outlined below have been recognized by the program and major adjustments are planned for future continuing activities within the country. In spite of difficulties encountered, the program nevertheless has managed to achieve most of its major objectives, even surpassing some of them, and positioned itself for potentially greater impact in the future.

During the design of the program, an assumption was made that the larger human resources and administrative departments of the World Vision Rwanda country office could provide the support needed to the DAP. No provision was made in the budget for additional support staff at the provincial levels. While this arrangement worked for the most part, it strained the service providers at the national office level with the result that there were generally slower responses to requests for action and purchases by the national office.

The DAP Manager is the key position within the project for overall coordination, in providing direction and focus, and in relating to both World Vision US, USAID/Rwanda, and other key program partners. Yet, because of the highly centralized management model being used by World Vision Rwanda, with the National Director responsible for all major operational and financial decisions, the DAP manager did not have true managerial authority within the project.[11] Following a recommendation of the mid term evaluation, some changes were made. The DAP Manager moved to Kigali (from Butare), where World Vision Rwanda head offices and Program Director are based. This helped a little in senior leadership communication and coordination.

Management issues were further amplified by the fact that World Vision Rwanda did not have a permanent Program Director in place until May 2002, two years after the beginning of the project. Prior to this, therefore, management decisions had to be passed through a changing series of directors. Furthermore, unless planned and foreseen months in advance and requisitioned for, it was extremely difficult to respond to unexpected and urgent financial needs in the field. The DAP Manager himself only had a $500 cash advance spending authorization for this multi-million project and much of this could be spent before funds could be replenished. Monetization funds which should have been available to the World Vision Rwanda DAP were not available until towards the end of the first year of the project – severely restricting project hiring during the first year. Some of these issues will be considered in greater detail below (cf. 5.9). These realities partially explain the reason for the slow start to the DAP, which were further complicated by the absence of a DAP Manager until 10 months into the project. However, once this Manager was in place, the program did develop and began to achieve results. After three years, the first Manager departed and was replaced five months later, with eight months remaining in the life of the project.

[11] World Vision, in all its country programs, delegates a great deal of management authority to its country offices, led by a Program Director, who has oversight over all World Vision programs and projects within the country – including DAPs. And, World Vision does seek to decentralize management authority in its programs, when possible. However, because of historical problems experienced in World Vision Rwanda's earlier projects, prior to this DAP, the country office reacted by perhaps by becoming overly cautious.

Looking at management issues, it is quite clear that the project struggled (and suffered) from the highly bureaucratic and centralized management system put into place for the DAP by World Vision Rwanda. Decentralization of financial and management authority from World Vision Rwanda's national program to employees of the DAP program, including the DAP Manager himself, never took place within the life of this project. Nor was such management authority further delegated to DAP Coordinators in the four regional centers where activities were taking place. Initially, the DAP program was based and coordinated out of Butare, but needed to interact with World Vision's Kigali office for the management and financial decisions noted above. Fortunately, from the beginning of the project, the commodities coordinator that managed the Food for Work program was based out of Kigali (cf. Figure 2 for DAP personnel organogram).

The recommendation was made during the mid-term evaluation that the entire DAP management team be moved from Butare to the more centralized location of Kigali – where final decision making was being held by World Vision Rwanda headquarters staff. This would also facilitate communication with USAID/Rwanda. By the time this and other related recommendations had 'made their way through the system',[12] only a year of the project remained and the decision was made to leave the M&E coordinator, technical coordinator, and association coordinators in Butare, while the DAP Manager and commodity coordinator were in Kigali. The process by which such recommendations lead to actual programmatic changes appears to be extremely slow; USAID Rwanda and its DAP implementers may wish to review this process to permit more rapid decision making and changes, when needed.

Symon Nyabwengi, the new DAP Manager since January 2004 and experienced in providing leadership to DAPs elsewhere, has provided excellent guidance through the last months of this DAP, while preparing the foundation for the new DAP 2 beginning in October 1, 2004. The new manager recognized the inadequacies of the existing DAP 1 structure but also realized that major changes at the end of the project would have been more disruptive than the gains to be realized at that point. His decision to lead the field team to make the best of the situation, while assuring the needed changes for DAP 2 was a prudent one, and will permit the project to make a successful transition. Significant decentralization of program responsibilities to province level managers in DAP 2 will certainly lead to greater efficiencies of operations at the field level. Experience of the new DAP Manager in helping the Uganda DAP team develop an impressive and thorough project-level program management system should also be extremely helpful during the coming year as the program initiates this new program phase.

From the beginning of the project, the World Vision DAP field team was challenged in not having sufficient means of transportation (vehicles and motorcycles) for its field agents. In the initial program design, expectations were that a fleet of older vehicles inherited from an earlier project (TAP) would serve, along with the few new vehicles budgeted for, the needs of the project. However, sufficient funds were not budgeted for the maintenance and operation of these older vehicles and they had to be disposed of. At the time of this evaluation, there were more field agronomists than the number of operating motorcycles in Byumba, Ruhengeri, and Butare. Nor, from the perspective of the two operating teams (commodities and agricultural teams), was the one project vehicle assigned per province sufficient. Delivery of project agricultural inputs depended on seeking private trucking firms, and the logistics of making this happen was frequently cited by field personnel as one reason for delays in input delivery to destinations in the field. Whether the project, had it had its own trucks for input deliveries, would actually have improved this situation, is debatable.

[12] Following completion of the mid-term evaluation in September/October 2002, a final report was produced by the mid-term evaluator in January 2003. USAID Rwanda finished its review of the evaluation in late June 2003, along with other Title II DAPs in Rwanda. In Augustt 2003, USAID requested a written response from World Vision to the recommendations and received them from World Vision Rwanda in September 2003 – one year following the completion of the evaluation! The project could have benefited from a more rapid assessment and response to this evaluation.

2.2 Communications (Electronic and Hard-Copy Reporting)

Greater attention to the communication needs of the DAP project from the on-set of the project, between DAP field offices in the provinces and with the Kigali national office, would have significantly reduced some of the program delays and personnel frustration evident throughout the life of this project. Expectations that the presence of other separate WV projects (e.g. ADP field offices) in the provinces would permit cost savings and efficiencies for logistic, administrative, and communication needs were not fully realized. Given the size of the DAP efforts, exceeding the logistic requirements of these other WV programs, greater field autonomy would have been helpful. Yet the reality was that lack of adequate project resources, particularly during the first two years when expected monetized funds were not available, required World Vision Rwanda to adopt a more centralized approach to financial management which ended up remaining in place for the life of the project. With adequate funding, WV Rwanda would certainly have hired additional needed manpower to provide financial services to the DAP at the province level – rather than adding to the duties of already fully engaged ADP field staff. Lessons learned here by World Vision Rwanda have led to a significantly better system proposed for DAP 2.

The DAP central project office was originally placed in Butare during the first two years of the project. This office building has never had its own fax machine (though with telephone and a photocopy machine), nor has it ever had the ability to use email to transmit messages and monthly/quarterly reports to World Vision financial and management offices in Kigali. Project sub-offices in Ruhengeri and Byumba had even less material and communications support – reflecting the difficulties in acquiring new phone lines and access to communication services outside of Kigali. Though most of the project's activities (and budget expenses) took place in Gikongoro Province, from the first year of implementation, a DAP sub-office was never established here. Field personnel were required to take a 52 kilometer round trip to Butare for communication, administrative and management purposes. To make matters more complex, because World Vision Rwanda actually did have one of its ADP Field Office in Gikongoro[13], project financial issues had to be transmitted through that non-DAP office – requiring DAP coordinators and the DAP manager based in Butare to move back and forth to Gikongoro to receive funds, monthly checks, and other financial matters. The result was that a great deal of time was spent in wasted motion, using limited project vehicles, between regional and sub-regional centers and Kigali. Programs were delayed and personnel frustration was evident.

When the DAP manager moved to Kigali, the Kigali DAP office did not have an international line or dedicated fax line with which to communicate to field staff. The DAP office was able to have access to such communication lines in adjacent WV Rwanda national program offices. Currently, only the Ruhengeri office can communicate through the internet with the DAP office in Kigali. Showing creativity, DAP coordinators in Butare have a special agreement with a Butare internet café for sending and receiving files and emails with the Kigali DAP office and elsewhere. Yet, DAP field coordinators still physically bring their diskettes of data/information to the Kigali DAP office for program reporting purposes.[14] Fax machines only arrived in Kigali for the Kigali DAP office and the Ruhengeri, Byumba, and Butare offices in May 2004, and these were not yet operational.

As elsewhere in Africa and the developing world, cell phones have become a major factor in improving communications everywhere. Most World Vision DAP field program personnel have their own personal cell phones with which they can communicate, and do, almost anywhere in the country. World Vision Rwanda may wish to consider focusing greater attention on maximizing the utility of this communication tool by perhaps introducing models which can transmit data and also sharing with program personnel the cost of their operation.

[13] Unfortunately, for lack of space, the Gikongoro DAP agronomists could not obtain room in this ADP facility.

[14] It is true that it can take a long time to have a new telephone or fax line put into an office – telephone poles may not exist nearby, or the simply demand for such lines may exceed supply and resources to put them into place.

Food Commodity Component

Within the World Vision Rwanda DAP, there were essentially two components and two sub-teams: the 'food commodity' and the 'agricultural component' teams. Accomplishing the significant results and objectives of this DAP required the coordinated efforts of both teams, and both teams can justifiably share in the satisfaction of work well done. Having said this, however, management and reporting within the commodities component portion of the program must be said to have been extremely well done – even impressive. Review of the documentation files at the field and management office in Kigali showed consistent order, good and complete documentation – essentially indicating a 'well-greased and efficient' system (cf. Annex 10). Indeed, this observation is confirmed by a recent World Vision internal audit of the Food Resources Management Group, in which this statement was made: *"The auditor would like to commend WV Rwanda Food Aid team for maintaining high standards of commodities accountability even under difficult circumstances. The staff members are determined to work hard though they lack motivation because of inadequate facilitation/support from the country office*" (July 30, 2003: 3). The high achievements of the Food Commodity team of the DAP probably justifiably reflects World Vision Rwanda's long experience with food distribution and relief programs.

The greater details provided for the 'commodity chain' in the DAP organogram (Figure 2), led by Commodities Manager Debebe Dawit (and FfW Coordinator) based in Kigali, also reflect a much better working structure than the details provided for the Agricultural Component team. The Food Commodity team proved capable of managing and moving, by March 2004, over $12.4 million of food commodities from overseas to 295,554 FfW recipients in Rwanda (cf. Annex 12).

The evaluation team visited the 600 ton capacity commodity storage building in Butare, managed by commodity assistant Jean-Claude Ntizimira Nga. It was hard to believe that when filled (see Photograph 26, Annex 5), the total contents of this building would only meet the demands of 84 hectares of FfW commodities and the project had managed to distribute 20,548 metric tons of commodities since its beginning in 2001, or the contents of 32 such buildings (12,988 Mt of corn, 6,601 Mt of beans, 959 Mt of oil – cf. Table 2)! In most cases, the project tried to coordinate movement of commodities so that they could be delivered directly from Kigali warehouses to the final destination point, to avoid having to pay for the handling of so much material more than once.

Agricultural Component

Management and reporting within the Agricultural Component' portion of the program, while experiencing many of the same '*inadequate facilitation/support from the country office'* noted in the quote above' for the Food Commodity team, yet seem to have experienced greater difficulty in reaching objectives set. Several factors can be identified that may help to explain this situation.

Firstly, this DAP was World Vision Rwanda's first within this country to manage a complex agricultural development project among farmers. Challenges overcome in managing a relief program were quite different from those one would expect to meet with an agricultural development program – where issues of timeliness, sustainability and professional competence in far more complex agricultural, marketing, and input systems require different skill sets from managing a relief program. Long-term relationships need to be established and maintained in agricultural programs, while relief type efforts are more short term in nature. Tracking of progress in long-term efforts requires a different kind of reporting mechanism and in this respect, within the 'agricultural component' part of this program, reporting was weak all along the

reporting line – beginning with the field agronomists who rarely presented narrative descriptions of field situations.

Secondly, with the exception of the 'Food Commodity team' mentioned earlier, the project organogram was poorly developed and appears to have contributed to management authority and responsibilities for field personnel (cf. Figure 2 below). Field agronomists cited this as one of the constraints of the project. In fact, the DAP organogram does not actually reflect how management decisions took place within the project, or how information would flow from one level to the next. Job performance and accountability needed to be linked to clear delegations of responsibility and authority – and with the ability to perform these tasks with appropriate project resources. Nor were DAP regional coordinators given the financial means to respond to the tasks they were responsible to perform.[15] A couple of examples:

(1) Agronomists – eleven of them - are lumped into one box under the "Agricultural Coordinator" Thomas Hatangimana, who was based in Butare. Thomas also 'coordinated' 3 project drivers and the 'seeds multiplier', though he had no budget, for example, to repair vehicles (or motorcycles) in the field without authorization from Kigali. The project worked in four provinces. Augustin Senzoga was the Field Coordinator for Gikongoro, and was himself responsible for four other agronomists there. In Ruhengeri, Bonheur Munyandamutsa was Field Coordinator, and supervised two other agronomists. Francoise Urayeneza was Field Coordinator in Byumba. Not showing the hierarchy, including 'field coordinators, under the agricultural coordinator not only unintentionally diminished the roles of the Field Coordinators (in their own eyes), but also contributed to confusion in roles and responsibilities at the field level and oversimplified the complexity of field management.

(2) The Field Coordinators provided monthly information to Thomas Hatangimana. It was Thomas, the Agricultural Coordinator who aggregated this information to write monthly and quarterly reports which would be sent – not to the DAP Manager as the organogram suggests – but to Pascal Bimenyimana, the M&E Coordinator, who would review it and pass it on to the DAP Manager. One will see on each monthly the signatures of both Thomas and Pascal, and on each quarterly report the signatures of Thomas, Pascal, and finally the DAP Manager.

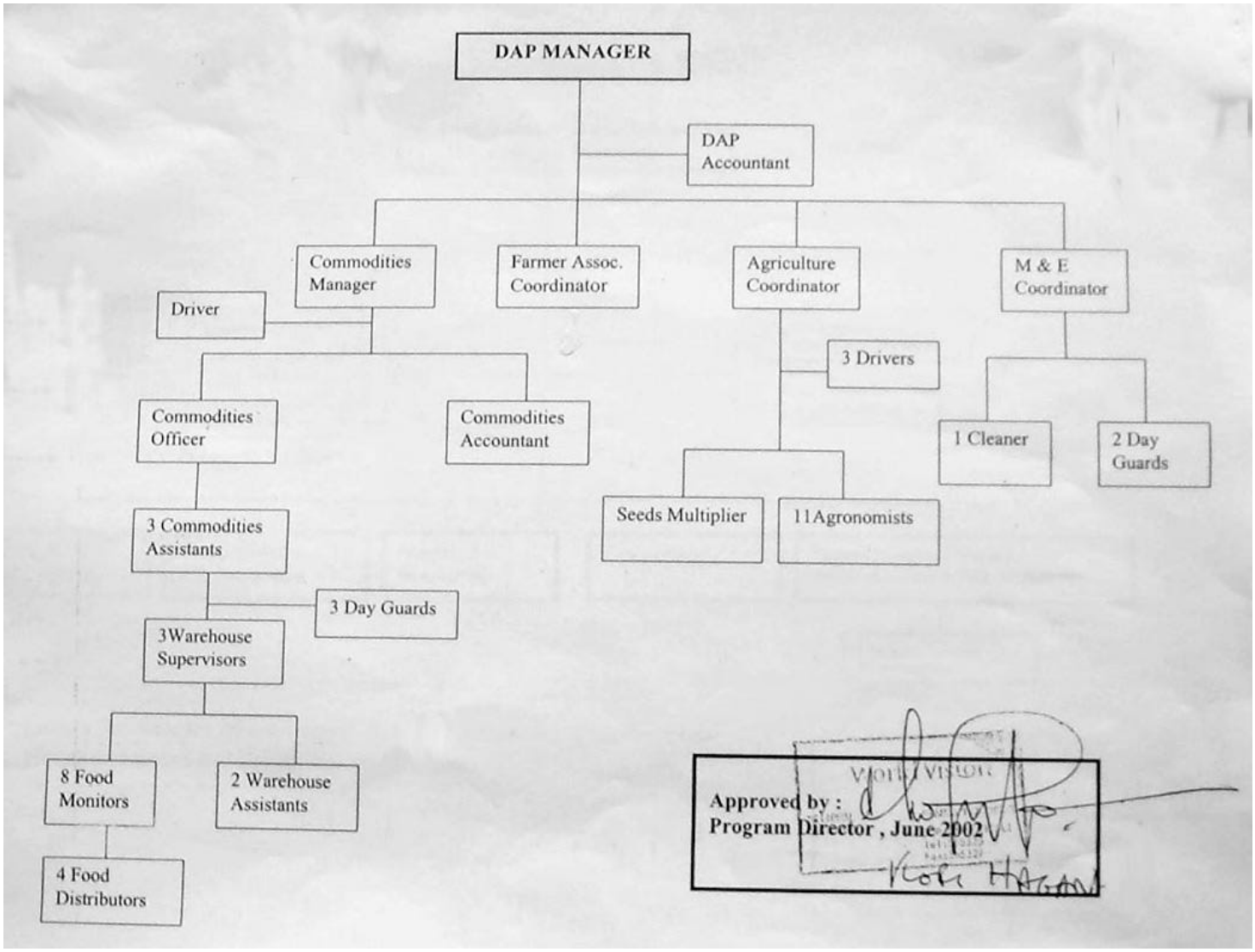
(3) The relationship of the Farmers Association Coordinator to the field agronomists is not at all apparent – though he interacted with them on a regular basis.

(4) The M&E coordinator, Pascal Bimenyimana, not only had M&E related duties, but also in fact served in project administrative duties, coordinating field team vacation schedules with Kigali central office human resources, and field vehicle oversight. Two day guards and one cleaner also reported directly to him, responsibilities that had nothing to do with his field duties. He also served as a sort of unofficial 'field DAP Technical Coordinator' and perhaps even 'acting DAP Manager' during the times when there was no one in this position. His relationship to the agricultural coordinator is not at all clear.

(5) The organogram does not show that the DAP Manager actually reported to the World Vision Rwanda National Director – head of World Vision's country office - who made most important decisions and signed off on major DAP program expenses, after the review and approval of World Vision Rwanda's Director of Finance and Administration (also not shown in the organogram – but positioned 'above' the DAP Manager). Nor does it show the authority and relationship of field based WV ADP financial personnel who interacted with field level staff.

[15] In World Vision Rwanda's Chart of Authority, its other project field coordinators (ADPs) had such authority. The only DAP coordinator with such authority (up to $200 spending authority) was the commodity coordinator who was based in Kigali with immediate access to World Vision Rwanda's Director of Finance and Administration and Program Director.

Figure 2: World Vision Rwanda DAP Organogram



Project Reporting and Documentation

This DAP consistently provided to USAID/Rwanda, in a timely manner, the Cooperating Sponsor Results Report and Resource Request (CSR4) reports required by contract agreement. These CSR4 reports essentially served as project annual reports, while also serving as general work plans for the coming year, with resource needs stated. WV US did not require quarterly reporting from WV Rwanda, though such reports were required in-country by the National Director from province level field coordinators.

Quarterly reports are where one might expect to see general reviews by the DAP Manager on progress of the project overall and where one might expect to see all components of the program reported upon (commodities delivered, terracing and agricultural production, commercialization efforts). Such a report could be helpful to the World Vision Rwanda National Director in Rwanda. However, quarterly reports did not provide much more than progress in attaining set targets identified in the annual work plan and for program monitoring indicators. Quarterly reports were written by the field based Agricultural Coordinator, from information he could gather from the program agronomists in the different provinces. Given the amount of energy expended for quarterly (and monthly reports) by field personnel, World Vision Rwanda might wish to consider replacing quarterly with semi-annual reports of more substance, and having this document be written by both field coordinators (of both agricultural and commodities components) and the DAP managers.

Monthly reports were required by the National Director and DAP Manager from field coordinators and could have been more useful to program management if field coordinators had been expected to express their observations and constraints/achievements of the program, and not simply provided numerical results of accomplishments against set targets in the monitoring plan. Here again, such reports were written by field coordinators. One will look in vain in project offices in Kigali or the provincial office in Butare for complete sets of hard copy monthly reports by either the Agricultural or Farmer Associations Coordinators.[16] Records are incomplete or non-existent. In these reports, program coordinators provided virtually no program narrative reporting on progress, impact, problems, and constraints. The only time some qualitative (and informative) observations were made on any of the monthly (or quarterly) reports was when the DAP Manager (Jean Nyemba) inserted some thoughts on the 'introduction' page of these reports – essentially 'annexing' these comments to the front of the reports sent to him, through the M&E Coordinator, from the Agricultural Coordinator. Fifteen-sixteen page monthly reports written by the agricultural coordinator only provide the same tables each month (which only changed when the numbers in some columns changed). No explanatory text is provided in these monthly reports on challenges, successes, needs for changes being experienced by the project from the field's perspective. In a project that was in fact experiencing field difficulties, the fact that almost none of these show up in monthly (or quarterly) reports from the field was surprising.

The DAP project did not have one monthly or quarterly report that brought together, in one place, what was happening in the project as a whole – the two components of the project. The commodities component personnel wrote their reports. The associations' coordinator sometimes sent in his quarterly report for ACDI/VOCA's reporting needs through the M&E coordinator and DAP Manager on the 9 agri-business ventures funded by ACDI/VOCA, but managed by the World Vision team. The regional production coordinator was fairly consistent in giving his monthly and quarterly reports to the M&E Coordinator in Butare, who after a review with few, if any, changes, sent it on to the DAP Manager in Kigali (or Butare in earlier years). One would have expected the DAP Manager to have had a much greater role in actually writing quarterly and annual reports, but this did not appear to be the case – the bulk of the work was done by program field coordinators.

[16] Monthly reports, by field commodity 'officers or assistants' went directly to the Commodities Manager in Kigali, and were archived in Butare in a small office attached to the project FfW commodity warehouse.

Given the heavy operational and coordination duties of field coordinators, the consultant had the impression that field coordinators found it difficult to complete their monthly and quarterly reporting obligations. They reported this as taking about 20% of their time. As a result, project monthly and quarterly reporting from the field appears to have been a chore, while management did not insist on timeliness or completeness.[17] Reports were slow, in some cases poorly done, lacking critical commentary. The Associations Coordinator, after the consultant's repeated requests, managed to finally complete the October-November-December 2003 marketing report; there did not appear to be a January-February-March 2004 report at all (though we are currently in the month of May 2004).

Finally, discussions with district level civil and MINAGRI officials who have been important partners with the project, as reviewed below, indicated their desire to receive reports of program accomplishments in their provinces to permit them to include these for their own reporting needs to their superiors in government.

2.3 Staffing & Capacity Building[18]

Most of the field staff recruited by World Vision Rwanda for the DAP program were experienced members of World Vision food relief and FfW programs existing before the DAP – the TAP and REAP programs. These earlier projects had much larger numbers of employed personnel, and those carried forward into the DAP felt fortunate to continue employment with World Vision. Staff worked hard to meet expectations placed upon them. Initially, the DAP Program, as designed, had the following staff budgeted in it:

One Dap Commodity Officer spending 100% on the program
One agriculture/DAP Manager. This person was to spend only 50% of their time on the DAP.
One Agricultural Manager spending 40% of his/her time on the DAP
One Monitoring and Evaluation Co-ordinator spending 100% of his/her time on the DAP
One grant accountant spending 40% of his/her time on the DAP
One commodities assistant spending 100% of their time on the DAP
One warehouse manager spending 65% of their time on the DAP
Storekeeper spending 90% of his/her time on the DAP
Assistant storekeeper spending 70% of his/her time on the DAP
Farmers association facilitator spending 100% of his time on the DAP
One field co-ordinator spending 100% of his/her time on the DAP
4 Agronomists spending 100% of their time on the DAP
50 Farmer extensionists
4 Warehouse guards spending 100% of their time on the DAP
2 Drivers spending 100% of their time on the DAP.
Casual laborers were also budgeted for (on a as-needed basis).

[17] The DAP Manager Jean Nyemba left mid-2003, and following his departure, the regular flow of these reports seems to have abated until the arrival of the new Manager.
[18] This section was written with the special assistance of Symon Nyabwengi, DAP Manager and Debebe Dawit, Commodities Manager. Tables provided here were provided by them.

As full implementation got underway by the second year of the project, it quickly became obvious that the staff budgeted for in the program were not adequate, particularly within the commodity management component of the program. A budget amendment was made in 2001 and the following additional staff recruited.

Staff position	**Originally budgeted for**	**Number actually hired**	**Original time to be spend on the program**	**Adjusted time to be spend on the program**	**Comments**
Agricultural Co-ordinator	1	1	100%	100%	
Farmers Association Co	1	1	100%	100%	
Monitoring and Evaluation Co-ordinator	1	1	100%	100%	
Field Co-ordinator	1	3	100%	100%	
Agronomists	4	9	100%	100%	
One DAP Commodity Officer	1	1	100%		This position was upgraded to a commodity manager position
One Agricultural/DAP Manager	1	1	40%	100%	
Food Monitors	None	11		100%	
Commodity Assistants	1	3		100%	
Field trials monitors	None	2		100%	
Warehouse supervisors/managers	1	4	65%	100%	
Warehouse assistants	2	1	70%	100%	
Warehouse guards	4	3	100%	100%	
Drivers	2	4	100%	100%	
Senior commodity Officer	None	1		100%	
CTS Officer	None	1		100%	
Field trials monitors	None	2		100%	
DAP Accountant	None	1		100%	
Cleaner	None	1		100%	
Commodity Accountant	None	1		100%	
Totals	20	52			

The bulk of the new staff coming into the DAP did not have much experience in running a Title II program and a lot of emphasis was put into training and building the capacity of the staff. Most of the training was done on the job while selected staff was provided with formal training both within and without the country. The following DAP staff was trained over the program period:

Names	Location of training	Period	Themes
Dan Rurenza	Butare, Rwanda	March 2001	USAID PL 480 Title II Commodities Management, reporting
	Nairobi, Kenya	June 2001	Commodities tracking system
	Calcutta, India	February 2002	PVOs Commodities Management Workshop (USDA Management.
	Freetown, Sierra Leone	August -June 2003	Food Aid Management School (The School year cu
Pauline Mukazana	Johannesburg, Afrique du Sud	29 march-02 April 2004	Country commodity tracking system
Esron Bakundugiye	South Africa/ Pretoria	November 2003	Course in seed potato technology for Rural Develop Africa.
	Pays-Bas/ Wageningen	March 2003	Rural Transformation/ Performing in Rural sensitiza
Augustin Senzoga	Pays-Bas/ Wageningen	March 2003	Rural Transformation/ Performing in Rural sensitiza
Pascal Bimenyimana	South Africa / Johannesburg	July 2002	Design-Monitoring & Evaluation
	Pays-Bas/ Wageningen	March 2003	Rural Transformation/ Monitoring & Evaluation
Thomas Hatangimana	Togo / Lome	October 2002	Integrated soil fertility management in the Tropics
	Tanzanie / Arusha	April 2004	Indigenous vegetables production, conservation & Cooperation ISAR – World Vision
Jean de Dieu Sibonkinzehiki	Pays-Bas/ Wageningen	April to July 2004	Potato seeds technology for rural development

The net result of both on-the-job and external training is that the DAP currently has staff that are able to carry out their duties within their areas of responsibilities and whose commitment to service has enabled the DAP to achieve most of its objectives. As seen in the chart above 7 of some 52 employees received external training.

Efforts were made by the DAP to provide capacity building opportunities for both employees and farmers with whom they worked – though financial means of doing so were certainly limited. Yet, because external travel and training is both costly and will always be limited, there remains clearly a need for on-the-job kind of training to become better planned (formalized) with clear learning targets established and monitored. Indeed, World Vision Rwanda might consider defining training objectives with each of its employees as part of personnel job descriptions to assure that employees both are given the time, and professional mentoring needed, to improve their technical and professional skills. Observations about the need for increased training and support of field personnel were among the most cited comments from field agronomists and coordinators.[19] Three specifically cited this as areas of 'failure' within the DAP, two said that more attention should have been given to such training. Their recommendations for the future included (1) greater program staff training, including field visits to WV DAP program counterparts in Uganda, (2) an increase in the number of field staff, (3) a clearer organogram, (4) more detailed job

[19] Observations are cited from responses to the 2 page questionnaire given to agronomist and field coordinators.

descriptions and (5) a strengthen M&E team. Many cited the inadequacy of equipment for their professional use in the regional centers (computers, internet access, fax machines, etc.), inadequate transportation for field personnel (lack of motorbikes, access to vehicles). One agronomist referred to this as the need to "decentralize the availability of work materials".

Field agronomists, in particular, would have benefited from some consistent and continuing program of professional technical input to improve the messages they were giving to farmers. They would benefit from spending some time with their World Vision counterparts in Uganda, for example, who are themselves benefiting from some of the excellent private sector research results and project interventions[20] that have been taking place in that country over the past few years.

Given their close links to farmer associations in four provinces, and the thousands of hectares of bench terraces already constructed, there could be useful ways in which World Vision DAP agronomists could be encouraged to associate themselves in applied research efforts of the DAEF, ISAR, and ICRAF. It would be difficult for the field agronomists themselves to establish such linkages, but strong DAP technical leadership would find useful opportunities for such collaboration in areas where such information would benefit the program. An example would be in properly designed improved crop yield plots (corn, wheat, climbing beans, Irish and sweet potatoes) on farmers fields (bench terraces vs. adjacent progressive terraces), where similar crops, receiving similar inputs, could be assessed for yield potentials. Or, case studies would be prepared for a sample of FfW recipients, tracing the number of times they had actually acquired FfW commodity deliveries, how they actually used these, how much was sold (in what form) in the market, and what these funds were used for.

2.4 DAP M&E System

The World Vision Rwanda DAP named Mr. Pascal Bimenyimana to be its Technical Coordinator for M&E at the outset of the project. In a program of this size, this is a full time position. Unfortunately, the M&E Coordinator was assigned multiple project administrative and logistic duties well beyond his M&E duties. These other time-consuming tasks, probably taking at least 50% or more of his time, detracted from his ability to fully develop the program's M&E system, including information archiving and writing of reports based on these data, and the training of project field staff to themselves record and manage project data for monitoring and administrative purposes. In this consultant's opinion, this situation was perhaps because the DAP Manager during the initial years was more interested in project implementation than on monitoring activities associated with such activities. Given these constraints, the M&E Coordinator did an excellent job in seeking to respond to the competing roles he was asked to fill.

Within the World Vision Rwanda DAP organogram (Figure 2), the M&E Coordinator would have been more appropriately placed at the same level as the DAP Accountant – linked to the DAP Manager - but 'above' the other program components. Program monitoring is for all program components – commodities, farmer associations, agricultural program activities. Placing the M&E Coordinator at the same level as the other program coordinators and the commodities manager obscured the role he should be playing within the overall project.

The World Vision Rwanda DAP spent considerable resources in budget and personnel time in the different ways it approached monitoring the progress of the project and in assessing impact. As noted

[20] An example is the 10-year USAID supported IDEA project that has done excellent on-farm research and developed systems for private sector based 'extension agents' or stockists linked to input suppliers and commodity sellers. This program continues today through continued efforts of the APEP project.

above, this included efforts expended for baseline, mid-term, and final evaluation quantitative and qualitative surveys, efforts to obtain data for the Indicator Performance Tracking Table requested by USAID, and through project monthly and quarterly reporting. In addition to this, the project undertook other impact studies among samples of beneficiaries. Overall, these different efforts appear to have been well done and produced useful information about the target populations with whom the DAP is working. Baseline, mid-term, and final project quantitative surveys have provided the information needed by the project in assessing program impacts on beneficiaries. Because construction of bench terraces represented the predominant theme of the project, including follow-on input assistance to many households within the target associations, survey focus on this very large group (about 52,000 people)[21] was justified. Many, if not most of these members, as well as members of their families, also participated directly in the FfW activities in actual construction of the bench terraces, receiving food commodities, so could also speak well to these activities as well.

The FfW commodities team, with their food monitors, established an excellent system to track associations involved in FfW on bench terraces through until delivery of food commodities. At the same time, the agricultural team, with program agronomists, including the associations' coordinator, worked with associations in providing the technical information needed to construct the bench terraces, and in providing seed and other inputs onto these fields once completed. The two teams did not use a consolidated information tracking system with respect to associations, terraces completed, etc. To determine the number of terraces actually completed, and the number of associations worked with, including total numbers of individuals concerned, the commodities team appeared to have the most complete set of data, and these are used in this report to complete the Indicator Performance Tracking Table. Information kept by the Farmer Associations Coordinator, and passed on to the M&E Coordinator, was not always consistent with the data of the commodities team.

The DAP chose a team approach to M&E data. In this approach, the entire program team becomes a part of the program monitoring process, with each component responsible to report regularly, in monthly, quarterly, and annually, on those indicators they judge as most important to measure progress and impact of their activities. This approach is team orientated, decentralized, and demands that those most involved in specific activities, or best placed to have the appropriate information, be responsible for record keeping and reporting on specific sets of information. Such an approach requires a full-time M&E coordinator whose major responsibility is in data record management training to team members, to keep aggregated sets of data from the various program components, and to prepare report annex materials showing these data sets. However actual reporting on indicators remains the responsibility of program component leaders. Another major task for the M&E coordinator in such an approach would be to identify and write up 'success stories' and special 'case studies' that illustrate program impact.

In practice, Pascal Biminyimana, though given the task of full time M&E Coordinator, for reason cited above, never had the time to perform the above described tasks fully. Nor was it evident that he even had the authority, given his place within the organogram, to lead as he might in this area. Because creation and maintenance of a centralized information tracking system was not an objective of the project, information ended up being kept at different levels, by different people – Commodities Manager and Coordinator, Associations Coordinator, Agricultural Coordinator. Unlike the record keeping system developed by the Food Commodities team, agricultural information in particular, as well as data having to do with commercialization efforts of selected associations, were not well documented or organized at either the province level or in Kigali. Project personnel obtaining and recording data important for program monitoring clearly require greater technical support and training for these tasks and the DAP Manager needs to protect the M&E Coordinator's time to focus on his principal duties.

[21] The DAP worked directly with the 10,451 members of 451 associations receiving bench terraces. With an estimated average of 5 persons per household, this represents about 52,255 people.

2.5 Lessons Learned

(1) The central program management model used by World Vision Rwanda for its DAP field operations was inefficient and handicapped field operations. World Vision field personnel and farmers alike testify to frequent delays in operations. Good advance planning and procurement requests made long before supplies were needed could have helped this situation. More carefully developed annual work plans for the coming year would also have helped. It is also true that unexpected and urgent needs arise in the field that are almost impossible to foresee, and for which delegated authority to field staff leaders is essential.

(2) World Vision Rwanda would have benefited by a decentralized approach of program implementation and management from the beginning of the project, giving the DAP Manager overall management authority within the program for both financial and operational management issues, and with subsequent delegated authority to regional leaders for field operations.

(3) Had the program been more decentralized, greater flexibility could have been delegated to program field coordinators in program implementation. As it was, field coordinators actually had very little management authority, always needing to call Kigali (or Butare when DAP Manager was based there) for 'authorization' to do something, and usually requiring written signatures, signed by several persons, to do something. The DAP Manager himself did not have the authority either for many major decisions and had to find authorization from others in World Vision's national office in Kigali. While it is certainly good to have a system of checks and balances, when this ends up impeding program implementation, the system needs to be reviewed and modified.

(4) Though the desire for cross-program efficiencies is understandable, efforts to 'combine resources' in the field for World Vision's ADP projects and the DAP program were not very successful. Both programs had their own objectives, program expectations, and timelines, and in many cases, DAP program implementation was slowed and made less efficient as a result.

(5) It is essential that the new World Vision DAP develop a very clear, and detailed, organogram showing hierarchy and reporting lines from field to the DAP Manager and above. Relationships between the different positions need to be clearly described, and complete job descriptions developed.

(6) In future program designs, there is need to ensure that the programs proposed to the donor is appropriately well resourced, and that human resources actually meet the need of the program proposed. If, during the course of a project, additional funding becomes available for the World Vision national office, personnel resources, particularly at the field level, should also be expanded to prevent support staff from working long hours to support the additional work. A detailed analysis of the staffing needs of the program being funded should also be made to prevent a situation where the staff available are thinly stretched on the ground and overworked.

(7) Rwanda is still building its human resource capacity. The genocide of the 1994 led to the death of qualified personnel and many fortunate enough and able to flee are unwilling to come back home and have become established in the countries they fled to. Getting qualified personnel to do program implementation is therefore difficult and the only way forward is to

train existing staff and build their capacity until they are able to perform to the expected standards.

(8) Staff capacity building takes time and when staff is being trained on the job, they are likely to make mistakes that could have negative effects on the programs. A close program monitoring system needs to be put in place. The monitoring system should be able pick up errors in good time and enable managers to take corrective actions before the mistakes become too major and lead to problems.

(9) In the context of World Vision Rwanda where staff technical capacity, while improving, remains low, a mentoring approach to management is essential. Expatriate managers hired for the program and other short term professionals could be tasked to mentor and help provide training and guidance to field staff.

2.6 Conclusions & Recommendations

(1) Give the DAP Manager the administrative, financial, and managerial authority needed (from the World Vision Rwanda national office) to lead the program successfully, and such authority should be further delegated to field managers. Reorientations for DA_ 2 appear to be move strongly in this way. World Vision Rwanda needs to keep major programs like the DAP as administratively, financially, and managerially separate and independent from its other programs, as possible. For example, during the DAP, financial control of all DAP expenses over $500 (cash advances to DAP Manager) or $3,000 (purchase *requisitions* by DAP Manager) had to be 'reviewed and cleared' by World Vision Rwanda financial controllers in Kigali (above the DAP manager and not shown in the organogram in Figure 2 above). This procedure caused unnecessary delays in program implementation.

The DAP Manager must be delegated the authority needed to truly manage the program in all its aspects – with the DAP Manager keeping the World Vision National Director and financial controllers aware of program implementation and progress based on pre-determined and authorized annual work plans. Once an annual work plan has been agreed to, with set objectives and budget needs, the DAP management team themselves, with their own accountant, should be able to proceed to implement the program with the resources available 'up-front'.

(2) Harmonize and coordinate data management systems used for program monitoring among the different components of the program – particularly between the 'production' and 'commodities' sub-teams of the program. Keep a master list of all associations with which the DAP has worked from the beginning, showing number of members of each sex, as well as other information associated with each. This will be important as implementation of DAP 2 begins.

(3) Improve means of communication between program field personnel and regional and national level management. World Vision Rwanda may wish to accelerate its efforts in providing its field management personnel with the required communication tools that would help them to increase their own efficiency. At the very least, this should include internet/email access in all regional offices (Gikongoro, Butare, Byumba, Ruhengeri), and

also include some allowance for 'buying time' to field coordinators who are always 'in touch' through their personal cell phones. Investigate use of cell phones for data transmission needs of the project.

(4) **Develop a DAP organogram that clearly shows hierarchy within all the positions within the project, and clarifies relationships between different components or functions of the project. Develop clear job descriptions for all positions.** If World Vision Rwanda national staff hold significant roles with respect to DAP implementation, these positions should be clearly identified as well. Such changes within the current DAP were too late in coming. However, careful attention needs to be given to this for the World Vision Rwanda DAP 2, including well conceived job descriptions of each position. DAP 1 field coordinators and others should be included in the writing of these job descriptions so that they may help raise their concerns about past areas of ambiguity.

(5) **Write reports, perhaps semi-annually, which consolidate all project activities in one place, information that is useful for project management and general understanding of the progress being made. Fewer but more comprehensive reports might be considered.** Verify that project field district level authorities receive timely copies of annual accomplishment reports. The DAP Manager should be the principal editor of these consolidated reports. Such reports represent the 'recorded' history of the project and need to contain both quantitative and qualitative comments from both field and central leadership perspectives. Well-written quarterly reports, with other project data, taken together, should be important in completion of annual reports (CSR4s) submitted to USAID and World Vision US.

Greater clarity on why monthly and quarterly reports are needed, and who will actually use them, would be helpful as World Vision Rwanda looks towards the future. Annual reports should be the task of all senior field and central office DAP personnel, and the contributions of each be evident.

(6) **Strengthen team-orientated approach to project M&E in DAP 2 through initial team building workshop and continuous support to those recording, archiving, and reporting these data.** Initial workshop should clarify project objectives with all team members, including how such information will be acquired. Reduce the number of progress and impact indicators to only those judged by the program team as a whole, including field personnel, to be most reliable, most objectively measurable, and most representative in measuring program progress towards set objectives and goals or impact. Special 'success stories' and 'case studies' should be viewed as a regular part of program impact monitoring.

3.0 DAP Strategic Framework Indicators and Life of Activity (LOA) Results

Review of the indicators proposed by World Vision Rwanda and adopted during the life of this project, the way these data were acquired during the process of the past four years, and the actual clarity and usefulness of these for purposes of World Vision management, and particularly for USAID/Rwanda SO reporting needs and the FFP program, suggests the following:

(1) Given the information potentially available within the program, better indictors of impact could perhaps have been chosen. Some of these will be suggested below, but one example would be how many members of associations receiving bench terraces through FfW had actually 'adopted' this technique by further expanding their bench terraces *through their own efforts or resources*, however small.

(2) The manner in which data for some indicators were obtained and recorded provides misleading information. For example, one could count the same farmer several times as he or she took different training sessions for the indicator '*number of farmers attending training sessions'*.

(3) It was not realistic to obtain some of the data called for by some indicators – nor could they be objectively aggregated across regions. This was particularly true with respect to IR 1.1 information on household income and yield data. Experience shows that these are some of the most difficult kinds of information to accurately obtain through subjective interviews with farmers, and objective measures frequently falls short as well.

(4) As rightly pointed out in the mid-term evaluation, many of the initial LOA targets were impossibly high – essentially expecting farmers on their fields to realize yields exceeding the best field research stations yields.

(5) The World Vision Rwanda DAP Indicator Performance Tracking Table (IPTT) data did not prove to be particularly useful for USAID/Rwanda in reporting to USAID Washington on the Strategic Objective #3.[22]

(6) There appears to have been a continuing misunderstanding between the World Vision Rwanda National office and in-country DAP program, including the M&E coordinator, and World Vision US on what data should be acquired – and were eventually acquired. Clarification of who should constitute 'target populations' for the purpose of project impact monitoring should be made as DAP 2 activities begin.[23] Should program impact be primarily concerned to understand if activities have had an impact on people worked with directly – the beneficiary population – or should the focus be on the larger 'general population' not worked with? Are four years of program actions enough to expect a measurable impact on a general population? Probably not. DAP monitoring of the beneficiary population, in this consultant's opinion, was the most appropriate route to take – and the one taken.

USAID FFP Title II programming expects that project monitoring will acquire data for two principal types of indicators: impact and (program) monitoring indicators. Impact data are usually acquired at three temporal periods during the life of the project – at baseline, mid-term, and at final evaluation. Program monitoring indicators show progress being made on an annual basis in moving towards the sought for impacts. In Table 1, there are 13 impact indicators and 8 key (program) monitoring indicators. Given this understanding, one would expect to see information for impact indicators at baseline in 2000, FY 2002 and FY 2004, and N/A for other years. In practice, this is not what we find in Table 1. Seven

[22] An observation made by the USAID Rwanda Agricultural and Rural Enterprise Development team leader during a meeting with him and the USAID food aid manager.

[23] The World Vision US M&E support office, for example, believes that both mid-term and final evaluation quantitative surveys should have been conducted from a sample drawn from the 'general population' within the provinces worked in, and not the 'beneficiary population'. That this distinction was never clearly pointed out in SOWs for either evaluation, but most particularly the final one, is surprising. Yet, had this been the case, considerably more time would have been required to undertake such an endeavor, as identification of thel survey sample would have taken much longer to achieve.

indicators of 21 still have no recorded data for the 2000 baseline, while data exist for intervening years for all impact indicators, with the exception of 3 impact indicators.[24]

None of the data needed to complete the Indicator Performance Tracking Table (IPTT) were obtained by the DAP M&E Coordinator from the (1) baseline, (2) mid-term and (3) final quantitative surveys. These data come from other surveys taken during the course of the year. The only indicators that depended on these three sources of information were those referring to the % of farmers using improved seed for key food crops or who have 'adopted' improved cultivation techniques. Information for all the rest of the indicators could be derived from data being obtained in the course of the field work being conducted. Number of hectares terraced annually came from project records kept by both field agronomist and the food commodity teams.

Most of the data actually obtained in the baselines, mid-terms, and final evaluations essentially served to provide program management with selected socio-economic information they judged useful to have, disaggregated to provinces and communes. Such information does serve, in a general sense, to measure some of the program's impact on the beneficiary population, though this was in addition to information required by the indicator tracking table. To the extent that DAP management used such information to make program changes or corrections, obtaining them could be justified. Yet very few of the quantitative survey data, in themselves, actually contributed to the Indicator Performance Tracking Tables established for USAID Rwanda's strategic programmatic reporting requirement.

From what population was survey data obtained? Baseline data, because associations and households had yet to be identified and worked with in the provinces within the new DAP 1, came from a general population survey. However both mid-term and final evaluation drew their samples from members of households involved with the associations receiving bench terraces, and part of the FfW program activities. The estimated 50,255 individuals within the targeted communities from whom the sample was selected for the final evaluation represent an important force for change in these communities. If the project has achieved real impact on these households, one has reason to hope for continued, though possibly slow, spread to others as well.

USAID SO #3 concerned '*increased ability of rural families in targeted communities to improve household security'*. Beginning with the mid-term, and following on in the final evaluation, project impact and program monitoring progress was measured based on the very large beneficiary population receiving some form of DAP assistance. These were the target populations within the targeted communities. Few, if any, of the IPTT indicators would have been meaningful within the larger populations of these provinces at this point in time. For example, without FfW direct assistance to bench terrace recipients, bench terraces would not have been constructed by anyone – the cost is simply too great. Yet those who did receive such terraces and the addition input support in terms of inputs needed for a couple seasons do experience very significant crop production increases on their land. Impact of this kind is enough to encourage such farmers to continue an increasing demand for improved seed and other farm inputs which they have found to raise their productivity. With respect to use of improved seeds or adopting use of vegetation for bench terraces, available supplies of such inputs were not adequate for even associations receiving direct assistance from the project, much less other people within the community. A general population survey would probably be appropriate following a DAP 2 when passage of time, and more general adoption, would hopefully have permitted more general impact on the population at large. Expectations of USAID/FFP and the FANTA program may differ in such an interpretation, yet these are the data that have been acquired, based on WV SOWs prepared for mid-term and final evaluations.

[24] Two of these indicators have been dropped, and information has yet to be obtained for the third (when potatoes are harvested) to obtain yield data.

Indeed, at the beginning of a project, it **is** essential to establish a 'baseline' or 'point of departure' value for the impact indicators chosen by the project, from which end-of-project (LOA) targets are set. Yet baselines were not established for many indicators – with an 'NA' recorded instead. In some of these 'NA' situations, the baseline could simply have been a '0'. In the most recent versions of this tracking table produced by the DAP project in its quarterly and annual reports, in the baseline column for "number of farmers in formal marketing groups", the figure "NA" was given. A number of the associations selected by the DAP for marketing support existed as 'formal marketing groups' before the DAP began. An example would be the Abogezasuka Association visited by the evaluation team in Gikongoro, initiated by a Belgium project to sell Irish potatoes, and where a large storage building had been constructed for them. World Vision could have documented the number of such associations for the baseline or point of departure data needed for Table 1. Many of the associations that received marketing support were newly created during this DAP, but we have no data about how many pre-dated the DAP as formal marketing groups.

Table 1 below, completed by the DAP M&E Coordinator for this document, provides an updated, and corrected, version of the most recent information available for the project, and can be considered as the final and 'official' version of the results for these indicators. Revised LOA targets suggested by World Vision have been applied retroactively from the beginning of the project. With the exception of impact indicator #1 with respect to household income and yield data for potatoes in Season B of 2004, information is complete for all indicators through the balance of project activities, ending in September 2004. The last three months of the project are being spent preparing field teams and programs for DAP 2 and the reconfiguration of the project in October 1, 2004.

Table 1: (insert 2 page table)

3.1 Intermediate Objective #1: Increased Availability of Food and Household Income

Under the project's first objective IR #1, the first impact indicator selected "*% increase in household income from the sale of potatoes, beans and wheat*" ended up being a very poor indicator, and ended up being abandoned after the mid-term evaluation. Project agronomists spent a lot of time at the beginning of the project trying to figure out, from a series of baseline surveys among individuals in the general population, beginning in the Gikongoro Province, how much farmers obtained from the sale of wheat, beans, and potatoes. Then when the project began to work in Butare, Ruhengeri, and Byumba in later years, they again tried to get "average" figures from the general population in these regions on income earned from these crops. Reviews of the data obtained in both these baselines, taken in different years, and the mid-term quantitative survey, which tried to get similar data, showed extreme standard deviations. Standard deviations were as high as the mean values reported themselves! To give an "average" baseline value for farmers' sales for potatoes, for example, taken in different provinces, in different years, was essentially not meaningful. Asking farmers for such information in an interview process does not work either. The data they give is not accurate or complete, and averaging such data does not make it more meaningful. While income data, if obtainable, would be excellent to measure impact within the Food Security Framework, actually acquiring such data through general surveys is almost impossible.

The data given for this indicator in past years has been retained in the final Table 1, but are not provided for in the final year.

A more useful indicator for the project, given its focus on bench terraces, would have been to track the increase in land cultivated, in bench terraces, on a yearly basis, among a selected number of associations worked with in Year One, in potatoes, wheat and beans. And then monitoring what kind of yields farmers were actually getting in subsequent years as bench terraced land became more fertile and productive because of project interventions. Control plots would have to be fields with similar crops adjacent to these bench terraces. Then one could extrapolate the increases in incomes that could potentially have been taking place, based on the objectively obtained yield data coming from yield/plots on such terraces, and provided in the yield indicators below. The baseline, in this case, would have been whatever farmers in this initial sample group from the Year One associations were selling in terms of wheat, potatoes, and beans. Many were not cultivating wheat at all, very little or no Irish potatoes and they only cultivated beans in the traditional manner with local varieties. Working with a target sample of farmers in this way, over time, could have permitted acquisition of data that would have been useful and accurate.

3.1.1 Sub-IR (SIR) 1.1: Increased average annual yields

(1) Increased household income from potatoes	20 % increase
(2) Increased household income from beans	6 % increase
(3) Increased household income from wheat	6 % increase
(4) Increased yield of potatoes	12 MT/hectare
(5) Increased yield of beans	3 MT/hectare
(6) Increased yield of wheat	3 MT/hectare

Yield data for these indicators were obtained by project agronomists on yield plots on the terraced plots of farmers with whom the project was working in the different regions and averaged figures. These impact data were not yield data from the 'general population'. These data were averaged and provided the figures used by the project for this indicator. Initially LOA targets were set too high, but following the mid-term more realistic figures were provided based on research station results, and the LOA targets reset using these new figures. One can expect that as these bench terraces are cultivated in the future, and receive added organic and other nutrients in subsequent years, their productivity will continue to increase.

Project experience has shown that it takes **at least** two full agricultural seasons (one year) for a newly constructed bench terrace to **begin** to produce, **if** these soils are provided with organic and manure wastes, along with fertilizers (lime, NPK)[25]. Locally produced lime has 60-90% calcium. Without such inputs, newly constructed bench terraces have no true 'top soil' and give poor yields. This experience led to some important lessons learned by the project, to be discussed below.

Yield results experienced by the project consistently fell significantly below targets set. In some cases the impact of 'poor rainfall' or 'crop disease' was cited as the cause. This was particularly true for Irish potatoes and in FY 2003 seed potatoes were not distributed to farmers so as not to further expand the bacteriosis and mildew problems being associated with them. It must also be stated that other factors could have played as important a role in reduced yields. Many farmers did not receive the fertilizer inputs or enough 'green manure' expected from the project and needed for their crops. And in many cases, when inputs were furnished by the project, they arrived long after they should have been applied. Without such inputs – particularly on the newly constructed bench terraces - improved bean, wheat, and potato varieties could not be expected to reach potential yields and LOA targets. At the time of this evaluation, yields were not yet available for potatoes planted during season B (and which were still observed in the field), but for beans and wheat, yields achievements during the last year of this DAP were only 50% and 83% of LOA revised targets, respectively.

3.1.2 Sub-IR 1.2: Increased adoption rates by target farmers of improved cultivation techniques

(1)	Increased % of targeted farmers using improved seed for key food crops	85 % increase
(2)	Increased % of targeted farmers adopting bench or progressive terracing	75% increase
(3)	Increased % of targeted farmers adopting power planting	90% increase
(4)	Increased % of targeted farmers adopting use of green manures	80 % increase
(5)	# of farmers using improved seed varieties for key food crops	2,000 farmers
(6)	# of hectares terraced annually (bench and progressive terraces)	2,500 hectares
(7)	# of farmers practicing green manuring	5,800 farmers

The key indicator under the set of indicators under SIR I.2 was the number of bench terraces constructed with World Vision support through the use of Food for Work commodities as payment. The project set a target for the construction of 2,400 (later raised to 2,500) hectares of 'bench and progressive terraces with Food for Work support' and actually exceeded this target by 115% (2,878 hectares of bench terraces - cf. Table 2). See Annex 7 for associations selected for bench terraces, as provided by the Commodities Coordinator and Annex 18 for information given by the Associations Coordinator. The bench terraces, and activities upon them, were the most commonly and extensively reported upon group of indicators in all of the monthly field reports to the DAP Manager. Every monthly report reviewed how many more bench terraces had been constructed or would be constructed in the coming month.

Attention given by the project to 'progressive terraces' was insignificant – and only took place in Butare Province where some 100 hectares were reported to have been worked upon. Two cites visited here by the consultant were on gently sloping land. A few rows of leucaena or sesbania were observed at the lower end of several small plots, and in one case, ridges, running down the slope, had washed away much of the planted leucaena.

[25] NPK 17-17-17 (17% nitrogen, 17 phosphate, 17% potassium), widely used in Rwanda on Irish potato, beans, and wheat, was given as farm input credit to these farmers. Highly degraded soils, particularly after bench terracing, require such nutrients to help promote production. World Vision might consider soil tests in areas of major bench terraces to verify the NKP doses, as suggestions were made to the consultant that what is used may not always be the best mixtures for the soils in question.

Table 2:

As the project began to help farmers improve the soils upon bench terraces, after their construction, with the provision of organic and fertilizer inputs, and the use of improved seed varieties (beans, wheat, and beans, maize), production began to pick up. Such support did not actually start until the last year and a half of the project. A key technique of planting seed along with a mixture of lime and organic matter within the same hole, termed 'power planting', proved also to be useful. Information about farmer's use of these inputs and new cultivation practices were gathered by agronomists regularly in their training activities and work with farmers on the terraced fields. These data permitted tracking information for the above indicators.

At the beginning of the project, as explained above in the discussion of baseline data collection, about 10% of farmers surveyed indicated that they used improved seed for at least some of their key food crop production (maize, bean, potato, or wheat). The mid-term indicated that this figure had grown to 25% among the population sampled. By the end of this DAP project, use was recorded at 95% of program participants.

Table 1 indicates that by the LOA, 81% of targeted farmers (i.e. farmers receiving bench terraces) had 'adopted' bench or progressive terracing. A word of caution is necessary here. It becomes quite obvious, while traveling through the provinces worked in by the project, that most, if not all, farmers cultivating mountainsides already have 'adopted' the concept of progressive terracing. It is true that many of these have not been terraced in a technically correct manner – either not using any vegetative barriers, or having too wide spacing between barriers. Because of the steep slopes, many of these 'progressive terraces' would be more appropriate with bench terraces. Yet the cost in labor to do so far exceeds the resources of almost all households. It can *not* be said that most farmers who benefited from the bench terraces constructed through project assistance actually 'adopted' bench terracing practices. Though no formal data exist, informal interviews established that almost none of these farmers have actually continued to build new bench terraces at their own expense or with their own family labor resources. Nevertheless, it must also be stated that a few farmers have attempted to extend a little their newly received bench terraces near their homesteads.

Power planting appears to have been a well-received cultivation technique introduced; 81% of beneficiaries surveyed indicated that they had adopted this technique in their regular planting activities. This was 90% of the LOA target set. The same percentage noted that they had adopted the use of green manures – vegetative material such as *Tephrosia vogelii* established around terraces which can be cut seasonally and incorporated into the soils.

The World Vision DAP greatly exceeded its LOA target by 249% - an estimated 4,984 people saying that they had begun to use improved seed varieties. Again this figure in Table 1 needs to be used with caution. This figure was calculated by adding the number of people with whom the project worked each season who received improved seeds from the project. Yet some of these people continued to receive these inputs in subsequent years and some double counting took place.

Some 4,776 people were reported to have planted green manure in their bench terraces (added from one year to the next). This was 101% of the LOA target for this indicator, and represents about 50% of the members of associations having obtained bench terraces through the project (cf. Table 1). The limiting factor here was the availability of the planting material. World Vision has put into place a system whereby association members, having received green materials, would share such material with other members as their own 'vegetative matter' received from World Vision had grown and expanded.

3.1.3 Sub-IR 1.3: Increased participation in agricultural marketing systems

(1)	% of farmers reporting sales of selected cash crops	75% reporting
(2)	% of farmers having record books on crop sales	70 % using
(3)	% of associations having undertaken market analysis	70% using
(4)	# of farmers in formal marketing groups	1,326 farmers
(5)	# of farmers keeping farm and sales records	1,326 farmers
(6)	# of farmers conducting market analysis (give examples)	1,326 farmers

Table 1 indicates that the project achieved 97% of its LOA target for farmers reporting sales of selected cash crops. Interviews with program beneficiaries in the four provinces indeed confirmed the appreciation of farmers for the improved crop varieties they had received and the impact that this had had on their increased sales for these cash crops (wheat, beans, Irish potatoes, and corn). The project exceeded its LOA target by 104% for numbers of farmers having established record books on their crop sales. The evaluation team was able to meet a number of associations who showed us records of their sales – resulting in the purchase of goats and sometimes heifers for association members, creation of personal and association bank accounts, acquisition of new land for cultivation. Lives had clearly been changed and new hope was evident in many of the accounts given by both women and men interviewed.

While impact on the number of associations having actually undertaken market analysis was lower, at 86% of LOA objectives, this goal was a challenging one to achieve. Yet, as seen in this table, the project reached half of the numbers of farmers (1,326) for these marketing systems (47% of LOA target). Informal interviews with associations involved in these marketing systems clearly indicated that this component of the project was one which was accomplishing significant results among recipients of credit received from ACDI/VOCA, though administered by World Vision Rwanda.

3.2 DAP Project Intermediate Result (IR) # 2: Strengthened Capacity of Local Farmers' Associations

Activities under this component of the project did not actually begin until the third year of the project, and was given major stimulus through the credit funds of ACDI/VOCA. Many associations were given credit in the form of improved seed and other inputs, including agricultural implements like hoes, provided by the project, which were paid back in-kind at harvest time.

3.2.1 Sub-IR 2.1: Increased Involvement of Farmers Associations in Market/Business Operations

(1)	% of farmers associations assessing agricultural credit	70% with credit
(2)	# of crop storage facilities constructed	11 constructed

By the end of the project, all associations being worked with directly with bench terracing were receiving some form of input credits, thus exceeding the LOA target of 70%. While plans for construction of 11 storage facilities had been made, only 4 of these were completed by LOA, or 36% of target.

3.2.2 Sub-IR 2.2: Increased Training of Farmer' Associations in Market/Business Operations

(1)	# of farmers attending training sessions	234,160 farmers
(2)	# of post-harvest training sessions provided	305 sessions

Table 1 indicates that 193,574 farmers attended training sessions during the life of the project – or 83% of LOA target. This number needs to be viewed with caution however, as many farmers attended multiple training events and would have been counted each time, resulting in multiple counting. There is no information of how many individual farmers attended training sessions. What was actually counted were 'person days at training events held'.

Post-harvest training sessions were exceeded by LOA target by 387% (1,181 sessions). Again this information is misleading as it actually speaks to number of people who attended such sessions, and was not actually the number of discrete training events as such.

3.2.3 Sub-IR 2.3: Increased Promotion of Savings & Credit Management and Operations

(1)	% of farmers associations providing collateral	70% with collateral
(2)	# of farmers associations possessing capital assets (acquired in past 4 years)	30 associations

No information was provided during the life of the project for the indicator that was to assess '% of farmers associations providing collateral'. This was because it became difficult to objectively determine what kind of collateral could be identified and collateral was not requested for loans provided. On the other hand, the project did almost achieve its LOA target for 'number of farmer associations possessing capital assets that they had acquired over the past four years (as a result of project efforts), with 29 associations indicating acquisition of such capital (97% of LOA target). Based on the final qualitative survey completed among a number of associations in the four project provinces, it is the consultant's opinion that this latter figure is grossly under-reported. All associations interviewed had managed to acquire significant capital appreciation as a result of World Vision Rwanda program efforts over the past four years – not the least of which were the 2,878 hectares of completed bench terraces among 407 associations worked with (c.f. Table 3). Increased yields also led to increased incomes for most benefiting association members numbering some 10,451 men and women. These incomes led to purchases of livestock, additional land for cultivation, improvements made on homes – all capital asset accumulation.

3.3 Lessons Learned

(1) All team members need to be provided training at the beginning of any new project on the kind of information that will be gathered during the life of the project to assess program progress towards set objectives and impact on program beneficiaries. Program personnel need to understand why data are being obtained and their own role in its acquisition. Field personnel often can provide valuable input into the feasibility of obtaining some kinds of information, and the accuracy of what is obtained. Had such discussions been held at the beginning of this DAP, some of the indicators might have been able to be modified or replaced.

(2) Data reported for program monitoring indicator performance tables should be completed regularly on an annual basis, with clear instructions as to how each data variable is to be obtained and recorded from year to year. World Vision might consider adopting the Performance Indicator Reference Sheet (PIRS) format used in by USAID to describe how data for indicators will be obtained within the context of Strategic Frameworks. Indicators which measure such variables like 'training events', where specific individuals may attend

several sessions, should be properly described (i.e. Person days of training completed, not persons trained). Progress by year needs to be completed and reported upon in a timely basis in project annual reports.

3.4 Recommendations

(1) Define project impact and program monitoring (process) indicators in such a way that the data required to report on them can be acquired in the regular course of program activities as carried out by field sub-units of the implementing team. In this way, timely reporting can be realized on a quarterly or semi-annual basis. Qualitative information which provides additional useful information on these activities can then also be acquired through periodic qualitative surveys, case studies, and reporting of "success stories".

(2) Give adequate time during the initial months of DAP-2 to work as an entire project team in a workshop environment to familiarize everyone with the objectives of the program, including mutual understanding of the key processes that need to be followed to reach objectives, who will be responsible for obtaining each of the key data sets required for program monitoring purposes, and when information is required. This will help build team unity and understanding of each other's roles in reaching a common goal. While project goals and objectives and sub-objectives can not be changed during the first months of a new project, the consultant does suggest that indicators placed in the project document for DAP 2005-2009 should still be considered as 'suggested indicators and guidelines' and be subject to a final overall team review and discussion during the initial workshop suggested above – and change if need be. It is understood that there was a vetting process undertaken among many DAP staff and partners (like USAID) in already defining such indicators months before the beginning of DAP 2. However, such a final review by all field team participants would help to build more general ownership within the team for earlier suggestions made. DAP 2 implementation sub-component groups should determine (or reaffirm) the 1-2 key impact indicators whose change actually reflects the impact of the kind they are seeking to make, and a few program monitoring (process) indicators which clearly indicate annual progress being made towards objectives.

Indicators are just that – indicators of something changing or being done in a timely manner. We can not afford to 'know everything' about the changes taking place – such changes can be described in narrative case studies which describe more fully the *process* involved.. Once such a set of indicators have been agreed upon – probably numbering between 20 – 30 key indicators for the entire project, the team must also permit the time during these early months to adequately establish the point-of-departure baseline reference data. Such a baseline was never fully completed in the first DAP, and partly reflected lack of understanding of what was required here. In many cases this baseline may simply be 0, in other cases the number will need to be established with a focused survey. Clarification of who should constitute 'target populations' for the purpose of project impact monitoring and 'progress' monitoring, should be made as DAP 2 activities begin.

(3) Be an active partner with USAID and other SO7 partners in the implementation of DAP 2 and be proactive in creating synergies with other SO 7 team partners (like ACDI/VOCA, PEARL project, Heifer International, and others). The DAP Manager and project M&E coordinator should be regular participants of SO7 team meetings. As World Vision looks to the future, and its DAP 2, its new program activities will want to fit into the new USAID Strategic Framework for (2005-2009), adapting its own intermediate objectives and sub-intermediate objectives within the framework of the appropriate SOs, such as SO # 7, "Expanded Economic Opportunities in Rural Areas" with its three intermediate objectives.

4.0 World Vision Rwanda DAP Final Quantitative Survey

The final formal quantitative survey was undertaken during the month of May, mid-way through the second agricultural season in the Rwandan agricultural cycle. To understand better the periods through which this World Vision DAP undertook its work within Rwanda, these seasons are outlined below, with reference to some of the key project events along the way.

Figure 3: World Vision DAP Project Agricultural Cycles

Start of DAP-1

Project Doc. Signed Feb. 2000

Season B: March 2000 – July 2000
No field activities, No DAP manager, No WV Program Director

1. Season A: Sept 2000 – Jan. 2001 +
Project field implementation starts Nov. 2000
Project Baseline undertaken in Gokongoro
August 2000, DAP Manager hired

Season B: March 2001 – July 2001
April 2001 monthly report of problems
Project Baseline undertaken in Ruhengeri, Byumba, Butare

2. Season A: Sept. 2001 – Jan. 2002 + Season B: March 2002 – July 2002
May 2002, permanent WV Program Director named
Period of Reference for Mid-Term Evaluation, undertaken September 2002

3. Season A: Sept. 2002 – Jan. 2003 + Season B: March 2003 - July 2003

4. Season A: Sept. 2003 – Jan. 2004 + Season B: March 2004 – July 2004
Period of Reference for Final Evaluation, undertaken May 2004

Start of DAP-2

Season A: Sept. 2004 – Jan 2005
DAP 1 project ends Sept. 2004 (at the very beginning of Season A. The project was not scheduled to end until Feb. 2005)
DAP 2 begins October 1, 2004

4.1 Methodology Used

The objective of the final formal (quantitative) survey, like the mid-term before it, was to obtain and analyze data similar to that obtained during the baseline and mid-term surveys in order to track progress for the key indictors and LOA targets set by the project. Assessments of some of the data obtained during previous surveys led the final evaluation team to eliminate some of the questions of previous surveys. Questions that had asked farmers to estimate the size of their different cultivated fields/plots in hectares, and to inform the surveys on the amount of cash obtained through the sale of household produce were dropped. These data were not reliable and the standard deviations linked to them indicated a variance greater than the means themselves – meaning essentially that any number within the range could have been the 'correct' figure. Such questions were nevertheless replaced by others.

This survey was much more extensive than either the initial baseline or mid-term. Here, all four provinces were represented. Within these provinces, like the mid-term evaluation before it, associations with whom World Vision had worked over the past four years were included within the possible sample from which the survey associations were selected. Associations with one year or less experience with World Vision activities were eliminated. Therefore, all associations chosen had been associated with DAP program activities for between two and four years.

While the mid-term survey interviewed 8 households, in each of the 23 associations selected – for a total of 184 persons, this survey sought to be much broader, reaching more DAP program beneficiaries in different areas. Here four association members (representing their households) were interviewed in 109 associations, for a total of 436 people. These associations were distributed among the 16 communes (and numerous sectors) within four the provinces (c.f. summary below. Annex 15 provides complete details of the composition of the sample. DAP interventions had been underway in Gikongoro for four years, in Ruhengeri for three years, and in Butare and Byumba for two. This meant that there were also many more potential associations to interview in the former two. To find associations with at least two or more agricultural seasons of experience with this DAP, it was necessary to sample 100% of associations in both Butare and Byumba meeting this criterion. In Gikongoro, all households with four years of experience with World Vision were included in the sample.

Province: Gikongoro: (43 associations selected)
- Commune Mudasomwa
- Commune Rwamiko
- Commune Nshili
- Commune Karama
- Commune Nyamagabe
- Commune Kivu

Province: Butare (12 associations selected)
- Commune Maraba
- Commune Ruhashya
- Commune Mbazi

Province: Ruhengiri (34 associations)
- Commune Cyabingo
- Commune Ruhondo
- Commune Nyarutovu

Province: Byumba (20 associations)
- Commune Cyumba
- Commune Mukarange
- Commune Kiyombe

The size of the sample of households interviewed was determined in practical terms by both the number of available interviewers, and the time available for this survey – 10 days. Twelve individuals where hired by World Vision, along with 5 World Vision field agronomists, to made up the team of enumerators for the data collection effort within the four provinces. Following a full day of going over the questionnaire instrument, field agronomists accompanied the enumerators to the field to continue their training in real field situations for another two-three days. Enumerators were then able to proceed on their own. Based on past experience with the mid-term survey, it was estimated that each interviewer would be able to complete between four and six interviews each day and this proved correct. The actual interview took between 30-45 minutes.

The actual survey took place between May 3 and May 14, preceded by a week during which time World Vision field agronomists, who would be coordinating the field efforts (and undertaking interviews themselves), helped the senior consultant in the revision, translation into Kinyarwanda, and pre-testing of

the survey instrument (cf. Annex 16 for copy of quantitative survey instrument – in English). The questionnaire consisted of 41 questions, most of them quantitative in nature, with some providing for qualitative and open-ended responses. Many questions asked farmers about the two agricultural seasons between September 2003 and July 2004 (see Figure 3 above). Therefore, each questionnaire of 41 questions resulted in 155 data points that were entered into an Excel spreadsheet for analysis. A locally recruited agricultural economist, Mr. Claude Bizimana, provided support to the evaluation team on this effort during enumerator training sessions, field coordination, and in data input and initial data aggregation. Mr. Pascal Bimenyimana, World Vision's M&E coordinator, also provided support and leadership through this process. Data input began during the week of the initial data collection, and continued through the second week, followed by a third week of data aggregation and initial review. Analysis was completed by the senior consultant and integrated into this report.

4.2 Discussion of Survey Results

Table 3A-3P (cf. also Annex 4) below provides a synthesis of the 2004 final World Vision Rwanda DAP quantitative survey by province. These results are intended to give an overall perspective on the current situation among households within the associations World Vision Rwanda has worked with over the past four years. To facilitate comparisons between this final survey and the preceding baseline and mid-term surveys, results and discussion are resented by Province. I have also presented information in the same order as given in the Midterm Evaluation Survey Report (Gaudreau et al, February 2003) conducted in the Gikongoro and Ruhengeri Provinces. Data on farmer perceptions of the project and specific activities will be presented at the end of this discussion.

4.2.1 Household Characteristics of Survey Population

Of the 436 members of 109 associations interviewed, 41% (177) of them were women, 59% (259) were men. Of these, 53% (232) across the survey represented the married male head of specific households, and at least 38% (167) were women. One of the greatest differences within this sample of households from the previous mid-term is that 12% (51) were widowed heads of households – as compared to 8% for the mid-term. During the qualitative portion of this survey, the consultant met with one association of 34 members, of whom 33 were women, and one was a man. Of the 33 women, 19 or 58% of the women indicated to us that they were widowed heads of households – having lost their husbands during the genocide ten years ago. Province level details are provided in Table 3A below and in each of the subsequent sections.

Table 3A: Marital Status and Status within Household (number, percent)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Married head of household, Male	80 (46.5%)	22 (45.8%)	82 (60.3%)	48 (60.0%)
Divorced head of household, male	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Widower head of household	0 (0.0%)	2 (4.2%)	1 (0.7%)	0 (0.0%)
Married female	61 (35.5%)	11 (22.9%)	28 (20.6%)	14 (17.5%)
Divorced head of household, female	1 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.3%)
Widow head of household	16 (9.3%)	11 (22.9%)	16 (11.8%)	8 (10.0%)
Adult 18 or older with some relationship to head of household	14 (8.1%)	2 (4.2%)	9 (6.6%)	9 (11.3%)
Total number of respondents	172 (100.0%)	48 (100.0%)	136(100.0%)	80 (100.0%)

Age of Person Interviewed

The average of persons interviewed was 41 years of age, almost the same as that of the mid-term (42 years). Ages ranged from nineteen year olds to those in their late seventies and early 80s.

Table 3B: Age of Persons Interviewed (years)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average age	42.92	45.41	39.86	37.23
Standard deviation	12.50	11.97	9.90	10.23
Minimum age	19.00	21.00	19.00	20.00
Maximum age	77.00	82.00	71.00	61.00
Total number of respondents	172	48	136	80

Household Size

With the exception of Gikongoro, with an average of almost 8 persons per household, average household size in the other three provinces were about 7, slightly higher than that recorded two years earlier during the mid-term (6). Households varied in size from some with only one member to those between 12 and 15 persons.

Table 3C: Average Size of Household (number of persons)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of persons in household	7.65	6.39	6.54	6.72
Standard deviation	2.56	2.14	2.44	2.39
Minimum	2.00	1.00	2.00	2.00
Maximum	15.00	12.00	15.00	13.00
Total number of respondents	172	48	136	80

Agriculturally Active Household Members

The average number of persons active in agricultural production – about 3 per household - is slightly less than half of the average number of persons in each household. While a significant portion of the remaining household members are probably children and older adults, there could very well be some adult members engaged in other cash generating occupations – such as marketing, non-agricultural laborers, or other occupations. Many households indicated that they had only one member actively engaged in agriculture – certainly the case of the widowed women household heads. Yet other households had between 7 and 9 members actively engaged in farming. As will be discussed in the Food for Work section of this report, it is quite likely that all of these agriculturally active household members signed up for the FfW labor teams and thus also brought home corn, bean, and oil commodities earned from this effort – and may have done so multiple times during the course of several years.

Table 3D: Average Number of Persons in Household Active in Agriculture (# of persons)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of persons active in agriculture	2.60	2.43	2.78	2.68
Standard deviation	1.01	1.07	1.44	1.41
Minimum	1.00	1.00	1.00	1.00
Maximum	7.00	5.00	9.00	7.00
Total number of respondents	172	48	136	80

Access to Land

A significant piece of information linked to land access came out of the consultant's interviews with different members of association in all four provinces. Many noted that once they had been able to save some money from increased sales of commodities, thanks to the constructed bench terraces and inputs received, they purchased additional land. This was done both on behalf of the members of many associations – shared as a group – and by individual households. Other members indicated that they were able to rent more land as well. The capacity to produce agricultural commodities for sale is linked to access to land.

The best access is having direct ownership of land, and there **is** land for sale. Tracks of land – both large and small - can be found in most places belonging to people who have permanently moved away – perhaps to urban jobs, and such land is for sale. Those able to acquire it will be the commercial farmers of the future, and many of the associations with whom World Vision has worked over the past three and four years are positioned to become commercial farmers. Some are already moving in this direction. Many have acquired significant tracks of cultivatable land which now has also been greatly improved through bench terraces. The statistics in Table 3E are therefore interesting in this light. Here, 48% of respondents indicated that they actually owned all their cultivated land, while another 50% had fields that they owned or rented the land they cultivated. What this suggests is that more than half of all cultivated land is actually owned by farmers cultivating it, with the balance rented.

Table 3E: Access to Land (number – percent)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Land tenure				
- owner and registered	82 (47.7%)	23 (47.9%)	77 (56.6%)	29 (36.3%)
- tenant (rent)	3 (1.7%)	1 (2.1%)	0 (0.0%)	2 (2.5%)
- use of land (borrowed from owner)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
- all or above combined	87 (50.6%)	24 (50.0%)	59 (43.4%)	49 (61.3%)
Total number of respondents	172 (100.0%)	48 (100.0%)	136(100.0%)	80 (100.0%)

4.2.2 Farming Systems and Farm Performance

Rwandan farmers, like farmers throughout the continent of Africa, continue to see livestock as the most important repository of household savings from sales of agricultural commodities. One significant indicator of success in achieving increased productivity through improved crop varieties and improved cropping management is therefore an increase in the number of livestock possessed by household members. Farmers usually begin by purchasing small ruminants – like goats or sheep. And as these increase naturally – sometimes doubling exponentially each year – and as continued sales of agricultural produce continues, goats will be sold for the purchase of a heifer. Possession of milk cows is considered by farmers a real economic advantage, both because of the milk that can be consumed by the household and some of which will be sold, as well as from the natural increase in cattle and their significant value. Furthermore, manure and organic material waste left over from livestock management also has a very real impact on increasing agricultural production itself. Cattle will eventually be sold, as increases permit, for other major household goals such as improved housing, marriages, funerals, and paying higher education fees.

As pointed out in the mid-term survey,

> "during the genocide years many farmers lost their livestock. As peace and stability returned, many NGOs, including World Vision, conducted livestock restocking programs. These programs focused initially on the

introduction of small ruminants and to a lesser extent pigs. As a family accumulates wealth, their objective is to purchase a cow" (Gaudreau, February, 2003:8)

A very significant 95% of all association members interviewed indicated that they possessed livestock of some kind (essentially goats, cows, pigs, or fowl). This figure is very close to that reported two years earlier in the mid-term survey (94% in Gikongoro). And, as reported in the mid-term survey, Ruhengeri farmers again reported almost 100% of households in possession of livestock of some kind. What has changed since this earlier survey is that more farmers have *moved up* to cattle! In September 2002, Gikongo and Ruhengeri respondents reported 57% and 85% possession of cattle; in May 2004 this had grown to 65% and 99% respectively. Percentage ownership of small ruminants also increased significantly, as can be seen in Table 3F below.[26] Pig raising has also evidently become quite successful with 51% of all respondents admitting to owning at least one pig. This has important implications for both household nutrition and field productivity from increased use of manures.

Table 3F: Number of Persons with Livestock Resources (and animal types)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Raise animals				
- yes	167 (97.1%)	41 (85.4%)	135 (99.3%)	72 (90.0%)
- no	5 (2.9%)	7 (14.6%)	1 (0.7%)	8 (10.0%)
Of those with animals:	N=167	N=41	N=135	N=72
- cows	108 (64.7%)	19 (46.3%)	110 (81.5%)	31 (43.1%)
- small ruminants	138 (82.6 %)	30 (73.2%)	98 (72.6%)	53 (73.6%)
- pigs	113 (67.7%)	18 (43.9%)	77 (57.0%)	16 (22.2%)
- chickens and rabbits	88 (52.7%)	21 (51.2%)	90 (66.7%)	48 (66.7%)
Total number of respondents	172 (100.0%)	48 (100.0%)	136(100.0%)	80 (100.0%)

In an attempt to link this growth in livestock possession to the current DAP, all 436 respondents were specifically asked how many animals they had obtained during the past four years **as a direct benefit from the World Vision DAP activities**. The response further confirmed the conclusions above. Gikongoro, as the oldest DAP project site with association households with up to four years of accumulated benefits, had the highest numbers with a reported average of 2.5 animals.[27] The actual average figure is almost certainly higher since farmers almost always under report this kind of information. Ruhengeri association households reported the second highest figures, and this again can most certainly be linked to the fact that these farmers have benefited for the past three years from the DAP. Butare and Byumba farmers have only received DAP activities for the past year and a half to two years, so one would expect figures to be less. It is interesting to note that some households in both Gikongoro and Ruhengeri were willing to report as many as 33-40 animals being obtained over this time period as a direct result of the DAP program.

Table 3G: Average Number of Animals Acquired During Past 4 Years as Direct Benefit of DAP

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of animals	2.50	0.50	2.16	2.07
Standard deviation	3.77	0.89	3.92	2.74
Minimum	0.00	0.00	0.00	0.00
Maximum	33.00	4.00	40.00	14.00
Total number of respondents	172	48	136	80

These data are probably some of the most revealing within the DAP project with respect to the successful impact that program agricultural activities, including receipt of FfW commodities, have had. That some

[26] Gikongoro and Ruhengeri in the September mid-term survey indicated that 54% and 21% of respondents possessed goats, respectively, while 41% and 50% possessed sheep.

[27] In fact, World Vision has worked in the Gikongoro Province for a number of years prior to the DAP in bench terrace construction and other activities and this probably has had an impact on these numbers as well.

of these FfW commodities were converted to cash for other household objectives – such as the acquisition of small ruminants – are very likely.

4.2.3 Level of Technology Use and Adoption

Improved Seeds

Final survey respondents reported that 88% of them currently use improved seed in their annual planting strategies (cf. Table 3H below).[28] This is a very significant increase over the situation at the mid-term survey (September 2002) when, in Gikongoro and Ruhengeri only 44% and 67% respectively, reported such use. This most certainly illustrates the impact of intensified World Vision DAP efforts during the past two years in increasing the productivity of bench terraces through use of such inputs. Increases in the use of improved beans, corn, and wheat – the most important seed materials provided by the DAP - also has continued in time and in some cases experienced further growth in adoption by the end of the project.

Gikongoro	**2002**	**2004**
Improved Climbing Beans	63%	75%
Improved Wheat	78%	73%
Improved Irish Potatoes	73%	75%
Ruhengeri		
Improved Climbing Beans	65%	43%
Improved Wheat	0	7%
Improved Irish Potatoes	73%	43%

Perhaps as important as the use of improved varieties above has been the interest in acquiring improved varieties of other seed material. Improved varieties of corn have become very important in Ruhengeri for example, and interest appears to be growing for improved varieties of sweet potatoes in Butare. The continued interest in and use of improved varieties is important within the context of the many problems that the World Vision DAP has experienced in getting such seed to farmers in a timely manner. The first introductions were often late in arriving, and were not always used with adequate fertilizers (for lack of availability and financing). Yet a number of associations have become actively interested in growing/multiplying improved variety seed for sale within their sub-regions. One group of associations in Ruhengeri was visited by the consultant who had organized themselves to produce seed potato, climbing beans, and seed potatoes for sale to another neighborhood association called ADRI, also supported by World Vision. ADRI was organized to commercialize both the seed production of the improved seed producers, as well to purchased maize within their region for commercialization purposes. ADRI would be an ideal group to consider linking to a fertilizer input suppliers for sale to their members and neighbors.

[28] This figure is very close to the 81% documented from other data sources used for the IPTT Table 1.

Table 3H: Utilization of Improved Seed

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Use improved seed				
- yes	146 (84.9%)	34 (70.8%)	124 (91.2%)	78 (97.5%)
- no	26 (15.1%)	14 (29.2%)	12 (8.8%)	2 (2.5%)
Of those using improved seed[29]:	N=146	N=34	N=124	N=78
- Irish potato	109 (74.7%)	4 (11.8%)	53 (42.7%)	68 (87.2%)
- Sweet potato	4 (2.7%)	2 (5.9%)	2 (1.6%)	0 (0.0%)
- Beans	108 (74.0%)	34 (100.0%)	116 (93.5%)	38 (48.7%)
- Wheat	107 (73.3%)	0 (0.0%)	8 (6.5%)	55 (70.5%)
- Corn	33 (22.66%)	5 (14.7%)	76 (61.3%)	21 (26.9%)
- Sorghum	2 (1.4%)	1 (2.9%)	0 (0.0%)	0 (0.0%)
- Peas	3 (2.1%)	0 (0.0%)	1 (0.8%)	0 (0.0%)
- Soya	7 (4.8%)	1 (2.9%)	2 (1.6%)	0 (0.0%)
- Other	5 (3.4%)	3 (8.8%)	1 (0.8%)	0 (0.0%)
Sell agricultural products				
- yes	152 (88.4%)	29 (60.4%)	117 (86.0%)	67 (83.8%)
- no	20 (11.6%)	19 (39.6%)	19 (14.0%)	13 (16.2%)
Total number of respondents	172	48	136	80

Use of improved seed, combined with training in the use of fertilizer and organic inputs, particularly upon the valuable bench terraces constructed very clearly led to increased sales from the benefiting association households of crops produced. **Fully 84% of all association member survey responders noted that they had been capable of selling surplus commodities from their season production**. This is a very significant number and suggests that these farmers, with the income they are receiving from produce sale, are beginning to meet other household needs. Certainly the food security of the thousands of household members implicated with these association members has been greatly improved.

Agricultural Credit

Use of agricultural inputs to make it possible to successfully cultivate upon the 2,878 hectares of newly constructed bench terraces was one of the major thrusts of the World Vision DAP – particularly during the last year and a half of the project. This was because it quickly became evident to World Vision that fertilizers and lime application would be essential to reestablish soil fertility upon the bench terraces. World Vision, not having provided such inputs during the first part of the project, observed that some bench terraces were subsequently abandoned. Crops could not be grown upon them. It would be demonstrated that fertilizer and lime inputs were critical for at least two agricultural seasons to 'bring back' production to such soils. Thereafter, application of fertilizers, lime, and organic matter to bench terraced soils permitted crop productivity to surpass that of adjacent fields without such terraces.[30] Soil erosion had been checked, fertilizers were not lost down hillsides, more available rainfall was held within the terraced plots. All these factors led to visible greater production upon the bench terraces. By the end of the DAP, 71% of association respondents indicated that they had received some form of credit, a considerable increase from just two years earlier (cf. Table 3I). With respect to the mid-term survey, Gikongoro moved from 57% to73% of farmers receiving credit, Ruhengeri saw a decrease from 75% to 58%[31], with high levels of credit use reported for both Butare and Byumba

[29] Use of improved seed: if 74.7% use Irish potato, then 25.3% do not, etc

[30] Though this was visible to the observing eye, unfortunately World Vision agronomists never actually took a sample of yield plots in terraced and non-terraced land, for similar crops planted at the same time, to objectively prove this statement. Doing so is highly recommended in the future.

[31] In spite of the decrease, the actual numbers increased significantly, from 36 in 2002 to 79 respondents noting that they had received credit in 2004.

Table 3I: DAP Credit Recipients

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Received Credit?	Ø=172	N=48	N=136	N=80
- yes	126 (73.3%)	32 (66.7%)	79 (58.11%)	71(88.8%)
- no	46 (26.7%)	16 (33.3%)	57 (41.9%)	9 (11.2%)

Among those who indicated they had received some form of credit (308 individuals out of the total 436 respondents), 89% of these said they had received this credit directly from World Vision, with the balance receiving credit from a number of other sources (cf. Table 3J). With the exception of the few associations which had received ACDI/VOCA cash credit through World Vision for commercialization purposes, virtually all the rest of World Vision Rwanda credit was provided in the form of input credits (seed, fertilizers) and not cash for direct application upon the bench terraces that the DAP had helped to construct (also see Table 3K below).

Table 2J: Source of Credit

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Recipients receiving credit:	N=126	N=32	N=79	N=71
- World Vision	120 (95.2%)	30 (93.8%)	78 (98.7%)	71 (100.0%)
- Other NGO	16 (12.7%)	2 (6.3%)	0 (0.0%)	0 (0.0%)
- PGERB	0 (0.0%)	1 (3.1%)	2 (2.5%)	0 (0.0%)
- Farmers Association	1 (0.8%)	0 (0.0%)	1 (1.3%)	4 (5.6%)
- Bank	4 (3.2%)	3 (9.4%)	1 (1.3%)	1 (1.4%)
- Other	9 (7.1%)	0 (0.0%)	1 (1.3%)	0 (0.0%)
Total number of respondents in survey	172	48	136	80

Table 3K below illustrates the form in which farmers received their credit. Credit received in the form of improved seed (climbing beans, corn, wheat, Irish potatoes) and fertilizers (lime, NPK) accounted for 70% of recipients, and was most certainly received from World Vision through its associations.

Table 3K: Purpose of Credit

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
If yes, credit type:	N=126	N=32	N=79	N=71
- seeds	49 (38.9%)[32]	17 (53.1%)	18 (22.8%)	1 (1.4%)
- fertilizer	6 (4.8%)	0 (0.0%)	3 (3.8%)	0 (0.0%)
- seeds and fertilizer	72 (57.1%)	13 (40.6%)	59 (74.7%)	70 (98.6%)
- other	2 (1.6%)	0 (0.0%)	14 (17.7%)	0 (0.0%)
- pesticides	10 (7.9%)	0 (0.0%)	0 (0.0%)	4 (5.6%)
- animals	5 (4.0%)	4 (12.5%)	0 (0.0%)	0 (0.0%)
- cash	15 (11.9%)	4 (12.5%)	3 (5.6%)	4 (5.6%)
- tools	3 (2.4%)	3 ((9.4%)	2 (2.5%)	3 (4.2%)
If no, why:	N=46	N=16	N=57	N=9
- didn't need it	15 (32.9%)	4 (25.0%)	9 (15.8%)	3 (33.3%)
- didn't know where	11 (23.9%)	7 (43.8%)	16 (28.1%)	1 (11.1%)
- refused credit	4 (8.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
- other	16 (34.8%)	5 (31.3%)	33 (57.9%)	5 (55.6%)

[32] Percentages will not add up to 100% because some farmers could have received credit from more than one source, or received different kinds of credit (in-kind and cash credit).

Clearly, there were some farmers within the associations worked with by World Vision who did not believe they needed to use such inputs – about a third, while others might have used them if they could have had access to them. What does become evident in these data is that there is clearly a market for agricultural inputs, if they are available to farmers, and that this represents a commercial opportunity for some associations. To be successful however, such associations will need to partner with private sector input suppliers based in Kigali or elsewhere. Helping to establish a sustainable input supply chain for these thousands of farmers will be one of the principal challenges for future World Vision activities in these provinces in future years.

While the mid-term survey reported a rate of reimbursement of credit of over 60% in Gikongoro and Ruhengeri, the repayment rate rose to 81% by the end of the DAP (Table 3L). Most of the repayment was made back to the association or World Vision through 'in-kind' payments. Credit in the form of improved climbing beans was repaid, plus some 'interest', in harvested climbing beans which were then redistributed to other farmers seeking similar seed. When farmers were not able to pay back their loan, the principle reason was either because of poor agricultural seasons (erratic rainfall), or in some cases, crop diseases. This was particularly true with respect to Irish potatoes.

Table 3L: Reimbursement of Credit

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Pay back	N=126	N=32	N=79	N=71
- yes	97 (77.0%)	26 (81.3%)	67 (84.8%)	50 (70.4%)
- no	29 (23.0%)	6 (18.7%)	12 (15.2%)	21 (29.6%)
If yes, form:	N=97	N=26	N=67	N=50
- cash	2 (2.1%)	2 (7.7%)	6 (9.0%)	0 (0.0%)
- kind	76 (78.4)	20 (76.9%)	57 (85.1%)	44 (88.0%)
- all of the above	19 (19.6%)	4 (15.4%)	4 (6.0%)	6 (12.0%)
If no, why:	N=29	N=6	N=12	N=21
- bad cropping season	12 (41.4%)	2 (33.3%)	6 (50.0%)	15 (71.4%)
- crop pests and diseases	2 (6.9%)	0 (0.0%)	0 (0.0%)	1 (4.8%)
- sickness	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)
- didn't come for reimbursement	5 (17.2%)	0 (0.0%)	2 (16.7%)	0 (0.0%)
- other	10 (34.5%)	4 (66.7%)	4 (33.3%)	4 (19.0%)

Terraces

From World Vision's own records from both the Food for Work food monitors who oversaw the construction of bench terraces and from the agronomists who technically helped in their construction, 2,878 hectares (7,111 acres) were constructed during the four years of this DAP. One could add to this number perhaps about 100 acres of 'progressive terraces'. These terraces were constructed on the private and jointly-shared lands of 407 associations with 10,451 members (cf. Table 2). Therefore, essentially 100% of the sample of association household members (436) interviewed during the course of the final quantitative survey had benefited from the constructed terraces, and most from the FfW commodities associated with their construction.

Final survey households reported having at least one or two units of land that had been (bench) terraced with DAP FfW assistance (Table 3M). The size of these fields varied greatly from less than half a hectare to more than one hectare. As discussed in the section under FfW, groups of farmers – either as formally organized associations or groups formed for the purpose of the FfW activities – would consolidate their land holdings. These were measured by World Vision project agronomists and food monitors into 'units' of 1 hectare each – the basic unit for FfW activities and commodity distribution. Associations would ask World Vision for FfW assistance to terrace their combined holdings – sometimes 20 or 30 hectares in

size. Many associations would designate some of this land as 'common association land', upon which the members would jointly work and jointly sell the produce for the common goals of the association; 53% of survey responders noted that they had a personal stake on such 'communal bench terraced' land, and this figure is fairly evenly distributed across the four provinces.

Responders also noted that they still possessed significant units of land without any kind of terraces, or that they had land that was not completely terraced. Reported fields with 'progressive terraces' were more numerous in all four provinces, and these 'progressive terraces' were almost exclusively done by the farmers themselves – without DAP project intervention. However, many of these 'progressive terraces' have not been well constructed, lack sufficient contour vegetative barriers and run-off water ditch traps to prevent erosion. Helping to improve these had been one of the DAP project's goals which remained largely unachieved. Therefore, among the existing associations members that have already received support over the past four years, there remains a great deal that has yet to be accomplished. It would be a mistake in future programs if World Vision did not leverage its accomplishments among these farmers to place them more solidly upon the path to economic independence. Sustainability in many areas of the farming system have yet to be achieved, particularly as this has to do with input supplies and identification of demand driven markets for potential agricultural commodities coming from their production.

Table 3M: Terraced Fields of DAP Beneficiaries (average number cultivated)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
- bench terraces	1.38	1.10	2.07	2.44
- progressive terraces	1.34	1.17	2.62	3.60
- part terraced, part not	0.23	0.19	0.43	0.01
- no terraces	0.82	1.27	1.58	0.45
Personal plot on the communal bench terraced land				
- yes	95 (55.2%)	27 (56.25%)	67 (49.3%)	40 (50.0%)
- no	77 (44.8%)	21 (43.75%)	69 (50.7%)	40 (50.0%)
Total number of respondents in survey	172	48	136	80

Soil Fertility Technologies

DAP agronomists considered the use of both chemical fertilizers (lime, NPK) and organic matter as critical in helping to make the bench terraces constructed truly productive. In spite of significant problems experienced in delivery of these inputs to farmers on time, farmers themselves also realized the importance of these inputs and adoption and use was widespread. Table 3N below reports that 57% of the association members interviewed reported receiving their chemical fertilizers late. It is well known that timeliness is essential if crops are to fully benefit from costly inputs of this kind and this remains a major constraint for World Vision's logistics team.

Of the 172 association member survey responders in Gikongoro, 115 (67%) noted that they were using chemical fertilizers (lime, NPK) on their fields. They were receiving such inputs in the form of credit, discussed above. Across the four provinces, the rate was essentially the same, at 69%. Yet there remain many association farmers who did not use these inputs, and this remains a future challenge for World Vision. A major reason farmers did not use fertilizers was that funding for the credit was limited, and not all who wanted it actually received it. Of greater concern however should be the sustainability of something that farmers evidently find very helpful. By directly providing farmers these inputs themselves (however late), World Vision has not helped to build up the local capacity of potential organizations to obtain and commercialize these inputs within the sub-regions concerned. This represents one of the great

challenges for World Vision as it looks to the future: how to link farmers in a sustainable manner to the weak input private sector within Rwanda (or to stronger input suppliers outside the country).

Table 3N: Use of Fertilizers and Organic Inputs

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Use chemical fertilizer				
- yes	115 (66.9%)	19 (39.6%)	94 (69.1%)	74 (92.5%)
- no	57 (33.1%)	29 (60.4%)	42 (30.9%)	6 (7.5%)
Reception of chemical fertilizer	N=115	N=19	N=94	N=74
- on time	80 (69.6%)	11 (57.9%)	86 (91.5%)	73 (98.6%)
- late	35 (30.4%)	8 (42.1%)	8 (8.5%)	1 (1.4%)
Use power planting[33]	N=115	N=19	N=94	N=74
- bench terraces	87 (75.7%)	10 (52.6%)	85 (90.4%)	74 (100.0%)
- progressive terraces	38 (33.0%)	6 (31.6%)	33 (35.1%)	14 (18.9%)
- part bench/part not	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
- no terraces	1 (0.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Utilization of organic matter[34]	N=57	N=29	N=42	N=6
- compost	31 (54.4%)	20 (69.0%)	12 (28.6)	3 (50.0%)
- animal manure	52 (91.2%)	23 (79.3%)	41 (97.6)	5 (83.3%)
- green manures	13 (22.8%)	2 (6.9%)	2 (4.8%)	0 (0.0%)
- agro forestry	9 (15.8%)	3 (10.3)	6 (14.3%)	0 (0.0%)
Total number of respondents in survey	172	48	136	80

Because of the reality of the weak chemical fertilizer input supply system within Rwanda, World Vision agronomists sought to help farmers use what they could provide – or create – within their own means. Use of green manures (established plant cuttings from the borders of the bench terraces) would provide organic matter. Manures from household animals, mixed with compost refuse, could also have a direct impact on plant growth – particularly if well placed in the field (rather than being simply scattered about). The introduction of 'power planting' became a favorite strategy at planting times. Taking organic refuse, mixed with manures, a handful of organic matter would be placed into a hole, covered up half-way, and then the seed planted above it. Planted seeds would find a rich bed of nutrients as they began to grow. This technique was widely adopted by World Vision DAP association members; 85% of those surveyed indicating that they were doing this upon their bench terraces. This is an excellent achievement on the part of the project and does represent a sustainable innovation.

The importance of the use of animal manures for increasing crop production is well known to Rwandan farmers traditionally. They did not have to be trained to do this. But the *manner of application* for the greatest impact was new. Use of compost is also widely known, but there is much to be gained through the improved *application* of such material. Finally, the use of green manures, including different fast growing agro-forestry species, upon bench terraces, and expanding their use within progressive terraces already existing, remains a fairly new challenge to most Rwandan farmers. Plant materials remain limited. In one case, the evaluation team visited the bench terraced fields of one association with well established leucaena and sesbania along the field borders. Irish potatoes had been planted only a few weeks earlier, yet it was evident that farmers had **not** cut down the lush plant growth bordering the field to provide the 'green manure' that the newly established crops would need. Asked why they had not done this, the farmers said they knew they should have cut the vegetation and mixed it with the soils before planting. However they also wanted to produce seed for extension of the vegetative materials to the fields of other members of their association who had not yet received any for their own fields.

[33] Power planting: if 75.7% apply power planting on bench terraces, then 24.3% do not, etc
[34] In case chemical fertilizer was not used; if 54.4% apply compost, 45.6% do not, etc

4.2.4 Household Economic Opportunities

With increasing agricultural productivity clearly taking place among the thousands of households associated with the 407 World Vision DAP associations, opportunities for further economic expansion have become evident. Farmers themselves, without DAP intervention, are seeking to maximize their opportunities to transform, at the household level, their agricultural commodities being produced so as to increase the value of their products before sale. Rather than simply selling corn or beans to the local market, many households seek some way to process some of their commodities to give them a higher value. Table 3O below indicates that about 33% of all those surveyed do transform some of their crop production – though the rate within different provinces varies significantly; 60% of association members in Byumba said that they processed their commodities, while 42% said they did so in Gikongoro.

Table 3O: Transformation of Household Crop Production

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Crop processing				
- yes	73 (42.4%)	8 (16.7%)	15 (11.0%)	48 (60.0%)
- no	99 (57.6%)	37 (77.1%)	121 (89.0%)	32 (40.0%)
- don't know	0 (0.0%)	3 (6.2%)	0 (0.0%)	0 (0.0%)
If yes:	N=73	N=8	N=15	N=48
- milling	52 (71.2%)	4 (50.0%)	13 (86.7%)	27 (56.3%)
- cooking	22 (30.1%)	0 (0.0%)	1 (6.7%)	0 (0.0%)
- fermenting	37 (50.7%)	6 (75.0%)	3 (20.0%)	39 (81.3%)
- other	9 (12.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total number of respondents in survey	172	48	136	80

Of those transforming some of their production, a number of different strategies were followed, depending on the commodity. Sorghum would be fermented to make beer, corn or wheat was milled to make flower from which a range of other products could be made and sold. Other households prepared meals from their commodities and sold this food within the market or elsewhere. Members of one association interviewed by the consultant in Gikongoro noted that they had purchased their own mill (from an ACDI/VOCAP loan) and sold the flour in the market – not in bulk, but in small plastic bags through local grocery stores. A number of such mills were in operation among other World Vision associations. In one case, during a rain storm, the evaluation team quickly moved our interviews into a nearby shop, where we observed what were clearly several bags of FfW corn, open for sale in smaller quantities. Next to these were also small bags of milled corn flour, probably also from FfW corn sold to the shop-keeper from local farmers working on the bench terraces in the area.

4.2.5 Extension Assistance from World Vision Rwanda

During the interviews held with members of different associations in the four provinces, as well as discussions with civic and other government leaders (e.g. Ministry of Agriculture, Livestock and Forestry), it was evident that World Vision Rwanda field activities were greatly appreciated. Indeed, officials frequently commented that this was one program that really worked with small farmers themselves, where they were. World Vision field personnel did not limit their activities to households that resided near major urban centers or towns, or along good roads, but could be found in the most remote areas. Because of this close association with farmers, field personnel have a good grasp of what the real needs of farmers are and were eager to share their knowledge and the potential benefits of the DAP program with them.

Final survey respondents gave high marks to World Vision Rwanda efforts in the different kinds of training provided (cf. Table 3P). Training efforts with the highest scores included power planting, crop storage, bench terrace construction, and composting. The lower scores linked to commercialization and

financial management training can be explained because relatively fewer associations (and their members) had been targeted to receive such training - most of which took place during the final two years of the DAP.

Table 3P: DAP Training and Farmer Perceptions of Program

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Training[35]				
- power planting	135 (78.5%)	28 (58.3%)	130 (95.6%)	80 (100.0%)
- commercialization	32 (18.6%)	7 (14.6%)	12 (8.8%)	70 (87.5%)
- storage	107 (62.2%)	9 (18.8)	84 (61.8%)	78 (97.5&)
- terrace construction	141 (82.0%)	28 (58.3%)	127 (93.4%)	80 (100.0%)
- composting	126 (73.3%)	19 (39.6%)	107 (78.7%)	78 (97.5%)
- financial management	65 (37.8%)	3 (6.3%)	38 (27.9%)	72 (90.0%)
Training useful				
- power planting	135 (100.0%)	28 (100.0%)	128 (98.5%)	80 (100.0%)
- commercialization	32 (100.0%)	7 (100.0%)	12 (100.0%)	70 (100.0%)
- storage	107 (100.0%)	9 (100.0%)	69 (82.1%)	78 (100.0%)
- terrace construction	141 (100.0%)	28 (100.0%)	126 (99.2%)	80 (100.0%)
- composting	126 (100.0%)	19 (100.0%)	92 (86.0%)	78 (100.0%)
- financial management	65 (100.0%)	3 (100.0%)	35 (92.1%)	72 (100.0%)
Satisfaction of assistance				
- yes	165 (95.9%)	38 (79.2%)	122 (89.7%)	80 (100.0%)
- no	7 (4.1%)	10 (20.8%)	14 (10.3%)	0 (0.0%)
Self-sufficient				
- yes	68 (39.5%)	13 (27.1%)	74 (54.4%)	31 (38.8%)
- no	104 (60.5%)	35 (72.9%)	62 (45.6%)	49 (61.2%)
Total number of respondents in survey	172	48	136	80

The great majority of members of associations interviewed, when asked if they were satisfied with the level of training assistance received from the DAP program, indicated that they were (93%). Asked if the program had helped their respective households to become self-sufficient for production of their food needs, 41% indicated that they were self-sufficient in food production. The highest response to this question, Ruhengeri Province (54%), is probably also among the agriculturally most favored regions of the country.

4.3 Lessons Learned

(1) The initial sampling of associations with which the project had worked over the life of the project and then the choice of those members who would be interviewed for the quantitative survey was made difficult because of the lack of a project listing of all associations. Significant time was spent during the first week by project coordinators trying to put such a list together. The final list used in sampling lacked some associations from the earliest years of the project. Clearly, future record keeping within the project should establish an information management system for tracking important historical information.

(2) The training of enumerators for the quantitative survey took longer than expected. The World Vision Rwanda team made an effort to hire enumerators from the four project zones prior to the consultant's arrival which saved time. Survey leaders (project agronomists) had to remain with enumerators for several days in the field, during initial interviews, before assurance was gained in the use of the questionnaire format, and in the etiquette of asking questions.

[35] Training : if 78.5% receive training on power planting, 21.5% do not, etc

4.4 Recommendations

(1) **Keep a master list of all associations with which the DAP has worked from the beginning, showing number of members of each sex**. The project technical coordinator of associations should be responsible for this task. Care should be taken that associations with similar names are distinguishable from each other. When 'informal groups' are counted as 'associations', they too should be given clear identifiable names – and not simply be called 'group' as was often the case.

(2) **Clarify, for future World Vision Rwanda DAP quantitative surveys measuring program impact at baseline, mid-term, and final evaluations, from whom target survey populations should be drawn – the general population or program beneficiary population.**

5.0 World Vision Rwanda DAP Program Thematic Orientations & Strategies Used

In this section, a number of cross-cutting issues as well as program orientations and strategies are reviewed. With DAP experiences in these domains summarized, a number of recommendations are made to help orientate future activities.

5.1 Bench Terracing vs. Progressive Terraces

As already noted above, the construction of 2,878 bench terraces, or radical terraces as most people called them, was the most significant and visible outcome of the DAP, and the distribution of the FfW commodities that made this all possible was, in the consultant's opinion, the major driver of the project (cf. Table 2). As suggested in the quote below, the principal reason why the DAP did not do more work with farmers on improving their progressive terraces was because of the impossibility of getting enough workers engaged in such an endeavor. Large numbers of people were needed if FfW commodities ordered and targeted for distribution were to be met.

There appeared to be some disagreement within the World Vision team about the importance given to bench terracing as compared to 'progressive terracing'. In the October 2002 DAP Monthly Report, DAP Manager Jean Nyemba noted that he believed they were "*doing the right thing but going (about it in) the wrong way*" (page 1). He notes that:

> *"Bench terracing has started in the Province of Butare at the border with Gikongoro…The agronomists in charge are focusing on that activity at the expense of progressive terracing, as recommended in the DAP proposal. A demonstration of the technique of progressive terracing in March 2002 showed that the technique is easy to adopt and apply; does not require any population mobilization, no FfW, no recruitments of people used for labor, and is applied immediately on the household plot of land….Because progressive terracing does not allow access to FfW…, farmers have rejected the innovation and have preferred to join the activity of bench terracing. Our experience suggests that by working 2-3 months consecutively, any farmer in Gikongoro, Ruhengeri, Byumba, and Butare gets more food in a year (*in FfW commodities*) than what he produces from his land….When the household members are involved in bench terracing, the FfW obtained takes care of the household food needs for the six remaining months in a year….Many other factors come into play in relation to FfW: some agronomists and commodities staff get a lot of prestige, consideration, authority, social power through food distribution and are therefore not keen to promote ideas that do not involve food distribution…."*

In this consultant's assessment of the situation, the last statement above appear overly harsh, and obscures the real issue of why bench terraces were constructed over progressive terraces and what, in fact, are the objective benefits of the two systems for farmers themselves. As noted already, the project was under obligation contractually to construct at least 2,400 hectares of 'bench and progressive terraces', as well as to distribute large quantities of the associated food commodities. It turned out that the only way to achieve the FfW goal was to focus almost exclusively on bench terraces. While certainly a costly way to develop terraces, such terraces are unquestionably the best kind to have if one can afford to do them. Recipient farmers were indeed fortunate and gained an extremely valuable land resource as a result. Such terraces also have the greatest long-term productive potential. In the absence of FfW as a payment incentive to establish bench terraces, technical assistance to farmers in improving their progressive terraces would also have had a potentially great impact of soil erosion and crop productivity gains because labor requirements are within the realistic means of most farmers.

Whether or not it might have been possible for World Vision to actually have developed more such bench terraces for the same cost is another matter. Doing a quick-and-dirty calculation, based on World Vision's huge sample of hectares achieved and costs associated with this, the Food for Work cost per hectare is about $6,348/hectare.[36] This compares unfavorably with the actual cost of doing similar work, under generous local conditions, at $1,450/hectare – more than four times the cost per hectare of bench terraces! For every one dollar of Food for Work spent in getting donated commodities into the hands of Rwandan people, one is only getting 24¢ of value for the work performed. The evaluation team was informed by the head of the agricultural division in Ruhengeri, of a Dutch development program that has initiated a "Cash for Work" program in Ruhengeri Province. It is however making the same mistake as some earlier terrace development projects (e.g. World Food Program's PAM project) by not providing follow-on assistance to farmers, in the form of agricultural inputs, fertilizers and organic material – to bring these terraces to their production level potentials.

DAP agronomists, when asked about their experiences with supervision in the construction of bench terraces, noted that between 65% - 80% of their time was used directly for this endeavor, with the balance of their time distributed for administrative duties, agro-forestry and crop forage and other training. Most noted 0% of their time as focused towards progressive terraces. Ten of the twelve agronomists cited the 'construction of bench terraces' as the most important activity of the DAP. Their time was spent in the choice of the sites for the terraces, measuring out the size of the parcels, contracting with the local authorities about the sites, training technicians in terracing, and then in the supervision of the work when it was being undertaken. Nine agronomists pointed to these bench terraces as the greatest success of the DAP, while six also felt that the actual FfW commodities distributed should be included in this success.

DAP project agronomists, when asked what they considered to be areas in which the project did not reach set goals and potential, pointed out that not enough was done to 'valorize the land' of the bench terraces

[36] These figures were arrived at in the following manner. The project has achieved approximately 2,740 hectares of bench terraces. Food for Work expenditures to achieve these results cost about $12,450,000 (Annex 12). Add to this the fact that at least an estimated 60% of the World Vision operating budget was used to manage these commodities, including shipping costs, or a further $4,943,000 in the total $6,063,000 budget over the life of the project. This amount adds up to $17,393,000. Divide this amount by the number of hectares, and one gets **$6,348/hectare**.
Using a generous daily wage rate for a 5 hour work day of 500 RFR/day (when the actual going rate is closer to 300 RFR/day), it would take 2002 work days (91 X 22 days the project calculates to do one hectare) to complete one hectare of bench terraces. This results in a total cost of 1,001,000 RFR or $1,813/hectare. On the other hand, I asked farmers who had obtained bench terraces how much they long they thought it would take (and cost) if they were to pay 500 RFR/hour to complete one hectare. Their response was that it would not cost more than 600,000 RFR or $1,085/hectare - or another $728 cheaper than the project's more generous calculations! Taking the average of these two figures, we could say that farmers and workers alike would consider a cost of **$1,450/hectare** a very generous and interesting job opportunity. With this much cash earned, a person can also purchase, in the local market, the same amount of maize, beans, and oil as given by the project through Food for Work (100 kgs. of corn at a seasonally averaged cost of 8,000 RFR; 100 kgs. of corn at a seasonally averaged cost of 11,000 FRA.). If we use World Vision's calculations of 91 people for this $1,450 cost, we get $16/person. At local costs for commodities, it would cost a person about $12.20 to purchase locally the same amount of commodities given by the project, leaving more than $3.80 to buy 3.7 liters of oil.

constructed. One pointed out that *"a lot of land was terraced without the means to improve it"*. There were not enough inputs available to these farmers to bring this land into a productive capacity, quickly enough. One of these inputs was the lack of availability of sufficient vegetative material to reinforce the bench terraces and to provide green manures. One agronomist noted that '*we should have sold some of the FfW commodities so as to have enough money to purchase inputs to provide to farmers (in form of credit)*". FfW distribution rules may not have permitted this, but the sentiment is clearly understood.

Strategically speaking, as the project entered its last implementation year, having already achieved 2,288 hectares of its target of 2,500 hectares of bench terraces, it might have considered placing increasing personnel and material resources towards either (1) giving greater attention to progressive terraces or (2) improving bench terraces already completed – rather than finally surpassing its project target for bench terraces by 387 hectares. Consideration of such resource use might have been more seriously considered had the project included an impact indicator linked to productivity increases on completed terraces (for maize or beans for example), differentiated between progressive and bench terraces.

5.2 Program Partners & Sustainability Issues (ACDI/VOCA, ISAR, Heifer International, MINAG, ATDT, PEARL)

World Vision Rwanda, through this DAP, has made an effort to involve potential partners in each of its areas of direct project implementation.

Local Government of Rwanda (GOR) civil and MINAGRI leaders encountered by the evaluation team complemented World Vision in including them in the process of selecting associations benefiting from bench terraces. Civil leaders in the four different provinces noted that there was between World Vision and their offices and field personnel. Within each Commune, the DAP worked with a 'Community Development Committee (CDC) made up of the vice-mayor (usually the region's economic officer), a MINAGRI agricultural extension person, and the World Vision agronomist. They would meet with the different association leaders for whom terraces were being proposed be constructed to verify the site, that trees would not be cut, make sure that the sites did not have some other intended civil purpose, and to establish size and slope of site. Formal contracts were then signed with association leaders for the work to be performed. The project also assisted MINAGRI agricultural extension agents in small ways to make it possible for them to visit project work sites and remain informed on activities in their areas. Within the context of severe handicaps for training and logistic support of MINAGRI field extension personnel, World Vision Rwanda's openness to working as partners and helping, when possible in training and logistics, has been very much appreciated. Such partnering also helps World Vision to extend the impact of its own resources. The only area for significant improvement in this relationship would be for World Vision Rwanda to make certain that local authorities receive copies of annual reports of progress and results in a timely manner, so that they too can report of these within their own reporting needs to the GOR.

ACDI/VOCA, as part of its Rural Marketing and Agro-Enterprise Component, had grants funds from USAID of $1.5 million to facilitate development of marketing initiatives. One productive partnership was the establishment between the World Vision Rwanda DAP and ACDI/VOCA in FY 2002 of a market/ business training sub-grant. This sub-grant has made it possible for World Vision to strengthen nine of its associations through the marketing of different commodities. As noted in project documentation, 'the short term expectation is to move these associations from production, storage handling, and marketing of products to small enterprises through micro-finance schemes'. The evaluation team met four of these associations and was impressed by the achievements already made with relatively small amounts of money ($1,700 - $5,500) and of the member's plans for the future. World Vision's focus on the 'poorest of the poor' in remote areas through these micro-projects has been an excellent complement to ACDI/VOCA's own efforts with larger groups. ACDI/VOCA leaders noted that the collaboration was excellent and that these grants were serving smaller groups in places they themselves were not

administratively organized to target. ACDI/VOCA is also providing the World Vision Rwanda DAP program helpful input with respect to becoming more 'market orientated' and WV linked associations should benefit further from this orientation in the future as market chains are strengthened and new high value commercial crops are identified and linked to market outlets.

In the past two years, the World Vision DAP has become increasingly aware of the need for local producers for seed multiplication, and linking such producers to research institutes capable of providing continued restocking/upgrading of the seed being multiplied for local use. Many of the associations with whom World Vision Rwanda has worked have shown great interest in becoming producers of improved seed for resale within their communities, and some have begun to do so with project support. The National Agricultural Research Institute of Rwanda (ISAR), with the support of the international research center CIAT and the USAID financed improved seed project (ATDT) have placed high importance on producing improved seed that can be sold to Rwandan farmers. ATDT advisor, Kwasi Ampofo, noted that their mandate is to help train seed associations in the multiplication of improved seed, and in keeping their seed stocks of high quality, which links well with World Vision in its efforts to help their associations produce and sell such seed. The beginning of an important partnership is evident in this area, and one might expect this to become increasing important in the coming years.

The USAID financed PEARL project, administered by Texas A & M, has been in operation for the past four years in the Gikongoro Province, with an addition two years to run. It seeks to target high value export orientated commodities for local associations and link them with larger export oriented cooperatives. Coffee and red peppers have been an early favorite for assistance, while other commodities are being explored. In questioning the PEARL team leader, the evaluation team was told that there would be opportunities for World Vision's supported associations to benefit from some of their activities. Indeed, they have been surprised that World Vision has not focused some of its bench terracing activities among farmers who could subsequently become part of the groups benefiting from export opportunities opened by this program. This might be a partnership opportunity that future World Vision Rwanda efforts within Gikongoro Province might want to evaluate further.

One other potential important partner with whom World Vision Rwanda might seek a closer working relationship in the future is Heifer International. The evaluation team met with the Heifer International representative in Byumba (Augustine Havugimana) who explained their program to us in some detail. They have been active in bringing to Rwanda (Ruhengeri, Byumba, Kigali areas), at considerable cost by air, improved breeds of cattle known for their milk production, and have also been active in trying to set up milk collection centers. Some 250 pregnant heifers have been distributed to farmers in the Byumba area, and calves are distributed to others. It is unfortunate that World Vision associations have not been associated with Heifer International in this regard, as many of World Vision's associations are certainly accessible to roads and this could have leveraged efforts of both organizations. Because of the high importance to World Vision association members to acquire milking cows of improved breeds, some formal agreements could benefit both groups. World Vision's strong linkages to associations, capable of providing the kind of forage feed needed by cattle, as well as the strong commercial orientations of some of these groups, would make good partners to extend the impact of Heifer International activities within the country. Heifer has linked itself to ICRAF – as has World Vision – with regard to acquiring forage materials for their farmers and has depended on assistance of local MINAGRI veterinarians to help them monitor the health and nutrition received by these valuable animals. Forage materials (*caliandra, leucaena, desmondia)* have been provided to their farmers to grow for forage. Yet, because farmers operate a farming system, which includes both crops and animals, it is important that the right mix of plant materials be promoted with farmers with bench terraces to benefit both their crop production and forage needs. Otherwise, the two programs could be giving conflicting messages to farmers with respect to the use of fast growing plant materials for both forage and green manure.

Credit and Banks

It is this consultant's opinion that it is a mistake for any outside project, such as World Vision Rwanda, to itself lend money directly to farmer associations. This is not sustainable, and when such an organization is gone, the lack of established lending systems can result in stagnation and possibly even failure of such marketing groups. Everyone noted that local banks "*would never give money to associations*" because they had no collateral which the banks would consider valuable. Or others would say "*banks don't give to agriculture*". Yet an organization like World Vision, with other partners, could help to change this mentality. After years of effort in neighboring Uganda, there are today private banks that have found that small commercially orientated farmers and groups are good credit risks with exceptionally high repayment rates. Some USAID funds, through the ten year running IDEA project recently completed there, were placed as a guarantee with certain lending banks. The project helped to identify and support, through training and proper use of inputs, the individuals and associations who would apply for these bank loans. Farmers were not aware of this guarantee system. In the end none of the USAID money was used, but large amounts of credit had been given out (and repaid) by farmers. With such experience, these banks are more open to increasing future credit to such farmers. Something like this could be attempted in Rwanda, with perhaps ACDI/VOCA funds to provide a guarantee to a selected bank advancing credit to some of World Vision's commercially oriented associations.

In point of fact, once bench terraces have been constructed and have become productive after two or three seasons, they should be considered as capital investments. Indeed, as noted above, they cost at least $1,500/hectare to construct. Yield figures that the World Vision project can provide can also objectively demonstrate the value of production that can be attained from such bench terraces in the course of one year. Strong associations with productive bench terraces should be able to receive credit upon this basis alone. Associations should even be able to borrow the $1,500/hectare needed to construct a new hectare of bench terraces and not require FfW commodities to make this possible.

5.3 Approaches to Farmer Associations and Training

The DAP's approach to reaching Rwandan farmers for bench terracing through associations appears to have been a good one. The fact that the DAP did not limit itself to 'formal' associations but encouraged farmers to organize themselves into 'groups' – sometimes as few as two or three people - also permitted the flexibility needed to respond to larger numbers of farmers with focus on land around household residences. The DAP placed great importance on involving local civil authorities and the local agricultural extension service in the selection of associations to work with. Though this was a good approach, it may also have resulted in dispersing the project spatially too much in some communes. This made the job of field staff (field monitors and agronomists) much more difficult – moving from one distant association to another on motorcycles – or walking. Greater consolidation of program efforts within specific areas could have resulted in greater efficiencies in time and logistics.

Because of the pace of activities always underway for the construction of new bench terraces, training of farmer recipients of bench terraces did not reach the level it might have. DAP agronomists themselves pointed this out as a weakness of the program and wished they could have spent more time with these farmers helping them maximize the potential benefits of their newly terraced land.

With some 407 associations, with their thousands of members, World Vision must think strategically about the future opportunities of these groups to commercialize their commodities. They can not all do the same thing. The evaluation team met with groups in Ruhengeri that could soon be competing for a limited market for food commodities in the sub-region. High on the list of priority needs of all associations is a regular and dependable source of agricultural inputs so that farmers can acquire the seed, lime, and other fertilizers and pesticides needed to achieve the potential of their bench terraces.

Associations need help in linking to national and perhaps even regional suppliers of inputs. Generally rainfall is **not** a limiting factor in most of these regions. Clearly some associations should be assisted to become successful as input suppliers. Sale of produce (outputs) is also important and commercialization of agricultural crops (corn, beans, sorghum, Irish potatoes, etc.) can become the specialty of some other associations. Other associations will need to look at non-traditional specialty crops, and diversify to high value crops. They too will need help to be linked to special national or regional export markets (red peppers, coffee, geranium oil, etc.). World Vision might consider sharing the cost of a consultant with some other organizations to seek to identify such markets on behalf of these associations and the USAID supported PEARL project could also be of assistance in this regard.

Sero-positive Groups

During interviews with farmer associations by the evaluation team, it became apparent that there were groups that were not being impacted by the project. On several occasions, members of associations asked the evaluation team how they could better help the HIV/AIDS people in their midst. We would turn the question around and ask them what they were doing, and in many cases support was being given, particularly to orphaned children. Yet, it became evident that there were sero-positive groups in the community who were not registered with World Vision to receive terracing work on their fields, even though some of these people were among the work teams receiving the FfW. These groups had not, of their own volition, approached the DAP project for assistance. World Vision Rwanda might consider becoming more proactive in identifying such groups and in helping them, where possible, obtain the assistance needed to improve the land upon which most are farming.

Contact Farmers

The World Vision Rwanda DAP employed 50 'contact farmers' each six months (season) to help its field staff coordinate activities with associations.[37] These were salaried positions, and association members themselves determined who would be the 'contact farmer' for each season, thereby giving as many people as possible the opportunity to fill this position and earn some money and gain this experience. These individuals essentially served as the 'points of contact' for the project with the association. They would communicate to members about upcoming events or visits by the project. These were the people reached by project agronomists to inform people of the coming of the evaluation team, for example, so that members of associations could come together for our visit.

Unfortunately, the Rwanda DAP did not actually see these contact farmers as a means through which to provide training within the association or community. This probably represents a missed opportunity. In World Vision's DAP in Uganda, the project selects leading, innovative farmers (early adopters) who are named 'contact farmers' and who become the key links through which training within the community is channeled. Here, contact farmers remain as such for many years. Each contact farmer in WV's Uganda DAP is identified with 15 other farmers in the community to whom the contact farmer is responsible to pass along training messages (each of these 15 farmers also must identify 5 farmers with whom they interact). Each contact farmer is responsible for leading demonstration trials of improved agricultural practices (new varieties, improved cultivation techniques, etc.) assisted by project agronomists, and brings in farmers to observe these demonstration trials. In Uganda, these contact farmers are not paid positions, thought they receive project training and 'free' inputs for their demonstration trials. In the Uganda IDEA project, contact farmers like these became 'private sector extension agents' and 'stockists' selling agricultural inputs within their own communities. This system, when observed by this consultant in Uganda, was remarkable in its success and in passing information through rural communities. Contact

[37] At some project locations, they said they retained contact farmers for one full year (Gikongoro). Payment was 16,000 Rwanda francs (about $32) per month.

farmers become the nucleus for other private sector ventures, such as input stockists – selling inputs to their neighbors who have seen the value of these upon their neighbor's demonstration plots and personal fields. World Vision Rwanda might consider sending some of its own agronomists to neighboring Uganda's World Vision DAP to learn from their experience there.

Marketing Associations

A number of excellent initiatives have been undertaken to help especially enterprising associations to better organize themselves for the marketplace. Ultimately, this is World Vision's goal for all associations, but during these first few years attention has been given to helping a select number of particularly promising groups. This focus has been important because the experience gained will help in expanding these efforts in the next DAP. Special thought will need to be given in DAP 2 to look at the spatial distribution and cost/benefits of associations seeking to establish commercial ventures which may be in direct competition with other World Vision supported associations nearby (e.g. two neighboring associations hoping to purchase local grain commodities for resale).

Through the ACDI/VOCA small grants program, nine such associations have been assisted to pursue their own special dreams for commerce. In one case this has meant stocking and sale of Irish potatoes (cf. Annex 5, Photo 21); in other cases this has meant the simple purchasing of available food commodities at harvest (beans, corn, sorghum) for resale a few months later as prices climb. These groups have diversified by purchasing their own grain mills, thereby adding value to a product that is sold within the local markets. Some groups have seen multiplication of improved seed varieties as a profitable venture, and partnered with another association for the sale of these within neighboring communities.

One association (Duterimbere) in Gikongoro Province, of 23 members (14 women, 9 men), through an initial loan, combined with their own resources, has managed to purchase their own grain mill, with an adjacent small store for simple household needed commodities, and a small storage building for marketing the produce from their fields (and additional grain purchased from neighbors)(cf. Annex 5, Photos 22-24). They have also benefited from 10 hectares of bench terraces constructed upon their individual fields, with one 2 hectare site reserved as the 'association's plot'. Sales from this plot have helped to finance other activities. They now have expanded to rent 7 additional hectares of land for crop production (land was terraced as well). This group has been able to obtain small animals for most of the members, with the balance soon to receive their own from the first young born to the female goats purchased. Every woman in the group has a cow, providing milk for the household; some milk is being also sold and helps to provide for the school fees of their children. Each member today has a personal back account in their own name, and an account in the group's name. Each member has even taken out a simple life insurance policy on themselves. They also are members of UNICOOPAGI cooperative in Gikongoro from which they are able to obtain some of the fertilizer and other inputs they need for their crop production needs.

UNICOOPAGI was first established in 1991 and was again launched after the 1994 genocide. Its major purpose is to provide agricultural inputs for association members in Gikongoro Province. A large number, if not all, Gikongoro associations assisted by World Vision belong to this union of associations. They have established nine zones within the Province for decentralization of inputs to facilitate farmer's access to these. During the last agricultural season (Season A), UNICOOPAGI purchased and sold 100 tons of NPK (urea), 200 tons of lime, 1 ton of pesticide (for Irish potatoes), 30 tons of seed potatoes (had wanted 100 tons but couldn't find enough), 20 tons of improved wheat seed, 1 ton of improved maize, and ½ ton of climbing bean seed. The evaluation team met the president, Vedaste Mboneye,[38] and Céline Mukamama of this group, and was impressed with the obvious ambition and energy of the group. One of

[38] Mr. Mboneye is also the president of one of the marketing group associations supported by World Vision – which focuses on sale of potatoes.

their major constraints is that the demand by association members for inputs far exceeds their ability to provide. They have not been able to get a bank to provide them with up-front credit to purchase the inputs, with repayment when farmers complete their harvests during the season in question. Nor will the Kigali input suppliers advance credit over the 6 months of the agricultural season – they want cash for product. With several USAID supported programs working in this area (World Vision, PEARL, ACDI/VOCA), combined efforts should be able to encourage some innovative thinking on the part of local banks to take advantage of this marketing opportunity in the interests of long term sustainability.

Why should World Vision Rwanda be in the business of attempting to provide fertilizers to some of their associations in Gikongoro ($45,000 last year) when there is already a local private sector organization like UNICOOPAGI trying to do the same thing for many of these same farmers? World Vision might consider helping particularly enterprising 'model farmers' in this region, who might be interested to become 'stockists' in their immediate communities, to become linked to some of these district and regional input suppliers. Farmer stockists could be trained and supported by World Vision Rwanda to demonstrate the use and application of recommended packages of inputs for key crops like corn and beans on their own terraced fields. Good results on these privately operated demonstration plots may encourage the stockist's association partners and other neighbors to purchase their inputs from him or her. World Vision could actively help create and support such linkages for a couple years and help promote a sustainable system for input delivery to farmers.

Wheat has been an important 'improved variety' crop encouraged and distributed by World Vision in Gikongoro and Butare Provinces. It is part of a crop rotation upon the bench terraces that includes climbing beans and Irish potatoes. Construction of a large wheat mill is being completed in this province. During the evaluation team's visit, the owner of this mill (Mr. Kabandana Venant) met with the World Vision members of the team seeking a letter from World Vision to the lending bank, providing some statistics on the hectares of potential wheat fields available within the Province, based on the bench terraces completed over the past few years. Results were that bench terraces that are already potentially available could keep the mill in full-capacity operation for 9 months of the year. Completion of this mill will have important implications for increased economic activity in this region, and is not expected to negatively impact the many small grain mills encouraged by World Vision for local consumption needs.

5.4 Issues of Improved Varieties, Agricultural Inputs, Crop Production, & Post-Harvest Care

World Vision has been providing to some of its associations within its four provinces of program implementation the improved seed and agricultural inputs (fertilizers) the farmers need to improve the production capacity of crops cultivated on the bench terraces constructed. It is true that such terraces, during the first year particularly after their creation, possess very low fertility and low organic matter. This is simply soil dug out of the slope of the steep hillsides – and is certainly not 'top soil' as such. Farmers do need such inputs if they are to accelerate the usefulness of these bench terraces. They actually need them on progressive terraces as well. The **manner** in which such inputs reach farmers however is not sustainable and may actually impede the development of a private sector in this area.

DAP project agronomists, when asked where, in retrospect, 'more attention' might have been placed by the project for its activities, cited the following:

- More attention on those benefiting from bench terraces and their training
- Increasing the productivity of the bench terraces (since it takes 2-3 seasons to produce crops following the bench terrace construction work)
- Not enough money was budgeted for the 'valorization' of the land of farmers with bench terraces
- Intensified training of farmers and study trips for them
- Credit for animals

The above points are each important lessons learned through the years of field experience of program personnel most closely associated with farmers. They need to be taken very seriously in future efforts in these regions.

What has yet to take place, if World Vision Rwanda's efforts in helping farmers associations to become commercially active are to be ultimately sustainable, is linking these groups to wider markets, both in Rwanda and outside the country as well. Availability of inputs (not just seed) is critical. Rwanda's private sector for importing and distributing inputs to Rwanda's farmers is very weak. Associations need to create links with reliable input importers and future efforts of World Vision within these provinces should not only help identify such possibilities and create linkages, but to also find resources to help make such linkages possible. Partnering with ACDI/VOCA, ATDT, and groups like UNICOOPAGI may be where to begin to extend this process. Other avenues need to be explored as well – particularly with potential input supplier outside the country – perhaps in Uganda or Kenya. The Kenya Seed Service, a private sector firm, is reportedly seeking to establish itself within Rwanda. Ugandan private seed and input companies such as FICA Seeds or Nalweyuo Seed Company (NASECO) should also be considered as potential future partners. As a member of COMESA, current efforts to facilitate cross-border trade and movement of such items as seed materials should be of direct interest to Rwandan production associations. World Vision Rwanda's DAP Manager may wish to seek partnerships that would help associations take advantage quickly of commercial opportunities as they develop.

In discussions with the Director of Rwanda's National Seed Service, there appears to be a willingness on the part of the government to encourage the development of private input suppliers within the country – including the acquisition and multiplication of improved varieties of seed. While the National Seed Service sees its principal role as continuing in the provision of First Generation certified seed, even here one might anticipate changes as seed companies become established. Recent COMESA regional meetings have included discussions on how to facilitate cross-border trade in improved seed materials – from Uganda and Kenya for example. World Vision Rwanda might be proactive, for the benefit of their hundreds of associations – some of whom could be ideal seed multiplications players – in meeting with such private sector firms to seek innovative new ways of collaboration. With its hundreds of collaborating associations and thousands of farmers with bench terraces, World Vision Rwanda's beneficiary population represents an important client base for any serious private sector enterprise seeking to sell agricultural inputs.

The evaluation team met with a number of associations already actively engaged in seed multiplication. One group, with 23 members (Abarimbabahimguye) has set aside 2.5 hectares for seed multiplication and sales (maize, beans, Irish potatoes). Yet such associations will need technical assistance in acquiring the best seed material available, and in replacing it every couple of years. Otherwise, through cross pollination, improved seed will quickly become simply like the rest of the locally available seed materials. Ideally, farmers should be encouraged to replenish with improved seed from seed companies some percentage of their seed materials each year – perhaps as much as 25% of their needs - so as to maintain the quality of their stock. Excellent seed is ultimately the least expensive and perhaps the most valuable input farmers should consider each season. It would be a mistake for World Vision Rwanda to help farmers believe they can eventually grow their own improved seed each year; or not to keep purchasing some new improved seed each year. Many association members, with their bench terraces, have great potential to become small commercial farmers, and such farmers need to be also focused on continual acquisition of improved seed.

ADRI is an association, created in 2002, with 15 members (8 women, 7 men). With at least 15 hectares already terraced, this Ruhengeri Province group seeks to commercialize agricultural commodities coming not only from its own fields, but by purchasing maize, beans, sorghum from others in the sub-region. They have been assisted by World Vision in acquiring storage facilities for their business and training in post-harvest care of these commodities. Last season (Season A of 2003) they purchased 14 tons of grain and sold this at a profit, repaying most of their ACDI/VOCA loan administered by World Vision. What

did they do with their gains? Some of money was distributed for the personal needs of members. They purchased a heifer that has already given a calf. Calves will be distributed to members until everyone has their own. ADRI consciously decided not to get involved in seed multiplication of improved varieties, but would purchase such seed from a group of eleven other World Vision associations nearby who have 2.5 hectares under seed multiplication this year. They would then resell this improved seed within the region. At this point, we found that they were not expecting to sell such seed at a significantly higher price than 'regular' seed material available in the market place. However, this is their first year, and experience and further training support by the project will help them become more profit focused.

5.5 Food for Work (FfW)

World Vision Rwanda's Title II DAP FfW activities had a clear focus: *Bringing people to work with FfW enables them to invest by creating an asset (productive bench terraces) for their future food security*. As soon as the asset is achieved, food is stopped and other forms of technical assistance on the land commences. The project more than exceeded its LOA target of 2,500 bench terraces by completing 2,878 hectares! In doing so, 12,988 metric tons of corn, 6,601 metric tons of beans, and 959 metric tons of oil were distributed through the FfW program activities (cf. Table 2).

World Vision Rwanda had had experience in managing large scale Food for Work activities linked to the construction of bench terraces in prior projects within the Gikongoro Province. Channeling large quantities of food assistance in the form of corn, beans, and vegetable oil was quite clearly one of the most visible and locally popular activities of the DAP in all regions.

Food commodities have to be ordered by World Vision long before they need to be actually distributed – based on projected needs determined by the number of hectares of bench terraces that would be constructed in the provinces. World Vision established, throughout the target provinces, well-known norms for their food distribution. It would take 91 workers 22 days to complete one hectare of bench terraces. One person, working for these 22 days, would be entitled to 50 kg. of corn, 25 kg. of beans, and 3.7 kg. of vegetable oil. Knowing the number of targeted hectares of bench terraces planned, an order could be made for the needed commodities. Special pamphlets detailing these norms, translated into the local language, were made available for distribution to all interested (c.f. Annex 14 for these pamphlets). When the work had been satisfactorily completed for the one-hectare units, each of the 91 people (whose lists had been compiled before establishing the contract agreement with each concerned association) would receive the designated commodities.

The World Vision Commodity Team, led in the past few years by a very competent logistics and planning coordinator, Mr. Debebe Dawit, saw to it that the programmed food stocks of maize, beans, and oil were available and arrived at determined dates within the provinces and communes. With a 'mountain' of food coming, the World Vision Agricultural Production Team agronomists, as well as commodity team food monitors, had to 'get the word out' within their communities of responsibility about the availability of this food as a 'payment help' for associations wishing to construct bench terraces. Annex 13 shows a recent DAP project memo, dated April 20, 2004, and sent out by the DAP Manager to 'all Agronomist and Commodity Team'. The memo, entitled "Terracing of Additional 140 hectares in Butare, Byumba, and Ruhengeri Provinces" communicates about an *'urgent issue to be completed by June 30, 2004'*. Site selection for a specified number of hectares would need to be completed by the end of April, recruitment (of 91 people per hectare) and (bench) terracing completed by the first week in May, food distribution completed by June 2004 and *'the commodity team needs to preposition the required commodity in the provincial warehouses by the end of May 2004'*. All project realized 2,876 terraced hectares followed a similar pace.

The Food for Work aspect of the DAP was the principal driver of the project – linked to the construction of bench terraces - around which most other program actions revolved.

In 2000, the DAP Commodity Manager had ordered the first shipments of Food for Work, based on the amounts specified in the initial project document. These arrived, after initial difficulties and delays, but ended up having to be stored at considerable expense because the Agricultural Production team and program was not yet in place within the Provinces.[39] It was not until November 2001 that the field program got underway. By this time, a new order for the next year's needs of commodities had been placed, so the pipeline was full, and warehouses were also full. This placed tremendous pressure upon the Agricultural Production Team to begin identifying associations interested in having bench terraces constructed upon their land. To 'catch up' on realization of the needed hectares of bench terraces – and to draw down the accumulating tons of commodities in warehouses - an enormous effort was made by the field teams to identify and undertake bench terracing construction projects (see Figure 2, Year 2 – September 2001 through August 2002). In this one year, 815 hectares of terraces, involving 86,366 working people and food recipients were constructed (cf. Table 2). The project was on schedule for set targets.

However, there was not much time for other anticipated activities. The project objective to promote the development of progressive terraces in Butare Province was largely abandoned as an approach. The key reason for this was because one could not easily identify large enough tracks of land, and engage large enough numbers of people, to meet the Food for Work commodity distribution goals. Also, during the second year of 'the big push', many large tracks of land were developed with terraces that would not perhaps otherwise have been developed – because they were located at some distance from association member's residences. Placing agricultural production upon them would have limited results because of the difficulty of field management (protection from bird damage, or stealing of produce). Some such terraced fields were abandoned or not developed as a result (cf. Annex 5, Photo 19). Furthermore, to initiate productive activities on bench terraced lands, organic and other fertilizers need to be included to realize any production, and the project had few resources for this purpose in Year 2.

Because of the demand for the construction of additional bench terraces by associations, the pace of construction continued into the third year, completing a further 1134 hectares by the end of the second season B in July 2003. [40] It was not until after this 'big push to catch up' that the project agronomists could ease back and consider a more manageable plan of terraces and food distribution, which would *also* permit them to begin to help farmers benefiting from such terraces to receive project sponsored training and inputs, including seeds, to raise the productivity of these soils. And, greater attention began to be given to focusing on land near the residences of association members requesting such assistance. Such activities began in earnest by Year 3 of the project (cf. Figure 2), and have continued into the current and last Year 4.

Associations receiving FfW assistance ranged in membership from 4 or 5 members to as many as 70 – though most had between 15-20 members, men and women. Many of these associations existed before the coming of the World Vision team into their areas. Other people organized themselves into 'groups' for the purpose of benefiting from the program. The process followed by an association is illustrated below.

[39] This situation was beyond World Vision's control. Expected funding from the monetization of commodities (by ACDI/VOCA) did not become available until the end of the first year of the project, and only half the expected amounts were available in the second year. Therefore it was not possible for World Vision to begin recruiting its field staff until these funds were available.

[40] Demand for construction of bench terraces greatly exceeded availability of FfW commodities to 'pay' for them, or of time for project agronomists and food monitors to manage. Certainly one important reason for this 'demand' was because of the food commodities being provided.

***World Vision Rwanda FFW Process and Documentation Flow*[41]**

Each year, World Vision Rwanda sets out a plan for the number of hectares of bench terraces that should be constructed in each Province, divided by Commune. With this information in hand, the commodities coordinator can begin to order the needed commodities for this number of terraces, and the field staff can begin to identify and encourage farmer's associations to apply towards the allotment of planned terraces.

PROJECT REQUEST

- Farmers' associations complete a "Project Request Form" and submit it to a local World Vision Rwanda office (at province level) requesting support for the construction of bench / radical terraces.

SITE SELECTION

- World Vision agronomist and food monitors work with the farmers' associations and CDC to verify and review the selected sites. They verify that the site meets the qualifications for the program, did not have land tenure issues, and was not planned for some other community purpose. Usually land making up these 1 hectare (or greater) units consisted of consolidated plots of the different members of the association. Some of the land may have been rented from an absent landowner – or perhaps even purchased for the group's use. If the land qualifies for bench terraces, the request would be signed by both the association and the DAP project, with a list of names of each member, and information about each (sex).

RECRUITMENT, TARGETING REGISTRATION

- World Vision agronomist and food monitors then work with the associations in the recruitment of FfW participants. Announcements are made about when and where recruitment will take place. (cf. Annex 5, Photos 2 & 3 for one such recruitment drive to fill slots for construction of 4 hectares in Ruhengeri). This process, while including the association members themselves, gives first priority to people who are in need of food aid assistance – women with children in need, widows, the elderly, poor landless people, followed by other able bodied workers, men and women. It would be possible to permit particularly needy households to have even two members (if physically able to perform such work) to be selected among the 91 chosen. For each 1 hectare 'project', a formal list is prepared of 91 people.

TERRACING STARTS

- FfW participants are then grouped in teams, each team of 20 people including a team leader whose job is to keep teem records such as: the FfW attendance register and control. For a 1 hectare site, the group of 91 individuals are sub-divided into 4 work teams of 20 each, and a fifth work team of 11 people (cf. Annex 5, Photos 4-12). Terracing would then start on an agreed upon date and continue until done. Commodity food monitors monitor daily work to be sure that each person registered are physically present, or that the registered worker has sent a substitute person to fill his or her place that day.

MEASUREMENT

- Agronomists measure the complete bench terraces to confirm the successful completion of the project area. A Project Completion Certificate is filled out by the agronomist and signed by the food monitor and association president.

DISTRIBUTION

- After completion of the project, food monitors reconfirm the amount of food due each project. Food is then delivered to distribution centers and the workers show up to claim their corn, beans, and oil, and sign for it by placing their thumbprint as a signature of having received their payment.

[41] The two sections below were partially written by Debebe Dawit, DAP Commodities Manager.

The process above is illustrated in Annex 10 through a series of the forms prepared and completed by both project food monitors and agronomists.

Any one association might actually have had 1.5 hectares, or 4 hectares, or 15 hectares of land that they wished to terrace. The CDC, along with the DAP project, would determine the merits of each case and might indeed decide to support the 15 hectares. However, these would be done in 15 separately prepared contracts over a period of a year or more – in manageable 'bites'. To reduce the number of separate contracts, the project developed a timesaving remedy in cases where hectares for a given association exceeded 5 hectares. One contract for 5 hectares would be formally agreed to, but then in the execution of the work itself, 1 hectare 'slices' were taken for construction monitoring and food distribution purposes. Every effort was made to include as many **different** people, particularly needy people, in the construction teams.

The demand for support in the construction of the bench terraces far surpassed the ability of World Vision to respond to all requests, and choices did have to be made. And there did not appear to by any difficulty in finding more than enough workers for the construction teams. The DAP FfW assistance provided over these past four years has been very important to helping these communities to get back on their feet economically. This is true not only because of the food assistance received by the 91 member work groups per hectare, but because households with the land acquired a very valuable land resource capable of significantly higher yields long into the future, if properly developed and maintained. Also food commodities received by the needy was often more than enough to maintain their households for six months or more (without other food inputs).

Over the course of the past four years, World Vision Rwanda has reported working with 407 associations with 10,451 members (4,869 men, 5,582 women) to greatly enhance their future agricultural productive capacities (cf. Table 2). In the course of doing this, World Vision Rwanda also noted that it has been able to assist an estimated 295,554 people with their household food needs. World Vision has estimated that each of these people provide for the food needs of their households, with an average of 5 persons/household, which would suggest that some 1,477,770 men, women, and children have been impacted by this program over the past four years. However, some care must be used in citing these figures.

These figures do not actually represent *different* people. An association of 22 members with 18 hectares would be involved in 18 separate contracts and 18 separate 'work teams' of 91 people each spread out over two or three agricultural seasons. Any one person could be involved on a number of such construction teams over the course of this time. And any one household could have one, two, or more individuals so engaged. This also means that the Food for Work commodities they could potentially bring home in any one year could be significantly more than household food resource needs during an entire agricultural season. In field interviews with farmer association members in each of the four provinces, the consultant always asked different members how often they had benefited personally from FfW commodities. Members usually had worked on several teams, benefiting multiple times, 5 – 6 – 7 times were not unusual, and some had done so as often as 15 and 17 times. Furthermore, in field interviews with work teams constructing bench terraces, those working came from four types of people:

(1) Members of the association upon whose land the work was being performed (Note: not all association members worked on the terracing);
(2) Members of other associations receiving WV FFW on bench terrace work within the neighborhood;
(3) Spouses or another family member related to the member registered with the association upon whose land the work was being done. (Note: there were rarely more than two people per household officially registered for the work on the same construction crew. In most cases, a

husband might have 'registered' to work, but rotated with his wife or other family member during some of the 22 days required to complete work on one hectare of terraces.);

(4) And, non-association members representing less fortunate community residents, the landless, widows, and the poor.

From the data recorded concerning those performing work on the bench terraces and receiving FfW commodities, it was not possible to know how many of each category of people was represented in the work teams. Almost everyone asked on the work teams had worked several times with other teams during the course of the past few years. Therefore, a more realistic figure of actual people provided direct support through either the terraces themselves, or through the FFW commodities received as part of the work teams, plus up to 5 household members linked to these people, would be about 25% of the figures above – perhaps some 367,000 people. This is still a significant figure.

Timing of food distribution was often intentionally set for periods when food resources would be more limited (e.g. not at the ends of cropping seasons), thereby also reducing the possibility of Food for Work commodities arriving on to the local market (though this certainly did happen, and is **not** considered necessarily a bad thing – permitting households some choice in meeting their pressing economic needs).

Title II DAP Food Aid Intervention Orientations

World Vision Rwanda has critically thought through both the positive and potentially negative impacts of FfW interventions and developed a series of positions on this subject, listed below:

(1) WVR Title II DAP critically looks at who are the poor / hungry within the community and how their food insecurity might hinder their ability to participate in the development process.
(2) Most WV development measures are designed to foster mainstream economic growth. But poor people are least likely to gain access to these development activities and participate in the growth that they foster. If they benefit at all, they benefit from secondary effects much later.
(3) By combining FfW activities with development, World Vision Rwanda is able to provide help with immediate food needs and gain a lasting benefit for food insecure households. Food aid used this way allows people to reach out and participate in development opportunities, leading to broad-based growth and improving food security.
(4) By combining FfW activities with development, help is provided for the immediate food needs of households, providing a lasting benefit for the food insecure households.
(5) World Vision Rwanda's Title II DAP FfW challenge is to include the poor in the development process so that they are not left out. To do so, WV Rwanda's DAP has been able to design special interventions at their level which meets their needs. For example, terraces contribute to the control of soil erosion and are very effective in soil conservation. Because most of these poor people depend on subsistence agriculture, the land (the soil) is their most valuable asset. Terraces combined with new farming methods and appropriate technologies will definitely contribute to the food security of household. However, two things hinder resource poor farmers from taking action. One is the amount of labor involved to create bench terraces, and the other is that these people need food to be able to work and also to be able to feed their families. FfW meets this issue directly.
(6) Food aid represents a tool to enabling poor, food-insecure people to participate in the broad process of development.
(7) Title II food in the Development Assistance Program is a form of assistance that meets one of the most basic needs of poor families who typically devote 60 to 70% of their income to food.
(8) Food is essential to health, growth and productivity. Nothing can replace food. The prospects of food security in a few years cannot compensate for inadequate nutrition today.
(9) Well-targeted Title II DAP food aid interventions represent a fast track for the poor to economic security. It reaches communities directly and immediately, faster than any other form of

assistance, providing help until the benefits of economic growth and productivity can relieve food insecurity.

(10) World Vision Rwanda's Title II DAP experience has shown that effective use of food aid does involve building on these features. It is the assistance of choice when and where inadequate food consumption threatens the health and productivity of poor households. It is also an appropriate resource to bring immediate help while poor people await the benefits from investments – such as bench terraces or use of inputs - created through agricultural development.

5.6 Environmental Issues

The project's focus on the construction of bench terraces has permitted the development of the most environmentally friendly forms of terraces possible – greatly reducing the speed of water run-off from slopes and permitting the development of higher agricultural production in an environmentally safer manner. Bench terraces also greatly enhances infiltration of rain water into the ground, thereby watering both crop production and trees, and increasing the flow of springs further down these hill and mountainsides.

World Vision has been careful in promoting the use of chemical fertilizers and was one of the major supporters of the "Pesticide Evaluation Report and Safer Use Action Plan for Rwanda Crop Production and Commodity Protection (PERSUAP)" study. This study has clarified for World Vision and others the kinds of pesticides that can be safely used among small farmers without negative environmental impacts.

World Vision might wish, in the future, to consider the use of zero tillage, where RoundUp herbicides are employed. RoundUP herbicides are environmentally friendly, quickly breakdown after application, and are increasingly supported by USAID in small farmer programs in neighboring Uganda. Zero tillage permits direct planting of major crops such as maize, sorghum, and beans onto slopes without breaking the soils and pre-planting weeding. This technique, used on slopes, again greatly reduces water run-off, and in time permits the development of a soil structure that holds less crop diseases. Organic buildup within these soils also increases soil fertility over time.

5.7 Gender Issues

The World Vision DAP has kept the gender issue in the forefront of all their activities, and most data acquisition consistently includes data on gender. A few examples will illustrate this point.

Among the 407 associations worked with by the project during the past four years, the total membership of these associations (10,451) includes 5,582 women; 53% women! World Vision records for each of these associations provides the names of all of these individuals as well.

The project has made it possible to construct 2,878 hectares of bench terraces – under the control of the 407 associations and their individual members. To build these terraces, project records show 295,554 individuals were 'hired' to do the work, paid through FfW commodities. Of these workers, project documents show the names of each person, including 159,641 women (54% of total documented workers). Based on observations in the field, it is likely that there actually many more women than this who actually performed the labor of building the terraces – taking the place of their husbands who were the 'official' persons documented.

World Vision encouraged women to form their own associations, and many of the 407 associations worked with were predominantly women; others were predominantly men.

5.8 Financial Management & Monetization Issues

The lack of receipt of the approved budget from monetization of commodities during the first two years of this DAP had long-reaching effects on implementation during the remaining two years of the project. Table 4 below illustrates the USAID approved budget from monetization funding through the life of the project and what was actually received, and when. Not receiving income from monetization during the first year of the project (FY 00), and only half of the anticipated income for FY 01, made it impossible for World Vision Rwanda to begin to hire needed staff for program implementation, and delayed this hiring and program buildup into the third FY of the project. That World Vision Rwanda was able to begin implementation at all during the second FY, and to finally achieve the significant results they did by the end of the project is a clear testament to the importance World Vision gave to this program and its willingness to use its own resources to achieve results.[42] Without this effort, farmers in the four provinces worked in would not have received any where near the support and benefits actually achieved. As of the final evaluation, monetization funding was still behind by $1,331,192.

Table 4: Monetization Approved Budget VS Proceeds Received (FY 00 – 04)

Description	FY 00	FY 01	FY 02	FY 03	FY 04[43]	Total
Approved Budget	$ 243,749	$ 1,562,519	$ 1,206272	$ 943,753	$ 987,480	$ 4,943,773
Income Received	0	$839,430	$ 1,111,012	$ 783,191	$ 878,948	$ 3,612,581
% Income Received	0 %	54%	92%	83%	89%	73%
Balance	$ 243,749	$ 723,089	$ 95,260	$ 160,562	$ 108,532	$ 1,331,192

All DAP project purchases had to pass through World Vision Rwanda's national office's 'central purchasing committee', based in Kigali. This office, already faced with meeting the demands of other WV programs in Rwanda, perhaps did not always understand the urgency of timeliness for agricultural field operations. At the same time however, field personnel were not adequately aware of the monetization issues described above faced by program management, and because of this perhaps were overly critical of central office responses to needed budget support for field activities. Better communication between field staff and program central office management personnel would have been advisable.

Rwanda Umbrella Monetization Consortium

World Vision/Rwanda is a partner in the Rwanda Umbrella Monetization Consortium. ACDI/VOCA is the lead in this consortium and Catholic Relief Services is the third partner. Under the Umbrella MOU, vegetable oil in cartons of six 4-liter tins are called forward under the respective programs and stored together at ACDI/VOCA's warehouses located at the Rwandex compound in Kigali.

[42] Note: In the analysis of personnel, the project had 18 full staff, and 6 half-time staff. In project performance, it had to self-employ 53 staff. In terms of logistics, only 2 vehicles, 1 motorcycle, 1 photocopy machine, 3 computers and 3 printers were budgeted. In implementation, the project has had to increase this, and is now using 5 vehicles, bought 3 new motorcycles, 4 photocopy machines, more than 10 computers and printers, and 2 fax machines.

[43] This amount may increase during the last months of the project, as recovery of some of past funding is realized. These funds will be rolled into the new DAP.

The oil is sold in small lot tender auctions in an effort to make the commodity more available for small buyers. The lot sizes vary between 45 cartons per lot, essentially a metric ton, and 25 cartons per lot, or a half metric ton, depending on the choice of the buyer.

In FY 2003, WV imported 670 MT of bagged Hard Red Winter Wheat for monetization. ACDI/VOCA took the lead on this monetization as well and the wheat was sold to Rwanda's only operating commercial grain mill, SOTIRU, located in Ruhengeri.

Under the current DAP, ACDI/VOCA has monetized over 2,610 metric tons of vegetable oil and 670 MT of Hard Red Winter wheat on behalf of World Vision and disbursed 1,703,576,481 Rwandan francs or approximately $3,408,470. The average price per metric ton of oil has remained relatively stable throughout the DAP period at $1,000 per metric ton which generally has achieved at least 90% of actual commodity and freight costs.

5.9 Lessons Learned

(1) While by definition Food for Work (FfW) was not 'given' away 'for free', the food distributed did represent a very generous way of food distribution to thousands of marginal and food insecure households for what was not an excessive amount of work. And in most cases, the resulting bench terraces not only made more potentially productive land available in regions of land scarcity, but also have resulted in creating a very significant base for greater long-term productivity increases for the concerned households.

(2) Using FfW on association land that was at some distance from household residences of association members was shown to result in less positive results. Because of distance involved, association members have shown a tendency to abandon these fields or not provide adequate maintenance (in the case of heavy rains and resulting erosion). Also when fields were planted, members experienced greater theft of produce at time of harvest, as well as greater difficulty of protecting field crops from birds and other pests – because there was no one near by to guard the fields.

(3) Greater care was given, by household members, in caring for and maintaining bench terraces near their homes. This included adding household organic matter and manures to the land, quick repairs in case of storm damage - resulting in more rapid improvement of soil fertility and crop productivity. Because there was more likely to be someone present, field crops also enjoyed greater security and better management.

(4) For World Vision Rwanda's Title II DAP, the potential for dependency is always an issue of concern when the use of food aid is considered. However, World Vision's intention is to provide <u>support</u> and not a substitute for appropriate action on the part of the poor communities.

(5) The food aid that World Vision provides through FfW for the construction of terraces, is linked to an obligation, and through the obligation to an opportunity. Food is tied to a strict contractual obligation between the farmer associations and World Vision. For example, areas to receive bench terraces are physically measured to confirm final achievement of hectares agreed upon. However, the most successful part is the subsequent participation of the farmers in improvement upon their newly terraced land.

(6) World Vision Rwanda Title II DAP's assistance to a poor household through food commodities earned through work in the short term can enable this household to invest time or resources in a better future. This is the special part of FfW projects – allowing people to use their abilities and skills at the local village level to gain a long-term benefit.

(7) The Title II DAP FfW programs contribute to development by enabling the poor to be part of development efforts in their communities and to share in its benefits. Such programs can

therefore also fit as a pre-investment that frees up people to take up development opportunities to acquire assets such as bench terraces.

(8) World Vision Rwanda has invested a great deal of effort through farmer associations to ensure that FfW shifts focus from temporary employment to a lasting asset. At the end of each FfW project, thousands of Rwandan household are left with a sustainable and lasting asset.

(9) FfW beneficiary selection process must be fair and democratic and efforts to do so have been largely successful

(10) Delays in FfW commodity receipt impacts credibility and results.

5.10 Recommendations

(1) **Provide greater emphasis to helping farmers develop progressive terraces upon the lands around their homesteads**. Because of the cost of construction of bench terraces, it is not reasonable to expect farmers to construct these extensively upon their lands – even though some have tried to do so. Yet it is also evident that most Rwandan farmers have understood the need to terrace their hillside fields to reduce soil erosion – though few have done this adequately or completely. Greater attention needs to be given to completing the work many have already begun to do. Most need vegetative material of the kinds provided by the project along the contours for greater protection and as a forage material for household animals.

(2) **Continue to provide the opportunity to have bench terraces for households without such. However, limit this to households currently without bench terraces and limit the size of terraced fields to perhaps not more than .5 hectares per household, adjacent to their homesteads.** In this way the limited ability of World Vision to respond to demand could be better spread around, and not become a means of associations acquiring commercial scale productive means. Helping associations to do this could be a desirable objective for World Vision, but it should not be financed with Food for Work. While the start-up costs of helping such farmers is higher, such support would also have long term impact on the concerned households.

(3) **Develop a long term strategy with respect to associations already supported by DAP-1 project interventions.** ***Diversification is going to become increasingly important for these associations if they are to truly maximize their commercial prospects as well as to decrease risks*****. Build upon the DAP 1 foundation, as DAP 2 begins, of the 407 associations worked with, and 2,878 hectares of bench terraces completed**. Households associated with these associations should be among the first recipients of continued efforts in productivity improvements, new commercial opportunities, efforts to improve health and nutrition and improved governance strategies. Help these associations in identifying and building sustainable linkages to sources of needed inputs and the short term credit needed to realize this and other farming objectives. These households, with their improving bench terraces, should be partners for applied research and extension in understanding impact on productivity and economic growth, and be linked to other farmers within their communities seeking to improve their own farming systems.

(4) **Assist farmers among the associations already supported, and who already recognize the commercial advantages of bench terraces, to find some kind of medium term credit to permit them to pay for laborers to construct additional terraces, if they wish to.** This might be one area for future ACDI/VOCA credit help – though the consultant suggests that the actual funding be channeled through some kind of local credit institution, such as a bank, if at all possible. This would increase the sustainability of such an activity for the future.

(5) **Take greater advantage of the large sample size of households, among the 407 associations worked with, and 2,878 hectares of bench terraces completed, for applied research.** In the future, World Vision Rwanda should consider linking with a research institution, and even help its own agronomists grow professionally, by seeking key data that could be useful to its future programs. For example, on-farm trials that seek to determine the difference in yields between corn, beans, or potatoes grown on bench terraces could be compared with the same grown on adjacent plots without bench terraces (and planted at the same time). Or study could be made of the composition of the people actually working on the bench terraces, who they are, what they actually do with the food commodities 'earned' from the construction work, how much of the commodities are going into the local market, etc.

(6) Do not permit the pressure of delivering Food for Work commodities to drive program implementation, and if hectare goals are established bench terracing, budget adequate resources to provide at least two seasons of support for improved seed, fertilizers, and other inputs required to establish productivity on completed terraces. Most of the time of World Vision agronomists could be taken up developing and supervising and giving technical assistance to the **construction** of bench terraces. Of greater value would be helping association members increase the value of the land they have terraced by increasing the productivity of crops cultivated, and in helping to introduce better use of seed and fertilizer inputs, and the input chains needed to provide these. FfW for other activities in DAP 2, such as feeder road improvements, also need to consider resources that may be needed to help establish community systems for maintaining these, once completed. Issues of sustainability of efforts completed by FfW need to be considered carefully prior to implementation.

(7) Be more proactive in having field agronomists and food monitors seek out and identify sero-positive associations or groups within the communities being worked in to become recipients of bench terraces around and near their homesteads. In the course of this evaluation, discussions with association members brought up the fact that there were such groups in the community, but that they had not 'come forward' and made a request of World Vision to be considered for bench terraces on their land. While the reason for this is not known, it could be for social reasons of stigma. Association members frequently brought up a concern for the 'HIV/AIDS' people in their midst, the widows and orphans that were increasing, and their own limited means of helping these people. Members of the existing 407 associations with which World Vision has worked would be the first source for information in identifying sero-positive associations or groups within their communities who could be particularly targeted to receive assistance.

(8) Consider modifying World Vision Rwanda's orientation with respect to input supplies for farmers to include the following:

- No improved seed or fertilizer inputs be given by World Vision itself, even as a credit, directly to farmers.
- To provide farmers with inputs, World Vision might seek to develop local input suppliers and help support regional private sector efforts to provide inputs – in other words, to help develop sustainable market chains bringing inputs to farmers.
- Different provinces may require different approaches to achieve this.

World Vision plans for DAP 2 include helping farmers in associations to link with potential private sector suppliers; the choice of approaches to follow in accomplishing this will have long term significance.

6.0 Concluding Remarks

Did the World Vision DAP project succeed in its goal to 'improve the food security of rural households in Rwanda'? Among the thousands of households [44] benefiting from the construction of bench terraces on their land, and the subsequent assistance of the project in helping them to 'increase the value of' this land by helping them to obtain improved seeds, organic and chemical inputs on this land particularly during the first two seasons after their construction – the answer would have to be a resounding "YES". And this was particularly true when these bench terraces were constructed near the homes of the concerned families – and not far away.[45] Household and food security was most certainly increased in these locations to the extent that many have become commercially active, obtaining goats and cattle, renting more land, looking at higher value crops.

World Vision Rwanda has learned many important lessons in helping small farmer households in Rwanda towards meeting their food security needs and placing them upon the path of hope for increasing commercial success in the sale of commodities they are capable of producing with their own efforts. Much of this was made possible because they received a very valuable capital asset in the form of bench terraces capable of truly ending soil erosion upon their lands and the loss of organic and fertilizer inputs when these were attempted. Finally, even these terraces would not have been possible without the FfW commodities that permitted employment of large numbers of people to construct such terraces – an expense that would never have been possible for these small farmers within their own means. On this basis, this DAP was certainly successful in meeting its most important goals and USAID's strategic objectives for this program.

The good will and relationships established by World Vision Rwanda, through DAP-1, with local civil authorities, other private and public potential partners, and many thousands of Rwandan households, will provide an excellent foundation to build in working towards the key objectives of DAP 2.

[44] There were 10,451 members within the 407 associations worked with by this DAP project and most of these members represented different households. World Vision has estimated an average of 5 persons per household, ranging from single, widowed women led households to large husband and wife units with multiple children and other related family members.

[45] During the first years of the program, some terraces were constructed on larger portions of land at some distance from household residences. It was easier to find larger tracks of land farther away from homesteads, (where parcels are more fragmented). Furthermore, project resources permitted little, and in many cases no, subsequent assistance for agricultural inputs following completion of bench terraces. As a result, some farmers, without help with inputs, actually abandoned these bench terraces. Fortunately, there were not many of these cases.

Annex 1: Consultant Scope of Work

P O Box 1419
Kigali - Rwanda

Tel 250-585329/511772/511774
Fax 250 585327

www.wvi.org

WORLD VISION RWANDA

SCOPE OF WORK FOR THE FINAL EVALUATION OF THE DEVELOPMENT ACTIVITY PROGRAM (WVR/DAP)

1.0 Purpose

The purpose of this Scope of Work is to provide a framework for planning and conducting the Final Evaluation (FE) for World Vision Rwanda Development Activity Program (WVR/DAP), funded by the Bureau of Democracy, Conflict and Humanitarian Assistance (DCHA), Office of Food For Peace (FFP), USAID.

The Final Evaluation will use both quantitative and qualitative methods to ascertain the impact of the program. It will also assess factors that enhanced, or limited the achievements of targets. As the end point of program implementation, the FE is a useful exercise to emphasize on the results achieved and lessons learned for future programming.

All key stakeholders, including local government, World Vision, partner NGOs and other implementing partners, will have a highly participatory role in planning and implementation of the final evaluation as well as input into the final evaluation report.

2.0 Introduction

World Vision Rwanda has implemented the current USAID-funded Title II Program titled the WVR/DAP in Rwanda since February 28, 2000. Prior to WVR/DAP, WV Rwanda implemented another Title II program, the TAP Program that was a transition program from relief to development. The DAP has six months to run to end of September 2004. In accordance with grant requirements, it is now due for a final evaluation.

2.1 Brief Description of the program

As noted earlier on, the WVR/DAP operated from November 2000 and will close in September 2004. The program is operating in four Provinces of the country, which are Gikongoro and Butare in the south, and Ruhengeri and Byumba in the north.

Goals and Objectives of the program: The WVR/DAP has the following goal and objectives:

Overall Program Goal

The overall goal of the program is to "**improve the food security of Rural Households in Rwanda".**

Strategic Objectives

The following are the strategic objectives of the program. It is important to note that the objectives are directly linked to USAID Rwanda's strategic objectives.

Strategic Objective 1: Increased availability of food and household Income

The above Strategic Objective (SO) is linked to USAID Mission SO3, which seeks to "Increase Ability of Rural Families in Targeted Communities to Improve Household Food Security"

Below are the intermediate results (IR) associated with Strategic Objective 1.

IR.1.1 Increased annual yield of potato, beans and wheat.
IR.1.2 Adoption by farmers of improved cultivation techniques, bench or progressive terracing, power planting and the use of green manures.
IR.1.3: Increased participation in agricultural marketing systems

Strategic Objective 2: Strengthened capacity of local farmers' associations

The above strategic objective has three IRs:

IR 2.1 Increased involvement of farmers 'associations in market/business operations
IR.2.2 Increased training of farmers' associations in market/business operations
IR.2.3 Increased promotion of savings and credit management and operations

2.2 Key Interventions and Implementation Strategies:

The following key intervention strategies were employed in the current DAP:

- Increased soil fertility on 270 hectares of land per year by constructing bench terraces; planting *vetiver* to initiate progressive terracing and training farmers on the use of cover crops; agro-forestry species and improved composting techniques in the communes of Rwamiko (Nyaruguru District), Nyamagabe (Gikongoro Ville), Karama (Karaba District), Mudasomwa District and Nshili District (Kivu and Nshili Communes).

- Train 2000 farmers per year in the adoption of the appropriate agricultural technology commensurate with high crop yields.

- Train 2000 farmers per year in financial and agro business management.

- Construct five simple grain and tuber storage facilities per year (one in each of the communes) to be provided to farmers on credit.

- Provide credit to 2000 participant farmers per year to enable them to begin their agro business.

- Build local capacity within the farming communities at each operational site in order to enable farmers to develop and implement their own action plans that would lead to sustainable socio economic development within the community

2.3 Description of Key partners:

The WVR/DAP was implemented in partnership with the following institutions:

- The Ministry of Agricultural and Livestock
- National Agricultural Research Institute of Rwanda (ISAR)
- Local governance institutes in the area.
- International Center for Research in Agro-forestry
- Provincial Administration
- ATDT Project (USAID DA funded project to improve seed varieties used by PVOs
- ICRAF (agro-forestry - regional center based out of Kenya)

The Government ministries support the program through the provision of key staff for training farmers. Other support includes identification of appropriate sites for terracing.

National Agricultural Research Institute of Rwanda (ISAR), through SNS (National Seeds Services) provides planting materials that have been researched and found suitable for the area, as well as training materials.

The Provincial Administration makes up the local governance institutions in the area, which provide the program with security and ensure that there is overall co-ordination with other agencies in the region.

2.4 Implementation History

The WVR/DAP was approved for a start date of February 28, 2000, however implementation did not begin until November 2000. The delayed start-up of the program was largely due to the difficulty in recruiting the program manager for the program. The program was also scheduled to run until February 28, 2005, however due to shortfall in monetization proceeds, the program has been approved to close on September 30, 2004.

In view of the late start-up and early closure of the program, some of the impact targets have not been accomplished, however most of the program activities are still ongoing and expected to improve by the time the program is finally closed out in September. Some of the initial targets that were found to be highly ambitious have been changed.

2.5 Complementarity of the Program with USAID Mission and Rwanda Government Strategies and Priorities:

As noted above, the overarching strategic objective for the USAID local Mission is *to 'Increase Ability of Rural Families in Targeted Communities to Improve Household Food Security'*. The WVR/DAP fits well into this overall strategic objective as it seeks to improve food security through increased agricultural production and increased rural household incomes. These objectives are also in

line with Rwanda government's emphasis on reducing poverty through improved agricultural development.

3.0 Objectives of the Final Evaluation

The Final Evaluation will address six broad and inter-related objectives:

1. Determine the extent to which planned interventions were accomplished. Was the program effective in relation to set end-of-project targets?
2. Determine the appropriateness and relevance of program interventions in the context of livelihoods for rural Rwandan communities.
3. Determine the extent to which the program is in compliance with donor regulations.
4. Examine overall program impact among the targeted communities. Assess the appropriateness of process and impact indicators selected by the project to monitor program progress.
5. Identify program lessons learned (positive and negative) to facilitate implementation of future programs.
6. Assess whether the quantitative data obtained at the out-set of the project, at mid-term, and at the end of the project were appropriate given the kind of information needed by the project for monitoring purposes. Did such data cause any course-corrections? Would some other system have been more appropriate.

4.0 Key questions/issues to be addressed in the final evaluation

The objectives outlined above will be addressed under five specific themes namely: program design, program implementation, and quality, outcome and sustainability of specific interventions, external and internal factors and lessons learnt and recommendations.

4.1 Program design:

- How appropriate were the activities in terms of addressing the original problems and needs in the community?
- Were the indicators appropriate to the objectives?
- How reliable, or what was the quality of the monitoring and evaluation information collected during the life of the project
- To what extent were planned overall targets, staffing plan, information systems and budgets appropriate?
- What lessons were learnt?
- Recommendations for the future project design.

4.2 Program Implementation

- How appropriate were the strategies used to accomplish the planned activities?
- How appropriate were the staffing and organizational structure to the demands of program implementation? As defined and measured, did the performance indicators provide useful and reliable data on program progress and impacts?
- Was the Monitoring and Evaluation system adequate in terms of its appropriateness in measuring the indicators?
- Were the appropriate Government Departments and officials involved?

- What are the stakeholders' opinions about the nature and quality of project implementation?
- How did the project affect the environment (positive and negative), if any?
- Assess the effectiveness of the support structure for the WVR/DAP by the World Vision Rwanda office.
- Assess the communication structure in place and its effectiveness in supporting the implementation of the program.
- What lessons were learnt?
- Recommendations for the future project design
- How effective was the program in reaching women?
- What factors presented challenges/obstacles to reaching program targets (e.g. land tenure issues, labor constraints, WV senior leadership changes, etc.)?

4.3 Quality, Outcome and Sustainability of Specific Interventions

- How successful was the project in accomplishing each of the four objectives?
- How effective were the farmers' associations in carrying out program activities?
- What systems were put in place to make the farmers' associations effective in continuing program activities?
- Was there a commitment to staff capacity building?
- What is the likelihood of program impacts being sustained beyond the life of the program?
- Have there been linkages and/or subsequent support systems created for GOR, the Ministry of Agriculture and Livestock, ISAR? This should address compliance with Regulation 211.3.

4.4 External and internal factors

- Were there any un-intended benefits, or costs from program activities?"
- What measures were taken to identify and reduce the negative effects of the project, if any?
- Which internal and external factors affected the program implementation and outcomes, and how did WV respond to those factors?
- What lessons were learnt?
- Recommendations for the future project design

5.0 Proposed Evaluation Methodology

5.1 Principles

This Scope of Work describes both the quantitative survey and qualitative review.

The purpose of the quantitative survey will be to collect and analyze relevant data that will facilitate comparison of key indicators of success. For purposes of comparison, little change will be made in the survey instrument used for the mid-term evaluation. Initial results of this survey will be available to the Evaluation Team during the last days of the in-country evaluation period, and be included along with the qualitative survey results, in the final evaluation report. On the other hand, the qualitative review will focus on gathering appropriate data that will facilitate a deeper understanding of processes and approaches, perceptions and behaviors and other factors that have contributed to the achievement and/or non-achievement of objectives. Program stakeholders and partners will be interviewed individually and in groups in this process.

Participation of a wide cross-section of key stakeholders will be an essential part of the Final Evaluation including the following:

- Food Security Program beneficiaries and participants
- USAID Rwanda Mission staff

- WV Rwanda field and national office-based staff
- WVUS Program and Technical Officers
- Local government entities (particularly regional ones)
- Partner NGOs (e.g. ACDI/VOCA)

.

The Evaluation Team Leader will be responsible for describing in detail the level of participation of each stakeholder group in the Final Evaluation.

Evaluation processes will rely on proven tools and techniques such as PRA, Key Informant Interviews and case studies, where necessary. The Evaluation Team will use the following means to surface qualitative information:

- Review of existing literature;
- Meetings and discussions with relevant WVR staff, ADP representatives, relevant partner NGOs and technical institutions;
- Meetings with relevant USAID Mission staff;
- Meetings with relevant Government of Rwanda officers
- Observation of activities in the field, followed by discussions with program farmer beneficiaries (men and women) within at least two provinces
- Discussions with various DAP staff and DAP beneficiaries at the community level
- Review of quantitative survey results to assess progress against objectives;

The quantitative household survey report of the mid-term evaluation will be made available at the beginning of the qualitative survey to provide the relevant background for the evaluation. Final results from the final quantitative survey evaluation will be incorporated by the senior consultant into the final report. The World Vision Field Team will administer the quantitative survey and undertake the preliminary data entry and registration. These data will be communicated by email to the senior consultant who will incorporate them into the final report, as appropriate.

5.2 Possible Information Sources

The sources of information to be consulted, as a reference, for conducting this evaluation and providing recommendations include: DAP proposal, Transfer Authorization, Baseline Survey, CSR4s from 2001 to 2003, Field Reports, Mid-term Evaluation report, the PERSUAP report and the Bellmon Analysis. USAID Rwanda will provide the senior consultant with E.T.O.A 22 CFR 211, and 22 CFR 216 upon his arrival.

6. Evaluation Team Composition and Qualifications

6.1 Proposed Evaluation Team Composition

The complexity of the program requires that team members have broad experience
not only their relevant fields but are also able to apply their expertise in a multi disciplinary environment.

Ideally, the Evaluation Team should consist of some of the following staff, in addition to the Senior Consultant Team Leader:

- Team Leader (external consultant)
- Local consultant, preferably an agricultural economist
- WVUS Food Resource Team and Technical Team members
- Local USAID Mission representative
- DAP Monitoring & Evaluation Coordinator
- DAP Agronomist/Agriculture Extension

It is expected that skills represented by the different roles of the Evaluation Team will be provided through a mixture of local and expatriate personnel. However, the Team Leader must be an expatriate.

The senior consultant team leader, and appropriate World Vision staff members, will meet in an initial orientation meeting with USAID during the first day or two of the evaluation. This will provide the external senior consultant an opportunity to meet with USAID Rwanda staff concerned with this program and to receive some orientation from them. The senior consultant will interact with USAID during the course of the evaluation to better understand USAID concerns and orientations, and will provide an end of mission summary of lessons learned and initial recommendations a few days before his departure from Rwanda. The USAID mission will be provided a draft report of the evaluation to respond to not later than May 14 (by email from the USA), and should plan to respond to the consultant by email with suggestions and new input, as needed, by no later than May 22.

6.2 Team Member Qualifications

The Evaluation Team will be led by an external consultant who will report to the DAP Manager.

The Evaluation Team Leader will be responsible for planning and organizing the evaluation and should have excellent skills in these areas. Additionally, the team Leader should have superlative writing and interpersonal communication skills, as s/he will be responsible for preparing the final evaluation report as well as enhancing cultural interaction with personnel, counterparts and community members throughout the review.

The Team Leader should have at least 15 years of rural development/food security experience as well as at least 7 years evaluation experience with food security programs, preferably in Africa. Team members should have at least 7 years Agricultural development/food security experience, preferably in Africa.

All Team members will be expected to move between various disciplines beside their own. The final report will reflect this multi-disciplinary approach by focusing on the project as an integrated whole.

6.3 Criteria for Consultant Selection

Senior staff from World Vision Rwanda and WVUS, in consultation with USAID, will select the Evaluation Team Leader and team members.

Selection of the Team Leader will be based on the following criteria:

Number	Description	Weight
1	Work experience in developing countries, preferably Africa (at least 15 years)	15
2	Strong evaluation experience with food security programs (at least 7 years)	20
3	Ability to work in a team	15
4	Communication/interpersonal skills	30
5	Total proposed consultancy cost	10
6	Ability to work and think beyond his/her own discipline	10

World Vision Rwanda will provide appropriate translation services for the team from Kinyarwanda to French.

7.0 Specific Tasks for Evaluation Team Leader

The Team Leader's role in the success of the Final Evaluation cannot be overemphasized. Listed below are specific tasks for the Evaluation Team Leader and they are intended to concisely spell out expectations:

- Team Leader: Act as team leader for the final evaluation process. Evaluation team may comprise of a local consultant, and representatives from WVUS, WVR and USAID Mission in Kigali.
- Study all project documentation: The consultant will be provided with all project documentation to facilitate his/her understanding of the Title II Program in Rwanda.
- Terms of Reference: The consultant will assist WVUS and WVR to develop a detailed Terms of Reference (including evaluation methodology) and time-line, which will guide the evaluation process. The consultant will develop the first draft and submit to WVUS to enable WVUS and WVR to provide a quick review. An initial timeline will be suggested by the consultant just prior to his arrival in Rwanda.
- Evaluation methodology: The consultant will use a combination of qualitative and quantitative evaluation methodology to ascertain the impact of the DAP. The methodologies will be shared with both WVR and WVUS.

- Field work: There will be two types of fieldwork (a) quantitative fieldwork and (b) qualitative fieldwork. The former will involve a household survey.

    - The Quantitative fieldwork will involve a household survey. In collaboration with WVUS and WV Rwanda, the consultant will review and revise, where necessary, the baseline and mid-term evaluation household survey questionnaire. Because of the need for data to be comparable to previously collected data from the earlier baseline and mid-term quantitative evaluations in 2000 & 2002, no significant changes can be expected. If revised, the questionnaire will be pre-tested before finalized.

    - The qualitative fieldwork will largely focus on using participatory evaluation methodologies to collect relevant and adequate information that accurately captures and reports on the objectives of the evaluation as outlined in the section under objectives.

    - Training of Fieldworkers: The Team Leader/consultant will train fieldworkers/enumerators on how to select households, conduct an interview, review each question on the questionnaire, ask questions and record answers, etc. Additionally, fieldworkers will be trained in key evaluation tools that will be used to carry out the evaluation process. The training will aim at ensuring that the field workers understand and record accurate and relevant information from respondents. This will be undertaken during the first week of the senior consultant's time in Rwanda and the World Vision field team will need to plan for this among their personnel.

- Data Input and Analysis: In collaboration with WVR, the Evaluation Team Leader will determine an appropriate mechanism for data input. It will be the responsibility of the WV DAP leader, with support from his field team for cleaning the data and performing the relevant data entry and out-put of tables. The consultant will provide assistance as possible during his time in-country.
- Prepare a draft evaluation report to be presented to key stakeholder, including WVR, WVUS representatives, Government of Rwanda representatives, and USAID at the end

of the in-country review. This 'debriefing report', prior to the senior consultant's departure, will focus mostly on the qualitative survey aspects of the evaluation, with input from quantitative data where possible.

- Final Report Preparation: The Team Leader will be responsible for writing the final evaluation report. S/he will prepare a draft final evaluation report and have it reviewed by WVUS, USAID, and WV Rwanda prior to the finalization of the document.

8.0 Evaluation report

A close to final draft report, written in English, will be prepared by the Team Leader and sent by email by the senior consultant, no later than May 14, to Rwanda for inputs and comments from the in-country evaluation team and USAID/Rwanda. The report should address each section of the evaluation focus. The main findings of the draft report will be presented and discussed with WVR/DAP staff, USAID and Government counterparts for their comments and inputs.

The content of the overall Evaluation report should include at minimum:

- Executive summary
- Summary of program/project objectives
- Evaluation methodology
- Results using the format breakdown described in section 4
- Discussion, including lessons learned
- Conclusions and recommendations

9.0 Process

The following are necessary to facilitate completion of the evaluation processes:

- Close collaboration with Charles Owubah (WVUS Monitoring and Evaluation Specialist), Anthony Koomson (Food Resources Officer) and Symon Nyabwengi (DAP Manager, World Vision Rwanda) to meet the objectives of the consultancy. The Consultant will expect constant feedback and communication from World Vision to ensure that the objectives are being met in a satisfactory manner. The primary point of contact for the consultant in WVUS will be Charles Owubah.

- The final evaluation report will be prepared in electronic format, using micro-soft Word, and Excel. A copy will be provided to Charles Owubah, Anthony Koomson and Symon Nyabwengi.

10. Timeline

Below is a tentative timeline for completion of the assignment. The Senior Consultant will provide a revised version of this just prior to his arrival, which will be given a final modification during first two days of work in Rwanda.

Task	Time Frame	Who is responsible
1. Review and study of relevant documentation on program 2. Review of survey instrument	April 20-26	Team Leader
Finalize questionnaire, test, and train field workers	April 27-30	Team Leader with Rwanda WV evaluation team
Field data collection by enumerators	May 3-12	DAP Staff and Enumerators, helped by local agricultural economist consultant, and by senior consultant, as needed.
Data input into appropriate database or statistical software	May 13- 18	DAP staff
Debriefing presentation on evaluation findings	May 14	Team leader/Team evaluators/USAID/WVR
Data analysis	May 24,25,26	Team Leader
Write-up of draft survey report	May 24-31	Team Leader
Qualitative data collection by evaluation team	May 6-13	Team Leader (overlaps with quantitative survey)
Draft evaluation report	May 28	Team Leader
Feedback on evaluation report	May 29 –June 12	Team Leader /WVUS/WVR
Finalize evaluation report	June 13-30	Team Leader

During the above period, the senior consultant will provide a total of 30 work days.

11. Expected Outputs

- Terms of reference/evaluation methodology to guide the evaluation process due April 20, 2004
- Draft household survey report data aggregated (into data sets, tables) by due May 22, 2004 and sent to senior consultant by email at this time for his analysis and review. This portion will be completed by the DAP Manager, with the assistance of the in-country evaluation consultant. The senior consultant will have laid out the framework for such reporting prior to his departure.
- Draft evaluation report due June 2, 2004
- An electronic copy of hard data collected with instructions on codes used for data input due June 20, 2004.
- Five copies final evaluation report to be completed by June 30, 2004.

Annex 2: Documents Consulted

(1) Recensement General de la Population et de l'Habitat Rwanda, Rapport sue Les Resultats Premiminaires, Commissionn Nationale de Recensement, Kigali, Fevrier 2003.

(2) Initial Environmental Examination for FY 99- FY 02 Development Assistance Program, World Vision International Rwanda Program, January 1999.

(3) Pesticide Evaluation Report and Safer Use Action Plan for Rwanda Crop Production and Commodity Protection (PERSUAP), Rwanda Crop Production, Prepared for USAID/Rwanda, Kigali, Abate, Senkesa, Muyango, June 17, 2003.

(4) Grant Management Packet, P.L. 480 Title II, Development Activity Proposal, Food Security Program, Rwanda, FY 2000-2004, World Vision, March 9, 2000.

(5) "Rwanda Formal Survey Report", World Vision, Rwanda, September 2002

(6) Rwanda P.L. 480 DAP Program FY 2001 Results Report & FY 2003 & 2004 Resource Request (CSRA4).

(7) Rwanda P.L. 480 DAP Program, FY 2002 Results Report and FY 2004 & 2005 Resource Request (CSR4), World Vision Inc., Rwanda, November 1, 2002.

(8) Baseline Survey for a Rapid Appraisal of The Farm Situation in Ruhengeri, Byumba, and Butare Provinces of Rwanda, DAP, Nyemba, Schuler and Mutabazi, August 2001.

(9) Rapid Appraisal of the Farm Situation in the Gikongoro Prefecture, World Vision International, Ambela, Ventimiglia, and Asante, October 2000.

(10) Development Activity Proposal for FY 00 - FY 04, World Vision Inc. Rwanda, April 30, 1999.

(11) Mid-Term Evaluation Report for the Gikongoro & Ruhengeri Provinces, World Vision Inc. (WVUS), Rwanda P.L. 480 Development Assistance Program, Gaudreau, Nyemba, Biminyamani, February 2003.

(12) Title II DAP (FY00-04); Responses to Midterm Evaluation Report, World Vision/Rwanda, September, 2003.

(13) Title II DAP, FY 2003 Results Report, October 31, 2003; includes Appendix A: Tables for Impact Indicators & Appendix B: Success Story, World Vision, US.

(14) Scope of Work for the Final Evaluation of the Development Activity Program (WVR/DA), World Vision Rwanda, April 2004.

(15) P.L. 480 Title II DAP Consortium, Rwanda Livelihood Security Program, DAP Proposal, FY 2005-2009, Resource Request Summary, World Vision, February 17, 2004

(16) World Vision Quarterly Reports from project files, Kigali, Rwanda, 2001-2004.

(17) World Vision Monthly Agricultural Field Coordinator Files, Kigali, Rwanda, Thomas Hatangima, 2001-2004.

(18) World Vision Monthly Agricultural Field Coordinator Reports sent to Agricultural Field Coordinator in Butare, Rwanda, 2001 – 2004.

(19) Rwanda Environmental Threats & Opportunities Assessment (ETOAs), Chemonics International, February 2003.

(20) USAID/Rwanda Integrated Strategic Plan (2004-2009), Vol. 1, USAID, Rwanda, January 9, 2004.

Annex 3: Individuals and Organizations Met For Purpose of Evaluation

World Vision Rwanda Staff

Kofi Hagan, World Vision Rwanda National Program Director
Symon Nyabwengi, DAP Manager, Kigali, Rwanda (3 months)
Pascal Bimenyimana, DAP Monitoring & Evaluation Coordinator, Kigali (9 years)
Debebe Dawit, Food Aid Coordinator, Commodities Manager, Kigali (3 years)
Patrick Ngenga, Global Rapid Response Team, Finance Manager
James Mathenge, Administrative Director & Financial Officer

Claude Bizimana, Agricultural Economist, Department of Economics, National University of Rwanda, Butare, Rwanda
Claude Nankam, Agronomist, World Vision USA, Washington, DC
Anthony Koomson, Food Resources Officer, Southern African Region, World Vision US, Washington, DC.

USAID/Rwanda
Andy Karas, Team Leader, Agriculture and Rural Enterprise Development, USAID Rwanda, Kigali
Safali Venant, Food Aid Manager, USAID Rwanda, Kigali

Other
Paul Delucco, ACDI/VOCA, Country Representative, Rwanda
Barry Elkin, ACDI/VOCA, Monetization Manager, Deputy Chief of Party
Innocent Uwemana, Direction of Rwanda National Seed Service, Ministry of Agriculture, Rwanda
Kwasi Ampofo, Coordinator of the Agricultural Technology Development and Transfer Project (ATDT/ISAR) (USAID funded)
Kabandana Venant, Alimentation Chez Venant, Kigali (Owner of New Wheat Flower Mill being installed in Gikongoro)
Bashir Jama, World Agroforestry Center, Regional Coordinator, ICRAF-ECA

Butare
Jean-Claude Ntizimira NGA, Commodities Assistant
Salve Gashema, Food Monitor, Commodities Program
Maliro Thaddee, DAP Farmer Associations Coordinator (Facilitator) (7 years)
Hatangimana Thomas, DAP Agricultural Coordinator, Butare, (8 years)
Senzoga, Augustin, Agronomist, Field Coordinator for Gikongoro (7 years)
Ndabamenye, T., ICRAF

Gikongoro
Innocent Nkurunziza, farmer, Abishyizehanwe Association (2.5 ha. Bench terraces, 20 members - 12 women, 8 men)
Vedaste Mboneye, President, Union des Cooperatives Agriciles de Gikongoro) UNICOOPAGI
Celiste Mukamana, Charge de l'Animiation Credit et Formation, UNICOOPAGI
Nelson Muhayimana, Head of Ministry of Agriculture Division, Gikongoro
Farmers (all women) of Duterimbere Association
Farmers (5 women, 10 men) of Abogezasuka Association
Farmers (6 men, 5 women) of Dushyigikirame Association
Celestin Mumyeipanzi, Vice-Mayor, District Economic Officer, Members of the CDC of Mudasomwa
Butera Dismas, Mayor, Mudasomwa District

Ruhengeri
Munyandamutsa J. de Bonheur, Agronomist, Field Coordinator, Ruhengeri (7 years)
N. Nsababua, Aolele, Agronomist (World Vision)
Bakunsuggiye Esion, Agronomist (World Vision)

Bahati, Elizabeth, Commodities Assistant (World Vision)
Mukandori, Veneranda, Food Monitor (World Vision)
Bisamanza, Augustin, Warehouse Supervisor (World Vision)

Abarimbabahinguye Association members (6 women, 5 men)
Dufatenezubutaka Association members
ADRI Association Members
Evaniste Mwitirehe, Mayor
Rafael Rurangwa, Provincial Director of Ministry of Agriculture, Livestock, & Forestry
Come Habimeza, Chief of Agricultural Division, Ministry of Agriculture, Livestock, & Forestry, Nyarutovu District
Pascal Kamyamibwa, Head of Livestock Division, Ministry of Agriculture, Livestock, & Forestry, Nyarutovu District

Byumba
Francoise Urayeneza, Agronomist, Agronomist, Field Coordinator, Byumba (7 years)
Abadhcogora Association members (32 women, 1 man)
Jean-Baptiste Ntahorpagaze, Director of Ministry of Agriculture, Livestock, & Forestry (DAEF)
Mayor of Bungwe District
Augustin Havugimana, Heifer International Project coordinator in Byumba

12 Field Extension Agents who helped in quantitative survey with farmers
(1) Namohoro Regine, agronome, Gikongoro
(2) Solange Mujawayezu, agronome, Gikongoro
(3) Claude Murekezi, agronome, Gikongoro
(4) Uwineza Jeanine, agronome, Gikongoro
(5) Izadukiza Eliazard, D6 Pedagogy, Ruhengeri
(6) Ntezimana Osee, agronome, Ruhengeri
(7) Mutabazi Felix, D6 Pedagogy, Ruhengeri
(8) Nizeyimana, Agronome, Rugengeri
(9) Iribagiza Jolie, Social A2, Byumba
(10) Hakizimana Fidele, Agronome, Byumba
(11) Nkusi Claudine, veterinaire A2, Byumba
(12) Uwajeneza Claudine, administration, Byumba

Annex 4: Tables from May 2004 Quantitative Survey

Synthesis of Survey Results by Province

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Sex of person interviewed	N=172	N=48	N=136	N=80
- Female	84 (48.8%)	22 (45.8%)	46 (33.8%)	25 (31.2%)
- Male	88 (51.2%)	26 (54.2%)	90 (66.2%)	55 (68.8%)
Raise animals	N=172	N=48	N=136	N=80
- yes	167 (97.1%)	41 (85.4%)	135 (99.3%)	72 (90.0%)
- no	5 (2.9%)	7 (14.6%)	1 (0.7%)	8 (10.0%)
Of those with animals:	N=167	N=41	N=135	N=72
- cows	108 (64.7%)	19 (46.3%)	110 (81.5%)	31 (43.1%)
- small ruminants	138 (82.6 %)	30 (73.2%)	98 (72.6%)	53 (73.6%)
- pigs	113 (67.7%)	18 (43.9%)	77 (57.0%)	16 (22.2%)
- chickens and rabbits	88 (52.7%)	21 (51.2%)	90 (66.7%)	48 (66.7%)
Received credit	N=172	N=48	N=136	N=80
- yes	126 (73.3%)	32 (66.7%)	79 (58.11%)	71(88.8%)
- no	46 (26.7%)	16 (33.3%)	57 (41.9%)	9 (11.2%)
If yes, credit type:	N=126	N=32	N=79	N=71
- seeds	49 (38.9%)	17 (53.1%)	18 (22.8%)	1 (1.4%)
- fertilizer	6 (4.8%)	0 (0.0%)	3 (3.8%)	0 (0.0%)
- seeds and fertilizer	72 (57.1%)	13 (40.6%)	59 (74.7%)	70 (98.6%)
- other	2 (1.6%)	0 (0.0%)	14 (17.7%)	0 (0.0%)
- pesticides	10 (7.9%)	0 (0.0%)	0 (0.0%)	4 (5.6%)
- animals	5 (4.0%)	4 (12.5%)	0 (0.0%)	0 (0.0%)
- cash	15 (11.9%)	4 (12.5%)	3 (5.6%)	4 (5.6%)
- tools	3 (2.4%)	3 ((9.4%)	2 (2.5%)	3 (4.2%)
If no, why:	N=46	N=16	N=57	N=9
- didn't need it	15 (32.9%)	4 (25.0%)	9 (15.8%)	3 (33.3%)
- didn't know where	11 (23.9%)	7 (43.8%)	16 (28.1%)	1 (11.1%)
- refused credit	4 (8.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
- other	16 (34.8%)	5 (31.3%)	33 (57.9%)	5 (55.6%)
Source of credit	N=126	N=32	N=79	N=71
- World Vision	120 (95.2%)	30 (93.8%)	78 (98.7%)	71 (100.0%)
- Other NGO	16 (12.7%)	2 (6.3%)	0 (0.0%)	0 (0.0%)
- PGERB	0 (0.0%)	1 (3.1%)	2 (2.5%)	0 (0.0%)
- Farmers Association	1 (0.8%)	0 (0.0%)	1 (1.3%)	4 (5.6%)
- Bank	4 (3.2%)	3 (9.4%)	1 (1.3%)	1 (1.4%)
- Other	9 (7.1%)	0 (0.0%)	1 (1.3%)	0 (0.0%)
Pay back	N=126	N=32	N=79	N=71
- yes	97 (77.0%)	26 (81.3%)	67 (84.8%)	50 (70.4%)
- no	29 (23.0%)	6 (18.7%)	12 (15.2%)	21 (29.6%)
If yes, form:	N=97	N=26	N=67	N=50
- cash	2 (2.1%)	2 (7.7%)	6 (9.0%)	0 (0.0%)
- kind	76 (78.4)	20 (76.9%)	57 (85.1%)	44 (88.0%)
- all of the above	19 (19.6%)	4 (15.4%)	4 (6.0%)	6 (12.0%)
If no, why:	N=29	N=6	N=12	N=21
- bad cropping season	12 (41.4%)	2 (33.3%)	6 (50.0%)	15 (71.4%)
- crop pests and diseases	2 (6.9%)	0 (0.0%)	0 (0.0%)	1 (4.8%)
- sickness	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)
- didn't come for reimbursement	5 (17.2%)	0 (0.0%)	2 (16.7%)	0 (0.0%)
- other	10 (34.5%)	4 (66.7%)	4 (33.3%)	4 (19.0%)

Use improved seed	N=172	N=48	N=136	N=80
- yes	146 (84.9%)	34 (70.8%)	124 (91.2%)	78 (97.5%)
- no	26 (15.1%)	14 (29.2%)	12 (8.8%)	2 (2.5%)
Of those using improved seed[46]:	N=146	N=34	N=124	N=78
- Irish potato	109 (74.7%)	4 (11.8%)	53 (42.7%)	68 (87.2%)
- Sweet potato	4 (2.7%)	2 (5.9%)	2 (1.6%)	0 (0.0%)
- Beans	108 (74.0%)	34 (100.0%)	116 (93.5%)	38 (48.7%)
- Wheat	107 (73.3%)	0 (0.0%)	8 (6.5%)	55 (70.5%)
- Corn	33 (22.66%)	5 (14.7%)	76 (61.3%)	21 (26.9%)
- Sorghum	2 (1.4%)	1 (2.9%)	0 (0.0%)	0 (0.0%)
- Peas	3 (2.1%)	0 (0.0%)	1 (0.8%)	0 (0.0%)
- Soya	7 (4.8%)	1 (2.9%)	2 (1.6%)	0 (0.0%)
- Other	5 (3.4%)	3 (8.8%)	1 (0.8%)	0 (0.0%)
Use chemical fertilizer	N=172	N=48	N=136	N=80
- yes	115 (66.9%)	19 (39.6%)	94 (69.1%)	74 (92.5%)
- no	57 (33.1%)	29 (60.4%)	42 (30.9%)	6 (7.5%)
Reception of chemical fertilizer	N=115	N=19	N=94	N=74
- on time	80 (69.6%)	11 (57.9%)	86 (91.5%)	73 (98.6%)
- late	35 (30.4%)	8 (42.1%)	8 (8.5%)	1 (1.4%)
Use power planting[47]	N=115	N=19	N=94	N=74
- bench terraces	87 (75.7%)	10 (52.6%)	85 (90.4%)	74 (100.0%)
- progressive terraces	38 (33.0%)	6 (31.6%)	33 (35.1%)	14 (18.9%)
- part bench/part not	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
- no terraces	1 (0.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Utilization of organic matter[48]	N=57	N=29	N=42	N=6
- compost	31 (54.4%)	20 (69.0%)	12 (28.6)	3 (50.0%)
- animal manure	52 (91.2%)	23 (79.3%)	41 (97.6)	5 (83.3%)
- green manures	13 (22.8%)	2 (6.9%)	2 (4.8%)	0 (0.0%)
- agro forestry	9 (15.8%)	3 (10.3)	6 (14.3%)	0 (0.0%)
Sell agricultural products	N=172	N=48	N=136	N=80
- yes	152 (88.4%)	29 (60.4%)	117 (86.0%)	67 (83.8%)
- no	20 (11.6%)	19 (39.6%)	19 (14.0%)	13 (16.2%)
Crop processing	N=172	N=48	N=136	N=80
- yes	73 (42.4%)	8 (16.7%)	15 (11.0%)	48 (60.0%)
- no	99 (57.6%)	37 (77.1%)	121 (89.0%)	32 (40.0%)
- don't know	0 (0.0%)	3 (6.2%)	0 (0.0%)	0 (0.0%)
If yes:	N=73	N=8	N=15	N=48
- milling	52 (71.2%)	4 (50.0%)	13 (86.7%)	27 (56.3%)
- cooking	22 (30.1%)	0 (0.0%)	1 (6.7%)	0 (0.0%)
- fermenting	37 (50.7%)	6 (75.0%)	3 (20.0%)	39 (81.3%)
- other	9 (12.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Land tenure	N= 172	N=48	N=136	N=80
- owner and registered	82 (47.7%)	23 (47.9%)	77 (56.6%)	29 (36.3%)
- tenant	3 (1.7%)	1 (2.1%)	0 (0.0%)	2 (2.5%)
- use of land	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
- all or above combined	87 (50.6%)	24 (50.0%)	59 (43.4%)	49 (61.3%)

[46] Use of improved seed: if 74.7% use Irish potato, then 25.3% do not, etc

[47] Power planting: if 75.7% apply power planting on bench terraces, then 24.3% do not, etc

[48] In case chemical fertilizer was not used; if 54.4% apply compost, 45.6% do not, etc

Average number of plots cultivated	N=172	N=48	N=136	N=80
- bench terraces				
- progressive terraces	1.38	1.10	2.07	2.44
- part terraced, part not	1.34	1.17	2.62	3.60
- no terraces	0.23	0.19	0.43	0.01
	0.82	1.27	1.58	0.45
Personal plot on the communal bench terraced land	N=172	N=48	N=136	N=80
- yes	95 (55.2%)	27 (56.25%)	67 (49.3%)	40 (50.0%)
- no	77 (44.8%)	21 (43.75%)	69 (50.7%)	40 (50.0%)
Training[49]	N=172	N=48	N=136	N=80
- power planting	135 (78.5%)	28 (58.3%)	130 (95.6%)	80 (100.0%)
- commercialization	32 (18.6%)	7 (14.6%)	12 (8.8%)	70 (87.5%)
- storage	107 (62.2%)	9 (18.8)	84 (61.8%)	78 (97.5&)
- terrace construction	141 (82.0%)	28 (58.3%)	127 (93.4%)	80 (100.0%)
- composting	126 (73.3%)	19 (39.6%)	107 (78.7%)	78 (97.5%)
- financial management	65 (37.8%)	3 (6.3%)	38 (27.9%)	72 (90.0%)
Training useful				
- power planting	135 (100.0%)	28 (100.0%)	128 (98.5%)	80 (100.0%)
- commercialization	32 (100.0%)	7 (100.0%)	12 (100.0%)	70 (100.0%)
- storage	107 (100.0%)	9 (100.0%)	69 (82.1%)	78 (100.0%)
- terrace construction	141 (100.0%)	28 (100.0%)	126 (99.2%)	80 (100.0%)
- composting	126 (100.0%)	19 (100.0%)	92 (86.0%)	78 (100.0%)
- financial management	65 (100.0%)	3 (100.0%)	35 (92.1%)	72 (100.0%)
Satisfaction of assistance	N=172	N=48	N=136	N=80
- yes	165 (95.9%)	38 (79.2%)	122 (89.7%)	80 (100.0%)
- no	7 (4.1%)	10 (20.8%)	14 (10.3%)	0 (0.0%)
Self-sufficient	N=172	N=48	N=136	N=80
- yes	68 (39.5%)	13 (27.1%)	74 (54.4%)	31 (38.8%)
- no	104 (60.5%)	35 (72.9%)	62 (45.6%)	49 (61.2%)

Marital Status and Status within Household (number, percent)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Married head of household, Male	80 (46.5%)	22 (45.8%)	82 (60.3%)	48 (60.0%)
Divorced head of household, male	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Widower head of household	0 (0.0%)	2 (4.2%)	1 (0.7%)	0 (0.0%)
Married female	61 (35.5%)	11 (22.9%)	28 (20.6%)	14 (17.5%)
Divorced head of household, female	1 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.3%)
Widow head of household	16 (9.3%)	11 (22.9%)	16 (11.8%)	8 (10.0%)
Adult 18 or older with some relationship to head of household	14 (8.1%)	2 (4.2%)	9 (6.6%)	9 (11.3%)
Total number of respondents	172 (100.0%)	48 (100.0%)	136(100.0%)	80 (100.0%)

Age of Person Interviewed (years)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average age	42.92	45.41	39.86	37.23
Standard deviation	12.50	11.97	9.90	10.23
Minimum age	19.00	21.00	19.00	20.00
Maximum age	77.00	82.00	71.00	61.00
Total number of respondents	172	48	136	80

[49] Training : if 78.5% receive training on power planting, 21.5% do not, etc

Average Size of Household (number of persons)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of persons in household	7.65	6.39	6.54	6.72
Standard deviation	2.56	2.14	2.44	2.39
Minimum	2.00	1.00	2.00	2.00
Maximum	15.00	12.00	15.00	13.00
Total number of respondents	172	48	136	80

Average Number of Persons in Household Active in Agriculture (number of persons)

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of persons active in agriculture	2.60	2.43	2.78	2.68
Standard deviation	1.01	1.07	1.44	1.41
Minimum	1.00	0.00	1.00	1.00
Maximum	7.00	5.00	9.00	7.00
Total number of respondents	172	48	136	80

Average Number of Animals Acquired During the Past 4 Years as a Direct Benefit from the World Vision DAP activities

Characteristic/Province	Gikongoro	Butare	Ruhengeri	Byumba
Average number of animals	2.50	0.50	2.16	2.07
Standard deviation	3.77	0.89	3.92	2.74
Minimum	0.00	0.00	0.00	0.00
Maximum	33.00	4.00	40.00	14.00
Total number of respondents	172	48	136	80

Annex 5: Photographs (28) of World Vision Rwanda DAP (May 2004)

Annex 6: Evaluation Daily Schedule Log

Work Days - 1	April 20	Tuesday	Document Review, Worked on Field Survey Methodology/Strategy
2	April 21	Wednesday	Document Review, Worked on Field Survey Methodology/Strategy
3	April 22	Thursday	Worked on Field Survey Methodology/Strategy, Document Review
4	April 23	Friday	Worked on Field Survey Methodology/Strategy
Travel Day 5	April 24	Saturday	Travel to Rwanda, via Amsterdam and Nairobi
Travel Day 6	**April 25**	Sunday	Travel to Rwanda, via Amsterdam and Nairobi
Work Day 7	April 26	Monday	Complete Travel to Rwanda, via Nairobi, Began Contacts with WV team, Review with Team of proposed methodology and receive comments
8	April 27	Tuesday	Entire week spent with WV field team on preparing quantitative survey instruments and needed training; Worked on Quantitative survey forms with WV field coordinators who will be involved in administering and supervision of this survey; also established calendar for qualitative survey field visits. Interviewed and made selection of local ag economist for quant. survey support.
9	April 28	Wednesday	Preparing Survey Instruments and needed training
10	April 29	Thursday	Preparing Survey Instruments and needed training'; Pre-testing of survey instrument in Ruhengeri (2 households); Met with USAID/Rwanda (Andy Karas, Safali Venant) 4 – 5:30 pm. Discussions on project administration with Simon & Pascal.
11	April 30	Friday	Preparing Survey Instruments and training of 12 field enumerators; local ag. Economist, Claude Bizimana, begins work to support quantitative team
	May 1	Saturday	Consultant work on draft report; WV field staff return to their posts within the country, ready to begin quantitative survey the following Monday.
	May 2	Sunday	
12	May 3	Monday	Quantitative Data Field Collection by World Vision Field Enumerators Begins in the Different Field Districts and Runs for next 10 days (May 3-7;10-14) with ag. Economist; Senior Consultant reviews work while in field doing qualitative survey.
13	May 4	Tuesday	Senior Consultant interviews with program partners in Kigali
14	May 5	Wednesday	Qualitative Survey work begins with interviews with stakeholders, both of partners and farmers themselves in the different districts. Started in Butare and Gikongoro Province, night in Butare Visited bench terrace and interviewed farmer; met Province Ministry Agricultural officer, Jean Bosco; Visit to WV Butare DAP office and obtained new project materials; Discussions with WV agronomists & Claude on progress of quantitative survey. Arrival of Anthony Koomson
15	May 6	Thursday	Met with three Gikongoro Province farmer associations at their bench terraces (ag. Production and commercialization) with discussions and viewing of fields; meeting with contact farmers; (Qualitative survey), met with one CDC group; night in Butare
16	May 7	Friday	Visit to PEARL project (Shilling), Visited with Maraba Mayor, visit to UNICOOPAGI marketing and input supply cooperative; return in last afternoon to Kigali
	May 8	Saturday	Consultant work on draft report; arrival of Claude Nankam;
	May 9	Sunday	Drove to Ruhengeri, Dept. at 4 pm and arrived about 6:30 pm; spent night
17	May 10	Monday	Qualitative survey work in Ruhengeri; spend night Met with enumerators and agronomists working on quantitative survey; Met men and women workers working on building bench terraces at Nyarutovu district; Met with Nyarutovu mayor; Met members of the Dufatenuzebutaka association and contact farmers in this group
18	May 11	Tuesday	Qualitative survey work in Ruhengeri (1/2 day); depart for Byumba; spend night Met ADRI Association; visited nearby association seed multiplication program; Met with workers building bench terraces in Nyarutovu, and interviewed women and men; met Mayor of Bungwe District, J.Baptiste Ntahompagaze
19	May 12	Wednesday	Qualitative survey work in Byumba; evening return to Kigali
20	May 13	Thursday	Consultant work on Draft Report; 11 – 12:30 debriefing meeting with World Vision senior DAP and WV program staff.
21	May 14	Friday	Team Leader Debriefing with USAID at 1 pm; World Vision together; **First Draft** of portions of the Qualitative Survey; lessons-learned and recommendations

			completed (but not handed out)
22	May 15	Saturday	Consultant am work on draft report, pm travel to Nairobi for return to USA
23	**May 16**	Sunday	Travel Day Return to USA
	May 17-22		Rwanda World Vision Field Team completes Quantitative Survey Data Entry, creation of aggregated data sets; Aggregated and disaggregated data sets sent by email by May 21 (Friday) to Swanson for analysis and inclusion in Final write-up.
24	May 24	Monday	Quantitative Data Study and Integration, Final write-up
25	May 25	Tuesday	Quantitative Data Study and Integration, Final write-up
26	May 26	Wednesday	Quantitative Data Study and Integration, Final write-up
27	May 27	Thursday	Quantitative Data Study and Integration, Final write-up
28	May 28	Friday	Quantitative Data Study and Integration, **Draft** Final Report Sent by Swanson to WVUS, USAID/Rwanda and WV Rwanda for Comments & Review; These comments must be sent to Swanson by email (raswanson@comcast.net)
29,30	June 13-30		Finalize Evaluation Report (after receiving comments); send hardcopy and files of Final Evaluation report to WVUS by mid June.

Annex 7: Associations Selected for Bench Terraces (Gikongoro & Ruhengeri)

Annex 8: World Vision Monthly Report (December 2003 example)

Annex 9: World Vision Quarterly Report (July-September 2003 example)

Annex 10: Commodities Documentation for Food for Work (8 pages)

(Examples tracing one association were randomly selected in Gikongoro)

(1) **Food for Work Master List (Names of 20 workers (6 men, 14 women) for Team #1);** For this association in Gikongoro, for this 1 hectare parcel of land to be converted to a bench terrace, there were 4 teams: 4 teams of 20, and 1 team of 11 members, for a total number of 91 workers.)

(2) **Attendance Register for Month of June – August 2002 for the 22 days it took to complete this one-hectare parcel**.

(3) **Food Monitor Monthly Monitoring Register for the entire 1 hectare parcel;** This form indicates that the work was completed by the 91 members of the five work team (25 men, 66 women).

(4) **Certificate signed by local World Vision Agronomist and Food Monitors that work was completed and the total amount of food commodities (corn, beans, oil) that would need to be distributed. Countersigned by World Vision Commodity Assistant.**

(5) **Distribution of Food for Work Commodities to the 91 Workers on this 1 Hectare Parcel;** This document shows the name of each worker, the 3 of dependants of each worker, and the amount of FfW commodities each received, with signature (thumbprint mark) of each as having received these commodities. Countersigned by Food Monitor and a representative of the Association for whom the work was completed.

(6) **World Vision Food Distribution Plan form;** This form shows the FfW distribution plan for the period April 27, 2004 to May 23, 2004 for Butare and Gikongoro Provinces. Shown are the number of planned beneficiaries in 7 different communes (20,930 peoplele); number of hectares of bench terraces that would have been completed for food distribution (230 hectares), and the metric tons of corn, beans, and vegetable oil to be distributed (1,647.191 metric tons total).

Annex 11: Terms of Reference for Local Rwanda Agricultural Economist (Prepared by Senior Consultant)

Purpose:
To assist the World Vision DAP final evaluation team, led by Senior Consultant, Dr. Richard Swanson, in the quantitative survey portion of the evaluation effort. Assistance will be needed for about a 11 day period, beginning April 30, and continuing one full week beyond the departure date of the Senior Consultant. Travel will be required to the field.

The consultant will be expected to use his personal laptop during the duration of the consultancy, using it to input data from the quantitative data forms.
In the implementation of the quantitative survey, the consultant will be directly responsible to the World Vision DAP M&E leader, Mr. Pascal Bamenyimana, with whom he will be working closely. Dr. Swanson will provide guidance to both Mr. Bamenyimana and the local consultant during most of the evaluation period. Together, a program of travel will be prepared.

In the field, 5 WV agronomists who have worked with the Senior Consultant in the preparation of this survey instrument will be responsible for the management and movement of the enumerators within the various Districts and Sectors. The agronomists themselves will be involved in filling out these questionnaires.

Duties:

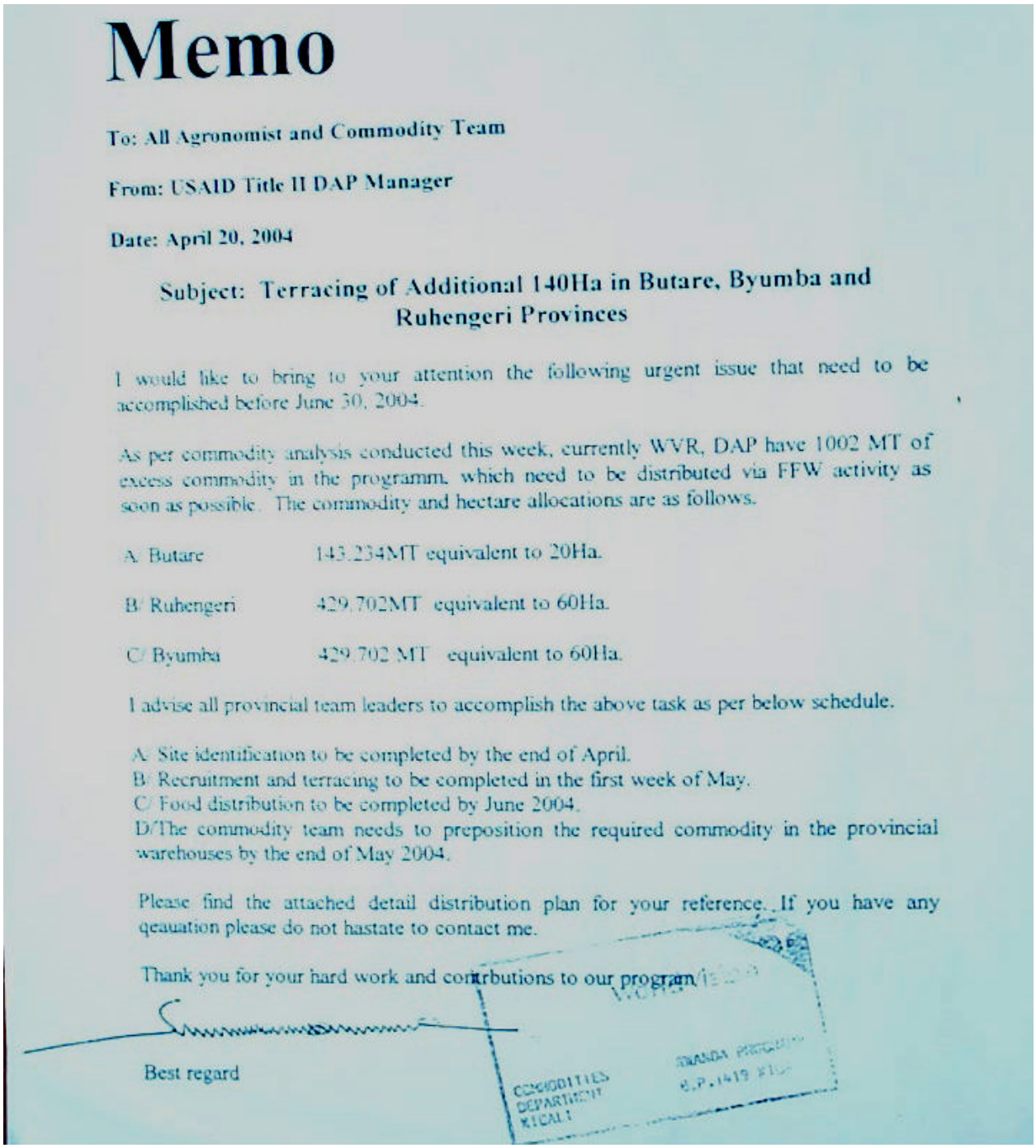
1. Travel to the field, within the four provinces of Ruhengeri, Byumba, Butare, and Gikongoro, to assist both the agronomist coordinators in these regions, and the enumerators, in the administration of the survey. Check enumerator coding of sheets.
2. Begin the data input of the survey forms during the course of the survey work. Because of the need for a quick turn-around in making the data available, it will be necessary to begin data entry in the field. This should be organized by Province, and the Excel spreadsheet format (or SPSS format) to be used will be provided by the Senior consultant. The consultant may be assisted in this effort by WV project field agronomists and the DAP M&E coordinator.
3. On an on-going basis, print out the data sheets from the data entered and verify the correctness of the data input.

Deliverables:

4. Once all data has been entered, prepare initial aggregated tables (examples from mid-term evaluation).
5. Send all Excel data files of both the raw data and the aggregated tables by email to Dr. Richard Swanson by no later than May 21 (raswanson@comcast.net).
6. Send a listing of the information given in the written comments from farmers given in the questionnaire sheets (in Word format).

Annex 12:

Figure 13: Memo from DAP Manager: "Terracing an Additional 140 Hectares"
Dated: April 20, 2004



Memo

To: All Agronomist and Commodity Team

From: USAID Title II DAP Manager

Date: April 20, 2004

Subject: Terracing of Additional 140Ha in Butare, Byumba and Ruhengeri Provinces

I would like to bring to your attention the following urgent issue that need to be accomplished before June 30, 2004.

As per commodity analysis conducted this week, currently WVR, DAP have 1002 MT of excess commodity in the programm, which need to be distributed via FFW activity as soon as possible. The commodity and hectare allocations are as follows.

A/ Butare 143.234MT equivalent to 20Ha.

B/ Ruhengeri 429.702MT equivalent to 60Ha.

C/ Byumba 429.702 MT equivalent to 60Ha.

I advise all provincial team leaders to accomplish the above task as per below schedule.

A/ Site identification to be completed by the end of April.
B/ Recruitment and terracing to be completed in the first week of May.
C/ Food distribution to be completed by June 2004.
D/The commodity team needs to preposition the required commodity in the provincial warehouses by the end of May 2004.

Please find the attached detail distribution plan for your reference. If you have any qeauation please do not hastate to contact me.

Thank you for your hard work and contributions to our program.

Best regard

World Vision Rwanda DAP, Commodities Program
Food Distribution Plan

Additional 140 ha
Period: April 15 to June 30, 04

Province	Period	Commodity	Hectares projections	Food Projected in MT
Butare	April 15 04 to June 30 04	**Corn**	20	91
		Beans		45.5
		Veg-Oil		6.734
	Sub Total			143.234
Ruhengeri	April 15 04 to June 30 04	**Corn**	60	273
		Beans		136.5
		Veg-Oil		20.202
	Sub Total			429.702
Byumba	April 15 04 to June 30 04	**Corn**	60	273
		Beans		136.5
		Veg-Oil		20.202
	Sub Total			429.702
	Grand Total		140	1002.638
	Total	**Corn**		637
		Beans		318.5
		Veg-Oil		47.138

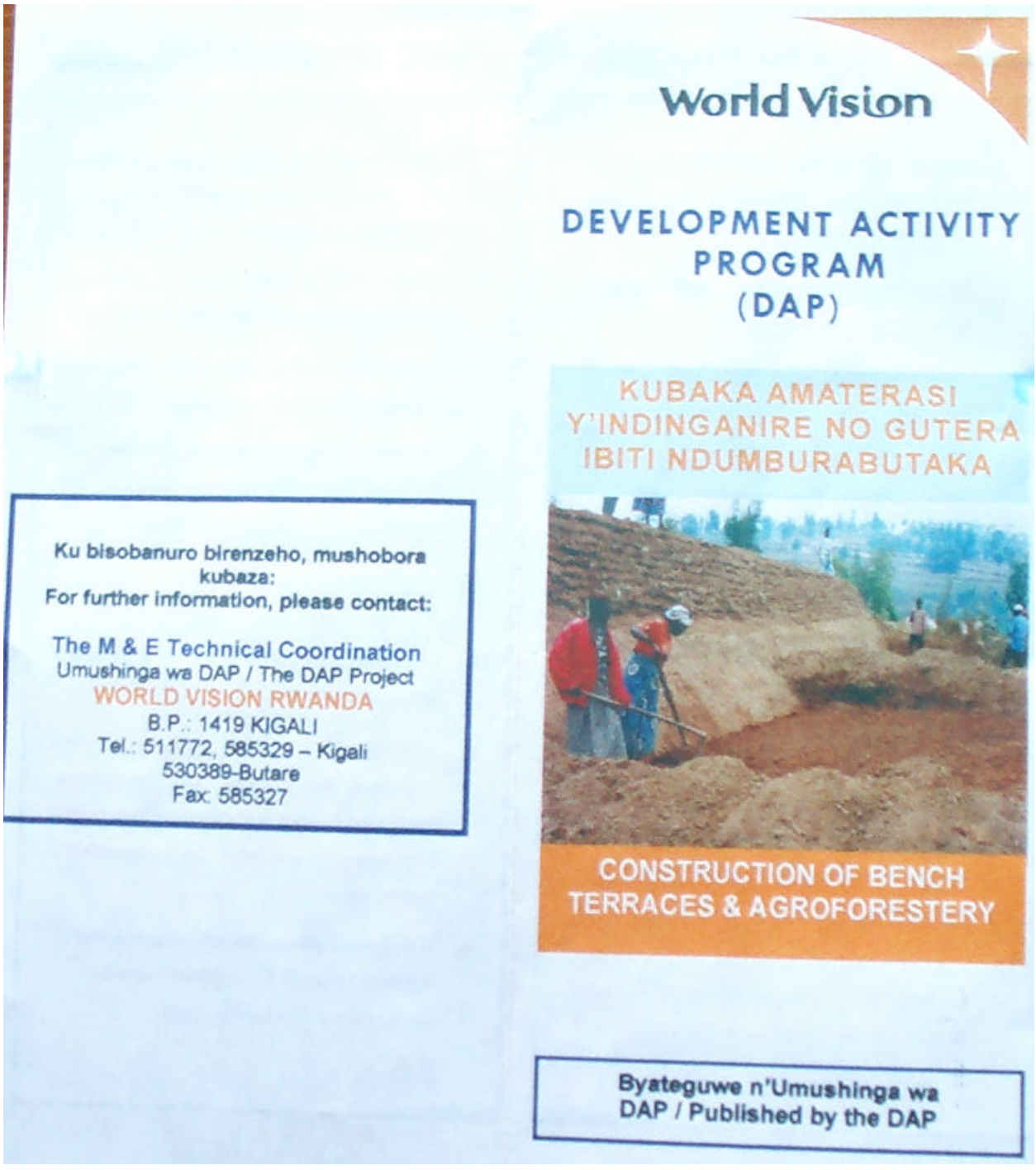
Prepared by: Senior Commodity officer

Approved by: Commodity Manager 15/04/04

Endorsed By DAP Manager

World Vision
COMMODITIES DEPARTMENT KIGALI 20/04/04 RWANDA PROGRAM

Figure 14: DAP Project Extension Pamphlets 1 & 2



HOW TO PROCEED ?

1. Dig a belt at the top of the site to protect the terraces and the non-terraced land.
2. Built access paths and stairs covered with grass.
3. Remove the top soil and put it aside.
4. Create a bench with same horizontal level from side to side.
5. Dig water retention holes between the terraces.
6. Cover up the bench with the top soil removed
7. Plant agroforestry trees like *calliandra, tephrosia, leucaena, sesbania*...and/or fodder crops like *pennissetum, setaria*...
8. Dig a second belt in the middle (when the slope is very steep) and another at the bottom.

UKO BIKORWA ?

1. Guca umukandara hejuru wo kurinda amaterasi n'ubundi butaka butubatse.
2. Guca inzira zica mu materasi n'amadaraza atwikiriwe n'ibyatsi.
3. Kuvanaho ubutaka bwo hejuru bugashyirwa ku ruhande.
4. Gukora uburinganire bw'iterasi butambitse bungana hirya no hino.
5. Gucukura ibyobo bifata amazi hagati y'amaterasi
6. Gutwikira iterasi n'ubutaka bwavanyweho mbere.
7. Gutera ibiti ku mikingo nka *calliandra, tephrosia, leucaena, sesbania*...na/cyangwa ubwatsi bw'amatungo nka *pennissetum, setaria*...
8. Kongera guca umukandara wa kabiri hagati (iyo ubuhaname bukabije) n'undi hepfo.

World Vision

DEVELOPMENT ACTIVITY PROGRAM

(DAP)

UKO IMIRIMO IHEMBERWA IBIRIBWA IKORWA, AMABWIRIZA-SHINGIRO N'INGERO Z'IBIHEMBO

FOOD FOR WORK PROCEDURES, STANDARDS AND NORMS

Byateguwe n'Umushinga wa DAP / Published by the DAP

Ku bisobanuro birenzeho, mushobora kubaza:
For further information, please contact:

The M & E Technical Coordination
Umushinga wa DAP / The DAP Projec
WORLD VISION RWANDA
B.P.: 1419 KIGALI
Tel.: 511772, 585329 – Kigali
530389-Butare

PROCEDURES

1. Submission of a request for terracing by the association to the DAP and the CDC,
2. Site identification, evaluation and selection,
3. Project request signed by the association and approved by the DAP,
4. Contract signature by association (President, Secretary and a witness), the District authority and the DAP,
5. Recruitment of the labor by the Association, the CDC and the DAP,
6. Terracing to start on an agreed upon date.

UKO BIKORWA

1. Ishyirahamwe ritanga Umushinga usaba gukorerwa amaterasi kuri DAP na CDC,
2. Kumenya ahazakorwa, kuhasuzuma no kuhemeza,
3. Gushyira umukono ku mpapuro zisaba gukorerwa amaterasi bikozwe n'ishyirahamwe no kwemezwa na DAP,
4. Gushyira umukono ku masezerano bikozwe n'ishyirahamwe (Perezida, umwanditsi n'umugabo), ubuyobozi bw'akarere na DAP,
5. Gutanga akazi bikozwe n'ishyirahamwe, CDC na DAP,
6. Gutangira gukora amaterasi ku itariki yumvikanyweho.

STANDARDS

	Project (ha)	Number of people	Number of days
FFW Standards	1	91	22

AMABWIRIZA-SHINGIRO

	Umudhinga (hegitari)	Umubare w'abahinzi	Umubare w'iminsi
Amabwiriza-shingiro	1	91	22

NORMS

	FFW Norms
Number of persons	1
Number of days	22
Corn (kg)	50
Beans (kg)	25
Vegetable Oil	3.7

INGERO Z'IBIHEMBO

	Ingero
Umubare w'abantu	1
Umbare w'iminsi	22
Ibigori (kg)	50
Ibishyimbo (kg)	25
Amavuta y'ibihingwa	3.7

Annex 15: Persons/Associations Interviewed in Gikongoro, Butare, Ruhengeri, and Byumba for Quantitative Survey

Persons Interviewed in Gikongoro Province (43 Associations)

Commune	Sector	Association	Nº	Name
Nshiri	Busanze	**Tujijurane** Total no.: 11 No. men: 6 No. women: 5 Sample: 1M; 3F	1 5 7 10	Uwizeyimana Annonciate Nyandwi Callixte Ngendahakunze Siborurema Etienne
	Kirarangombe	**Abemera** Total no.: 10 No. men: 7 No. women: 3 Sample: 3M; 1F	1 5 7 10	Mukaruziga Berthe Ruboneka Leonidas Love Callixte Hakizimana Alex
	Remera	**Uwihabu** Total no.: 12 No. men: 6 No. women: 6 Sample: 1M; 3F	1 5 7 10	Bangaya Uwimana Nyirandwanakumuryango Nyiramanzi Alice
	Gisoro	**Urugero** Total no.: 12 No. men: 6 No. women: 6 Sample: 4M; 0F	1 5 7 10	Ruberanziza Vincent Munyaneza Kabalisa Alfred Turambe Sylvestre
	Ruheru	**Abarwanyasuri** Total no.: 22 No. men: 12 No. women: 10 Sample: 4M; 0F	1 5 7 10	Migabo Emmanuel Ruzigamanzi Mukwiye Venant Hatangishaka Frodouard
	Gitita	**Twiyungayunge** Total no.: 10 No. men: 1 No. women: 9 Sample: 1M; 3F	2 5 7 10	Mukamusoni Cecile Nyabyenda Juvenal Nyiraminani Helene Uwizeramariya Philomene
	Rutiti	**Abajyinama** Total no.: 17 No. men: 7 No. women: 10 Sample: 2M; 2F	1 5 6 10	Mukandori Dafrose Mutegaraba Victoire Ntakirutimana Mathias Ndikumana Emmanuel

	Shororo	**Abaharanirakujyambere** Total no.: 16 No. men: 10 No. women: 6 Sample: 4M; 0F	1 5 7 10	Nkomezamihigo Vital Nkwerisomo Adrienne Rubandangabo Etienne Karekezi Dominique
	Ruheru	**Abiyunze** Total no.: 66 No. men: 28 No. women: 38 Sample: 2M; 2F	1 5 7 10	Ndiyunze Rwanani Viateur Mukandekezi Agnes Nyiramigabo Annonciate
Mudasomwa	Nkumbure	**Dushyigikirane** Total no.: 11 No. men: 6 No. women: 5 Sample: 2M; 2F	1 5 7 10	Rudakemwa Innocent Mukantagungira Marie Jeanne Twagirumukiza Victor Mukarurinda Frida
	Nkumbure	**Abogezasuka** Total no.: 15 No. men: 10 No. women: 5 Sample: 2M; 2F	5 6 7 10	Kamondo Innocent Nyandwi Esperance Mutangana Justin Mukarurangwa Josephine
	Nkumbure	**Abishyizehamwe** Total no.: 10 No. men: 8 No. women: 2 Sample: 3M; 1F	1 5 7 9	Kambanda Amon Murekezi Jean Sebarinda Jonathan Mukankundiye
	Uwinkingi	**Abajyamugambi** Total no.: 15 No. men: 10 No. women: 5 Sample: 2M; 2F	1 5 7 10	Nkeramugaba Jean Etienne Mukakarekezi Mariette Bicamumpaka Celestin Kankuyo Margueritte
	Uwinkingi	**Inshutinziza** Total no.: 34 No. men: 13 No. women: 21 Sample: 3M; 1F	1 5 7 10	Ntakirutimana Alexandre Nyirahakizimana Ndabazi Sylvain Uwitonze S
	Mujuga	**Twinsugane** Total no.: 11 No. men: 5 No. women: 6 Sample: 1M; 3F	1 5 7 10	Munyakayanza F Kabaganwa Violette Kangondo Berthilde Nyirankezabera Esperance

	Bugarama	**Abafatanyurunana** Total no.: 14 No. men: 8 No. women: 6 Sample: 2M; 2F	1 5 7 10	Mpabwanamagume Dominique Nyirinyange Pelagie Nyirahavugimana Vincente Ugirashebuja Apollinaire
	Nyamigina	**Abadacogora II** Total no.: 8 No. men: 1 No. women: 7 Sample: 0M; 4F	1 5 6 7	Mukankindo Verene Mukakarera Consolee Nyirabukeye Therese
Kivu	Shaba	**Duterimbere** Total no.: 15 No. men: 10 No. women: 5 Sample: 2M; 2F	1 5 7 10	Habimana JMV Manimpaye Virginie Mukandamage Mariette Munyandekwe Ladislas
	Shaba	**Dufatanye II** Total no.: 12 No. men: 6 No. women: 6 Sample: 2M; 2F	2 5 7 10	Gasana Sylvain Rucamihigo Innocent Kankindi Seraphine Mukamana Julienne
	Shaba	**Duharaniramajyambere** Total no.: 7 No. men: 2 No. women: 5 Sample: 1M; 3F	1 5 6 7	Bamurange Kanyeshyamba Vedaste Nduwamungu Nyirabazungu
	Muganza	**Abahujumugambi** Total no.: 16 No. men: 11 No. women: 5 Sample: 4M; 0F	1 5 7 10	Sibomana Juvenal Ndakaza Vincent Gashongore Vianney Hitayezu JD
	Muganza	**Abisunganye** Total no.: 24 No. men: 17 No. women: 7 Sample: 3M; 1F	1 5 7 10	Ndereye Emmanuel Bapfakurera Vincent Mutumwinka Bonifride Kabera Felicien
	Muganza	**Imparanirakujijuka** Total no.: 24 No. men: 11 No. women: 13 Sample: 3M; 1F	1 5 7 10	Musonera Anastase Nyangezi Thadde Barutwanayo Verdiane Ngamije Bertin

	Mutovu	**Abaticumugambi** Total no.: 20 No. men: 6 No. women: 14 Sample: 1M; 3F	1 5 7 10	Mukandoli Mporayonzi Emmanuel Niyonsaba Serapia Niyonagira Melanie
	Kivu	**Duhagurukirumurimo** Total no.: 20 No. men: 12 No. women: 8 Sample: 3M; 1F	1 5 7 10	Niyonteze Xavier Sebagabo JMV Rusanganwa Innocent Mukamabano Aurelie
Rwamiko	Ruramba	**Abisunganye** Total no.: 16 No. men: 2 No. women: 14 Sample: 1M; 3F	1 5 10 15	Mukabakina Monique Mukarwesa Evelyne Nyirakamandwa Bikerinka Martin
	Ruramba	**Abagiranama** Total no.: 15 No. men: 0 No. women: 15 Sample: 0M; 4F	1 5 6 10	Kamanzi Julienne Nyirabacyaba Angeline Kampogo Viviane Nyirakimonyo
	Ruramba	**Dushyigikirisuka** Total no.: 10 No. men: 6 No. women: 4 Sample: 3M; 1F	1 5 7 10	Muyange Simeon Kamurera God Bugingo Viateur Muvunyi Fidel
	Matyazo	**Duterimbere** Total no.: 10 No. men: 4 No. women: 6 Sample: 2M; 2F	1 5 7 10	Nsengimana Charles Barutwanayo Antoine Kankundiye Consolee Mukarurangwa
	Matyazo	**Abahujumugambi** Total no.: 12 No. men: 8 No. women: 4 Sample: 4M; 0F	1 5 7 10	Kavutse Antoine Rukebesha Jean Rwamihigo Callixte Ntaribi Emmanuel
	Bukoro	**Ishyaka** Total no.: 11 No. men: 8 No. women: 3 Sample: 2M; 2F	1 5 7 10	Hishamunda Munyeragwe Innocent Mukantagwera Domitilla Mukamana Beathe

	Bukoro	**Ntamugabumwe** Total no.: 12 No. men: 6 No. women: 6 Sample: 3M; 1F	1 5 7 10	Rukatibumba Nyirampakanyi Seraphine Rindoro Thatien Muhakwa Thomas
Nyamagabe	Kamegeri	**COARWAKA** Total no.: 28 No. men: 17 No. women: 11 Sample: 3M; 1F	1 6 7 9	Nzeyimana Murangwa Theo Mugiraneza Felicien Hategekimana Caritas
	Kamegeri	**Wikwihebamfubyi** Total no.: 12 No. men: 4 No. women: 8 Sample: 1M; 3F	1 5 9 10	Mukarugwiza D Ukwitegetse A Niyonsaba Cecile Irigukunze Emile
	Ngiryi	**Abishyizehamwe** Total no.: 20 No. men: 8 No. women: 12 Sample: 1M; 3F	1 5 7 10	Nkurunziza Innocent Nyiransengimana Francine Nyirabasabose B Mukamurera S
	Kibirizi	**Dukundagufatanya** Total no.: 20 No. men: 10 No. women: 10 Sample: 3M; 1F	1 6 10 13	Gasimba Faustin Karangwa Charles Sinumvayino Xavier Nyiranzabahimana Bellansire
	Gasaka	**Duteraninkunga** Total no.: 13 No. men: 8 No. women: 5 Sample: 2M; 2F	1 5 7 10	Mukandekezi Margueritte Mukurarinda Emmanuel Ngayabahiga Samuel Mukunda Antoinette
	Buremera	**Abadasigana Mu Majyambere** Total no.: 40 No. men: 39 No. women: 1 Sample: 0M; 4F	1 6 7 9	Niyitegeka Faice Ntabonvura Marie Mukarwigemera Marie Nyirabuhoro Costasie
	Cyizi	**Twitezimbere** Total no.: 24 No. men: 6 No. women: 18 Sample: 1M; 3F	5 7 15 19	Mukakarera Frida Shakubone Vincent Mukakarera Juliette Mukankera Gerardine

Karama	Cyanika	**Duterimbere** Total no.: 14 No. men: 0 No. women: 14 Sample: 0M; 4F	1 5 7 9	Mukakangije Xaverine Nyirahabimana Seraphine Kangombwa Anastasie Kamukama Bernadette
	Cyanika	**Dukoranumurava** Total no.: 18 No. men: 4 No. women: 14 Sample: 1M; 3F	5 7 10 13	Bazambaza athanase Mukakarangwa Viviane Mukantwari Dative Mukamusonera Consolee
	Cyanika	**Abishyizehamwe** Total no.: 20 No. men: 10 No. women: 10 Sample: 2M; 2F	1 5 7 10	Sekamana Gregoire Kanamugire Augustin Mukarusine Immaculee Uwimana Lucie
	Ngoma	**Ihuriro** Total no.: 10 No. men: 3 No. women: 7 Sample: 2M; 2F	1 5 9 10	Mwizerwa Gerard Mukabahazi Beata Byiringiro Geoffrey Mukamutesi Odette

List of Persons Interviewed in Butare (12 Associations)

Commune	**Sector**	**Association**	**Nº**	**Name**
Maraba	Maraba	**Abakundamurimo** Total no.: 7 No. men: 4 No. women: 3 Sample: 3M; 1F	1 5 6 7	Gatabazi Alex Ndahimana Placide Habakurama Wellars Bazumutima Gorette
	Maraba	**Turwanyisuri** Total no.: 17 No. men: 10 No. women: 7 Sample: 3M; 1F	1 5 7 9	Mbeshwahonayo Nitegeka Bellancile Ngiruwonsanga Elisa Mutwarangabo Anastase
	Kabuye	**Twisungane** Total no.: 7 No. men: 6 No. women: 1 Sample: 2M; 2F	1 5 6 7	Rwagaju Joseph Rugendo Damascene Mukamazimpaka Rukebesha Vincent

	Cyarumbo	**Abishyizehamwe** Total no.: 7 No. men: 6 No. women: 1 Sample: 4M; 0F	1 5 6 7	Nkorakubwabo Nkurunziza David Igiramaboko Nsengumuremyi
	Cyarumbo	**Tuzamuke** Total no.: 9 No. men: 6 No. women: 3 Sample: 2M; 2F	1 5 7 9	Ntakirutimana Dolocasie Kwisaba Emmanuel Musonera Jean Nyirakanyana Concessa
	Shanga	**Abahuzamugambi** Total no.: 11 No. men: 5 No. women: 6 Sample: 2M; 2F	1 5 7 10	Niyirora Augustin Ngendahimana Innocent Niyitegeka Lahabu Ingabire Donatille
	Kibanda	**Twisungane** Total no.: 8 No. men: 2 No. women: 6 Sample: 0M; 4F	1 5 6 7	Nyirabera Mukankusi Patricie Bazumutima Annonciate Mukeshimana
	Simbi	**Abafatasuka** Total no.: 9 No. men: 4 No. women: 5 Sample: 2M; 2F	1 5 7 9	Nyirabaganwa Jeannette Rwamakuba JMV Rurangwa Theo Mutamuriza Judith
Ruhashya	Gashoba	**Abatiganda** Total no.: 17 No. men: 12 No. women: 5 Sample: 4M; 0F	1 5 7 10	Nkundabagenzi Anaclet Habimana Pascal Hategekimana JD Rukumbuka
	Gashoba	**Abishyizehamwe** Total no.: 13 No. men: 7 No. women: 6 Sample: 3M; 1F	1 5 6 9	Ngweshi Athanase Karekezi Boniface Mbayire Prosper Kamabera Anastasie
Mbazi	Mbogo	**Abadacogora** Total no.: 16 No. men: 0 No. women: 16 Sample: 0M; 4F	1 6 7 10	Mukantagara Fortunee Nyirajyambere Costasie Nyirambonyumukiza Alivera Kanakuze Marie

	Kabuga	**Abajyamugambi** Total no.: 10 No. men: 0 No. women: 10 Sample: 0M; 4F	1 5 7 10	Mukakimonyo Regine Nyirarebe Immaculee Kubwimana Esperance Nyirabavakure

List of Persons Interviewed in Ruhengeri Province (34 Associations)

Commune	Sector	Association	Nº	Name
Nyarutovu	Ruhinga II	**Jamberemuhinzi** Total no: 7 No.men: 3 No. women: 4 Sample: 1M; 3F	1 5 6 7	Nyiramvuyibwami Bangirinama André Mukagasana Josephine Akimanizanye Emerta
	Kinyoma	**Jyamberemuhinzi** Total no: 12 No.men: 4 No. women: 8 Sample: 0M; 4F	1 5 7 10	Ntawangamwabo Kampire Mashukane Mucuyimana
	Karambo	**Turengerubutaka** Total no: 12 No.men: 7 No. women: 5 Sample: 3M; 1F	1 2 5 6	Zirimwabagabo Tuyizere Tuzakiraryari Nyirahabimana
	Bwishya	**Abajyamugambi** Total no: 11 No.men: 7 No. women: 4 Sample: 3M; 1F	1 5 7 10	Sibomana Bazubafite Bizaimana African Habumuremyi
Cyabingo	Muramba	**ABCYA** Total no: 17 No.men: 14 No. women: 3 Sample: 3M; 1F	1 5 7 9	Nsabimana Joseph Nyirabahutu Bapfakurera Nizeyimana
	Cyabingo	**Dukundumurimo** Total no: 16 No.men: 9 No. women: 7 Sample: 3M; 1F	1 5 7 13	Maniriho Nyirandikubwimana Rusingizandekwe Ndagire

	Rukore	**Duteraninkunga** Total no: 16 No.men: 12 No. women: 4 Sample: 4M; 0F	1 5 7 10	Nsengimana Fidèle Bigirimana Chaste Bigenimana Anastase Senzira
	Muhororo	**CATIRAMU** Total no: 16 No. men: 10 No. women: 6 Sample: 4M; 0F	1 5 7 10	Iyamuremye G. Karekezi Bamenya JMV Nteziyaremye
	Muhororo	**PARVA** Total no: 15 No. men: 7 No. women: 8 Sample: 2M; 2F	1 2 6 7	Iryumugabe Benjamin Niyonzima Evariste Akimanizanye Nduwamriya
	Bushoka	**Abanyamurava** Total no: 9 No. men: 4 No. women: 5 Sample: 2M; 2F	1 2 7 9	Nduwayezu Gaspard N.nsabimana M. Mukaneza Jacqueline Mukanyantaba
	Muhaza	**Tububyazumusaruro** Total no: 14 No. men: 9 No. women: 5 Sample: 4M; 0F	1 5 6 10	Nsabimana Marcel Birihanze Muhigirwa Bigirimana
	Ngege	**Abadahemuka** Total no: 12 No. men: 10 No. women: 2 Sample: 4M; 0F	1 5 7 10	Gahutu Claudien Dusabimana Théodore Ntizibaza Léonidas Renzaho Fréderic
	Kavumu	**Turwanyisuri** Total no: 20 No. men: 11 No. women: 9 Sample: 1M; 3F	1 5 7 10	Uwimana Ester N.Nsengiyaremye Munyengabe N.Mfikije
	Rutare	**Kavuro** Total no: 11 No. men: 10 No. women: 1 Sample: 3M; 1F	1 5 7 10	Dusabeyezu Constantin Nzabonintuma Théogène Ndayambaje Nyirampabatanoga

	Nyundo	**Turwanekubutaka** Total no: 14 No. men: 13 No. women: 1 Sample: 4M; 0F	1 2 5 7	Mugiraneza Nkamiye Ntawirinda Ntamitarizo
Ruhondo	Rwaza	**Turwanyisuri** Total no: 12 No. men: 9 No. women: 3 Sample: 3M; 1F	5 6 7 10	Mbatezumukiza Ngendahayo Nzamwitakuze Nsengiyumva
	Mukono	**Twongerumusaruro** Total no: 17 No. men: 6 No. women: 11 Sample: 2M; 2F	1 5 7 10	Twizerimana Donatille Nduwayezu Bonaventille N.Nzeyimana Nizeyimana
	Gashaki	**Dufatubutakaneza** Total no: 21 No.men: 11 No. women: 10 Sample: 2M; 2F	1 5 7 10	Habisoni Pascal Mukamazera Nyirantabanuye Ndimukaga
	Ryandinzi	**Twifatanye** Total no: 13 No. men: 9 No. women: 4 Sample: 4M; 0F	1 5 7 10	Kanyamihigo E. Nzabonimpa Venant Nyirimari Turikunkiko
	Kiruri	**Dufatenezubutaka** Total no: 12 No. men: 9 No. women: 3 Sample: 3M;1F	1 5 7 10	Magambo Kanyarengwe Nahimana Nyirabapagasi
	Kiruri	**Abarimbabahinguye** Total no: 15 No.men: 10 No. women: 5 Sample: 2M; 2F	1 5 9 10	Bugenimana Nsabimana Nzabanita Birikano
	Kiruri	**Duterimbere** Total no: 33 No. men: 27 No. women: 6 Sample: 4M; 0F	1 5 10 13	Uzabakirirho Nkunzwenimana Nkurikiyumukiza Munyaneza

	Kiruri	**Tuzamurane** Total no: 24 No. men: 18 No. women: 6 Sample: 3M; 1F	1 5 7 10	Ndacyiga Gaspard Musigiyende Subuga Paul Twambazimana
	Kiruri	**Twiyungure** Total no: 12 No. men: 8 No. women: 4 Sample: 2M; 2F	1 5 7 10	Nshimiyimana Nyirabavakure Mutuyimana Ntibarikure
	Kiruri	**Ntuntererane** Total no: 18 No. men: 12 No. women: 4 Sample: 3M; 1F	1 5 7 10	Uriwenuwe Nduwayezu Gasigwa Bunane
	Remera	**Dukangukiramajyambere** Total no: 17 No. men: 9 No. women: 8 Sample: 2M; 2F	1 5 7 10	Semapfa Alexis Mujawiyera Hanyurwimfura Ntawendurundi
	Remera	**Tujyimbere** Total no: 11 No. men: 5 No. women: 6 Sample: 3M; 1F	1 2 5 7	Bagiramenyo Matabaro André Ndagijimana Nyirabaramire
	Kigarama	**Dufashanye** Total no: 12 No. men: 8 No. women: 4 Sample: 3M; 1F	1 5 7 10	Bemeriki Biyingoma Ndizeye Uwimana
	Kigarama	**Twitekubutaka** Total no: 12 No. men: 8 No women: 4 Sample 3M; 1F	1 5 7 10	Hagumimana Umwanzintanyurwa Hagumumuremyi Nayino
	Ntarama	**Urugero II** Total no: 9 No. men: 7 No. women: 2 Sample: 3M; 1F	1 5 7 10	Uwimana Sylvia Rujyakera Raymond Hakizimana Severien Mbarushimana J.B

	Rusayo	**Turwanyubukene** Total no: 12 No. men: 8 No. women: 4 Sample: 3M; 1F	1 2 5 10	Ntakobatagira Mbungira Damien Hategekimana Nduwayezu Alexis
	Rusayo	**Twuzuzanye** Total no: 12 No. men: 7 No. women: 5 Sample: 1M; 3F	1 5 6 7	Mukagatabazi Gatsimbanyi Célestin Uzamukunda Eugenie Cyibitare
	Rusayo	**Twitekubutaka** Total no: 12 No. men: 8 No. women: 4 Sample: 2M; 2F	1 5 7 10	Ruberankiko Jean Ahoribonekeye Célestin Bamenyayabo Primitive Muhawenimana
	Ruhinga	**Twihazemubiribwa** Total no: 12 No. men: 6 No. women: 6 Sample: 2M; 2F	1 5 7 10	Uwimana Emmanuel Nzamwitakuze Bugenimana Safali

List of Persons Interviewed in Byumba Province (20 Associations)

Commune	**Sector**	**Association**	**Nº**	**Name**
Cyumba	Bungwe	**Twitezimbere** Total no.: 16 No. men: 8 No. women: 8 Sample: 3M; 1F	1 5 7 10	Hategekimana Zacharie Mukaruyenzi M Karimba Tumukuziteka
	Bungwe	**Turwanyinzara** Total no.: 16 No. men: 12 No. women: 4 Sample: 3M; 1F	1 7 10 13	Ruhumuriza Nzabonantuma Mutabazi Nyiramajyambere
	Bungwe	**Abaharaniramajyambere** Total no.: 10 No. men: 7 No. women: 3 Sample: 4M; 0F	1 5 6 10	Ruharaza Bucyanayandi Kalisa Reberaho

	Bungwe	**Turwanyubukene** Total no.: 18 No. men: 12 No. women: 6 Sample: 4M; 0F	1 5 7 10	Mugabukira Laurent Hakizimana Twizeyimana Nzatumukize
	Gakubo	**Dufatanye I** Total no.: 19 No. men: 13 No. women: 6 Sample: 3M; 1F	1 5 7 10	Nyamurwana Mpakaniye Mbarebe Uwingabire
	Gakubo	**Koramunyarwanda** Total no.: 13 No. men: 9 No. women: 4 Sample: 3M; 1F	1 2 5 10	Ntagwabira Mukakarimba Bagaragaza Simparingoma
	Gakubo	**Turwanyisuri** Total no.: 20 No. men: 12 No. women: 8 Sample: 3M; 1F	1 5 7 10	Bitariho Nsabimana Mukantagara Mbarushimana Evariste
	Buhinga	**Abitonze** Total no.: 22 No. men: 16 No. women: 6 Sample: 2M; 2F	1 5 7 10	Rwabibi Nyirambarushimana Bagene Nyirabizeyimana Florence
	Nyagisozi	**Dufatanye II** Total no.: 12 No. men: 8 No. women: 4 Sample: 3M; 1F	1 6 7 10	Simuhoriwabo Mukandeze Habyarimana Ntiruvukanwa
	Manyagiro	**Turwanyisuri** Total no.: 24 No. men: 8 No. women: 16 Sample: 2M; 2F	1 5 7 10	Nzeyimana A Icyitegetse Habiyaremye Muhawenimana
Kiyombe	Kaniga	**Itakwisuka** Total no.: 13 No. men: 7 No. women: 6 Sample: 3M; 1F	1 5 7 10	Ntiyamira Leonard Muhutukazi Nsegimana Tindikahwa

	Kaniga	**ADEKA** Total no.: 15 No. men: 12 No. women: 3 Sample: 3M; 1F	1 5 7 10	Zimurinda Ntuyembarusha Jean Paul Murindahabi Uwizeyimana
	Kaniga	**Abadacogora** Total no.: 27 No. men: 1 No. women: 26 Sample: 1M; 3F	1 5 7 10	Dusabe Judith Ngezahoguhora Rukirabarame Mukakarangwa
	Kaniga	**Twibumbebahinzi** Total no.: 10 No. men: 6 No. women: 4 Sample: 3M; 1F	1 6 7 10	Kaburahano Uwimana Kamondo Generence Ntahontuye
	Butozo	**JOPA Duhange** Total no.: 20 No. men: 11 No. women: 9 Sample: 2M; 2F	1 5 7 10	Turabaye Icyishatse Sezibera Mukarugina
Mukarange	Bushara	**Abizera** Total no.: 16 No. men: 15 No. women: 1 Sample: 4M; 0F	1 5 6 7	Ntagwabira Mutabaruka Epimaque Gatsinzi Jean Damascene Ngabitagirumukura
	Bushara	**Twongerumusaruro** Total no.: 15 No. men: 12 No. women: 3 Sample: 2M; 2F	1 5 7 10	Hakizimana Mukagasana Mukeshimana Nambajimana
	Mugina	**IABIMU** Total no.: 25 No. men: 22 No. women: 3 Sample: 2M; 2F	1 5 6 9	Ngirabakunzi Mashakarugo Mukantagwabira Adele Munyaneza

	Mukono	**Abakundakurima** Total no.: 10 No. men: 4 No. women: 6 Sample: 2M; 2F	1 5 6 7	Gakwandi Barasebwa Jean Yankurije M Nyiranteguza
	Shangasha	**Twizerane** Total no.: 14 No. men: 12 No. women: 2 Sample: 4M; 0F	1 6 7 10	Ngarukiye Mutabazi A Mvunabandi Kaberuka Pascal

Annex 16: World Vision Rwanda DAP Final Quantitative Survey Form

Record #:_____

WORLD VISION RWANDA

DAP FINAL EVALUATION SURVEY

May 004

Interview Date:_____/___/__ (day/month/year)

Name of Interviewer:_____

SECTION 1: HOUSEHOLD IDENTIFICATION.

1. Name of Province _____

2. Name of Commune _____

3. Name of Sector _____

4. Name of Association _____

5. Position on the Association's list of selected respondents (max. of 4)(1,5,7,10)(6,9, 13,2,15,9) _____

6. Years this association has been involved with this DAP (2,3, or 4 years) _____

SECTION 2: HOUSEHOLD CHARACTERISTICS:

7. Name of respondent: _____7b: Function:

7b.	

(President = 1; VP = 2, Secretary = 3; 4 = Treasurer; 5 = other member)

8. Age of respondent: _____

8.	

9. Male/Female

9.	

10. Status of respondent:

Office use only

	1. Married Head of household (Male)
	2. Divorced Head of household (Male)
	3. Widower Head of household (Male)
	4. Married (Female)
	5. Divorced Head of household (Female)

		6. Widowed Head of Household (Female)	
		7. Adult>18 years (indicate sex and relationship to household)	10.

11. How many people normally live in this household ***(those who sleep here and eat together; includes children, relatives, orphans and the respondent; do not count visitors)***?

11.

12. How many of the people in this household are actively involved in agriculture?

12a.

12b. You have two agricultural seasons each year. Are members of your household able to produce enough food each year to provide for the basic food needs of your household? Yes/No

12b.

If no, what does your household do to meet basic food needs of household?

_____

13. Do you raise animals?

13
Yes/No

What types of animals do you raise? What type of system (1 = intensive, 2 = extensive, or 3 = semi- intensive) do you use for raising them?

	Number	Animal	System (1,2 or 3)
13a		Cows	13i
		Goats	13j
		Sheep	12k
13 b		Sheep + Goats	
13 c		Pigs	13l
		Chickens	
		Rabbits	
13 d		Chickens + Rabbits	
13 e		Bee hives	
13 f		Fish ponds	

13 g		Other	

14. How many of these animals were acquired during the past 4 years as a direct benefit from the World Vision DAP activities with which they have been associated?

14. ☐

15. The land that you cultivate, are you (do you):

	☐	1. Owner and registered	
☐	☐	2. Tenant	
	☐	3. Use of land while protecting it for owner	
	☐	4. All of the above , or above combined	15. ☐

Rental: 1. cash; 2. sharecropping; 3. free

SECTION 3: AGRICULTURAL PRODUCTION:

Questions 16 – 19 refer to the chart below.

Which of the following crops did you cultivate during the past year (*Season A -Sept 2003-January 2004 and Season B - March 2004 – July 2004)***?**

16. Which of the following crops did you cultivate this past year (both seasons)?
17. Did you have a surplus for this crop?
18. What did you do with this surplus?

	16. Which of the following crops did you cultivate this year?		17. Did you have a surplus for this crop?		18. What did you do with this surplus? 1 = sold 2 = gift/funeral/festival 3= stored for later sale 4= combination of above	
	Season A	Season B	Season A	Season B	Season A	Season B
Potato (Irish)	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No		

Beans	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No		
Wheat	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No	1.Yes 2.No		
Corn	Y/N	Y/N	Y/N	Y/N		
Sweet Potato	Y/N	Y/N	Y/N	Y/N		
Sorghum	Y/N	Y/N	Y/N	Y/N		
Peas	Y/N	Y/N	Y/N	Y/N		
Soya	Y/N	Y/N	Y/N	Y/N		
Other_____	Y/N	Y/N	Y/N	Y/N		

19. Were Crops sold in the past year? (Don't actually ask this question, simply verify from responses in #17 above) (Yes or No)

19. ☐

20. Did you use any improved seeds this year (season A and B)? **(For a 'yes' response, ask where seeds came from; improved seeds will come from SNS, ISAR, DAEF, World Vision, or other NGO)**

Office use only

☐ 1. Yes

☐ 2. No ® **go to question 19**

☐ 3. Don't know ® **go to question 19**

20. ☐

21. If yes, what crops did you use improved seeds for?

(1= yes, 2=no)

☐	a. Irish potato	21a. ☐
☐	b. Sweet potato	21b. ☐
☐	c. Beans	21c. ☐
☐	d. Wheat	21d. ☐
☐	e. Corn	21e. ☐
☐	f. Sorghum	21f. ☐
☐	g. Peas	21g. ☐
☐	h. Soya	21h. ☐
☐	i. Other _____	21i. ☐

For what crop would improved varieties be the most important for you? (see list above, or cite other crop not listed)

21j.	

Did you receive the improved variety seeds for your last season (Season A) at the time you needed for planting (or where they late?)(On time = 1; late = 2)

21k.	

SECTION 4: IMPROVED/NEW TECHNOLOGIES

22. How many plots do you cultivate? _____ Of the plots you cultivate, how many are in:

	Bench terraces	22 a.	
	Progressive terraces	22 b.	
	Part terraced, part not terraced	22 c.	
	No terraces	22 d.	

Did you have a **personal** plot on the communal bench terraced land ? Yes/No

22 e.	

23. Did you apply chemical fertilizer to the plots that you cropped last season **at the time you planted** (power planting) (**Season A**)? (Yes or No)

23a	

24. Did you apply **chemical fertilizer** to the plots that you cropped last season **(Season A**)?

	1. To bench terraces	24 a.	
	2. To progressive terraces	24 b.	
	3. To parcelles without terraces	24 c.	
	4. To all	24 d.	

Did you receive your chemical fertilizers you wished to use during the last season (Season A) late? (One time = 1; Late = 2)

24e	

25. If you didn't use chemical fertilizer, what did you do to maintain or improve the fertility of the soil when you planted your field? ***(read each choice to the respondent):***

				(1= yes, 2=no)	
		a. incorporate organic matter/compost?	25a.		
		b. incorporate animal manure?	25b.		
		c. use green manures*?	25c.		
		d. plant agro forestry trees in the field**?	25d.		

* Tephrosia (Imiruku), Desmodium, Mucuna, Lupin, Lucerne, Haricot majali, Crotalaria, Dolichos, Tithonia (Ikicamahirwe)
** Gereveriya, umwungo, umusave, Leucaena, Calliandra… ibiti byera imbuto ziribwa: icunga, ipapaya, indium, avoka

26. Did you do anything to process your crop or increase the value at the market?

	1. Yes		
	2. No ® **go to question 28**		
	3. Don't know ® **go to question 28**	26.	

27. If yes, what did you do?

			(1= yes, 2=no)	
		a. milling/grinding	27a.	
		b. roasting/cooking	27b.	
		c. fermenting	27c.	
		d. other _____	27d.	

<u>SECTION 5</u>: ACCESS TO TECHNICAL SUPPORT/CREDIT.

28. In the past year, did you receive any agricultural credit?

	1. Yes		
	2. No ® **go to question 34**	28.	

29. If you received credit, what type of credit did you receive?

(1= yes, 2=no)

	a. seeds	29a.	
	b. fertilizer	29b.	
	c. seeds and fertilizer	29c.	
	d. Other _____	29d.	
	D – 1 pesticides	29e.	
	D – 2 animals	29f.	
	D - 3 cash	29g	
	D – 4 tools	29h	

30. From whom did you receive this credit? **(Yes = 1; No = 2)**

	a. World Vision	30a.	
	b. Other NGO	30b.	
	c. PGERB	30c.	
	d. Farmers Association	30d.	
	e. Bank	30e.	
	f. Other _____	30f.	

31. Did you pay back the loan?

	1. Yes		
	2. No ® **go to question 33**	31.	

32. In what form?

	1. cash		
	2. in kind		
	3. All of the above	32.	

33. If no, why?

	1. The cropping season was bad	
	2. Crop pests and diseases	
	3. Sickness (farmer or family)	
	4. They didn't come for the reimbursement	
	5. Other (specify)_____	33.

34. If you did not receive credit, why not? **(1= yes, 2=no)**

	a. didn't need it	34a.	
	b. didn't know where to find it	34b.	
	c. was refused credit	34c.	
	d. other _____	34d.	

35. What type of agricultural assistance/training have you received from World Vision?

	1. Terrace construction		
	2. Training		
	3. Credit	.	
	4. All of the above		
	5. Study tour	35.	

36. On what themes have your received training? Have they been useful or not in your farming? If so, why? If not, why not?

Themes	Training? Yes/No	Useful? Yes/No	Why?
36a. Power Planting			
36b. Commercialization			
36c. Storage			
36d. Terrace Construction			
36e. Composting			
36f. Financial management			
36g. Other _____			

37. With whom have you shared your new knowledge?

	With other members of the association
	With non-member neighbors
	With family members
	With other members of the community
	With no one

37. ☐

38. Are you satisfied with the assistance you have received from World Vision?

	1. Yes
	2. No

38. ☐

If so, why?

_____

_____

If not, why not?

_____

39. What differences have you observed in your life as a result of collaboration with WV?

_____

_____

40. How have you applied what you learned? (This will not be codes – for project management use)

_____
_____
_____

41. What suggestions recommendations can you offer to improve relationship/partnership with World Vision in the future.

_____
_____

Annex 17: Questions for Agronomists and Coordinators (10 forms completed)

Questions for Agronomists and Coordinators

1. In your opinion, what became the most important activity of the DAP (that took most of your time)? A votre avis, quelle a été la plus importante activité du DAP (qui vous a pris le plus de temps)?

2. Where did the DAP succeed? Dans quelles domaines le DAP a eu le plus de succès?

3. Where did the DAP fail to meet its objectives? Dans quelles domaines le DAP n'a pas attaint ses objectifs our les résultats attendus?

4. What are you thoughts about DAP approach to bench terraces and FFW? Was too much attention given to construction of bench terraces and giving of FFW for work performed?
   Quelles sont vos idées/opinions sur l'approache du DAP vis-à-vis les 'terraces radicales' et le FFW? Est-il vrai que l'attention été donnée plus à la construction de 'terraces radicales' et le FFW en accompangement?

5. Was enough attention paid to progressive terraces on individual farmers fields? Est-ce que il avait assez d'attention donnée aux 'terraces progressives' faites sur les parcelles des paysans?

6. Was FFW a good or bad idea for the program and why? A votre avis, est-ce-que le FFW a été bon (ou mauvais) pour le projet DAP (pourquoi)?

7. In retrospect, where should more attention have been paid, if this had been possible? En retrospective, où est-ce-qu'on aurait dû concentrer le plus d'effort si l'occasion aurait été donnée si possible?

8. Describe the distribution of your time. % Décrivez la distribution de votre temps pour chaque semaine? %
   (1) selection of and supervision/construction of bench terraces (Selection et supervision, construction des terraces radicals).
   (2) selection of and supervision/support to building of progressive terraces; (Selection et supervision/assistance dans la construction des terraces progressives.)
   (3) project report writing and other general administrative tasks; (Ecrire des rapport et d'autre affaires administratives).
   (4) Other training activities; (Autres activités de formation).
   (5) market and business development support to associations; (Marché et developpement des affaires pour assister les associations).
   (6) agro-forestry & forage crop training and support to associations; (Agro-foresterie et formation sur les plantes fourragères et assistance aux associations).

9. What are your most important recommendations for the future DAP (any topic). Quelles sont votre propres recommendations les plus importantes pour le projet DAP à l'avenir (sur n'importe sujet)?