Rwanda GAFSP Proposal: LWH Scale-Up

Ministry of Agriculture and Animal Resources

MINAGRI

June 2010

Abbreviations/Acronyms

AMIR	Association of Micro finance Institutions in Rwanda
ASWG	Agriculture Sector Working Group
CAS	Country Assistance Strategy
CBO	Community Based Organization
CCPIG	Common Commodity Production Interest Groups
CFE	Common Framework for Engagement
CIDA	Canadian International Development Agency
DA	Designated Account
DFID	Department for International Development
DPs	Development Partners
EDPRS	Economic Development and Poverty Reduction Strategy
EFA	Economic and Financial Analysis
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
FAO	Food and agriculture organization of the United Nations
FM	Financial Management
FMM	Financial Management Manual
FMS	Financial Management Specialist
GEF	Global Environment Facility
GoR	Government of Rwanda
GPS	Global Positioning System
ICT	Information and Communication Technology
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IPM	Integrated Pest Management
JICA	Japanese International Cooperation Agency
LSG	Land Husbandry Self-help Groups
LWH	Land Husbandry, Water Harvesting and Hillside Irrigation
M&E	Monitoring and Evaluation
MFI	Micro Finance Institution
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Administration, Good Governance, Community Development, and Social Affairs
MINECOFIN	Ministry of Finance and Economic Planning
MINIRENA	Ministry of Natural Resources
MoU	Memorandum of Understanding
MT	Metric Ton
NEB	National Export Development Board
NERP	National Electricity Rollout Program
NGO	Non-Governmental Organization
NRM	Natural Resources Management
OECD	Organization for Economic Cooperation and Development
PAD	Project Appraisal Document
PAPSTA	Support Project for the Agricultural Transformation Strategic Plan
PCN	Project Concept Note
PDO	Project Development Objective
PFM	Public Financial Management

PIC	Public Information Center
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PM	Program Manager
PPF	Project Preparation Facility
PRSP	Poverty Reduction Strategy Program
PSCBP	Public Sector Capacity Building Project
PSTA	*Plan Stratégique pour la Transformation Agricole* (Strategic Plan for Agricultural Transformation)
RAB	Rwanda Agricultural Board
RADA	Rwanda Agricultural Development Authority
RAP	Resettlement Action Plan
RCA	Rwanda Cooperatives Agency
REMA	Rwanda Environmental Management Authority
RF	Results Framework
RHESI	Rwanda Horticulture Exports Standards Initiative
RHODA	Rwanda Horticulture Development Agency
RIF	Rural Investment Facility
RPF	Resettlement Policy Framework
RPPA	Rwanda Public Procurement Authority
RSSP	Rural Sector Support Program
SIL	Specific Investment Loan
SLM	Sustainable Land Management
SPAT	Strategic Plan for Agricultural Transformation
SWAp	Sector Wide Approach
SWAT	Soil and Water Assessment Tool
TOR	Terms Of Reference
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WFP	World Food program
WTO	World Trade Organization
WUA	Water Users' Association

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Part 1: Summary of Overall Agriculture and Food Security Strategy and Associated Investment Plan

1.1 Objectives and indicators

1. Rwanda's economy remains largely agricultural, with approximately 80% of the working population relying, at least partially, on this sector. Agriculture contributes around 39% to national GDP and generates about 63% of total export revenues. However, the sector continues to face substantial challenges that have stood in the way of it achieving its full potential.

2. As one of the world's most densely populated landlocked countries, Rwanda faces a situation of land scarcity and, as a result, soil fertility has deteriorated dramatically over time. While fertilizer use, both organic and inorganic, is increasing, average applications per hectare remain low – even by regional standards. Fertility loss is compounded by the fact that a) almost 90% of arable land is on slopes of between 5 and 55% that require careful land husbandry and b) on more than half of these slopes torrential rains cause erosion and subsequently flooding and silting of valley bottoms.

3. Low current productivity, however, implies a huge potential for growth and profitability for a wide range of food and export crops, particularly given the country's favorable agro-climatic conditions. Indeed, Rwanda's agricultural sector provides a wealth of investment opportunities all along the value chain and includes a strong potential for regional trade. However, smallholder farmers lack the skills and are not able to access the technology or finance required to benefit from these opportunities.

4. Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) advocates an approach of decentralization and increased private sector involvement in order to move towards their key objective of growth for poverty reduction. The priorities of the EDPRS are embodied in three flagship programs: (i) Sustainable Growth for Jobs and Exports; (ii) Vision 2020 Umurenge; and (iii) Governance. Under the first flagship, the goal is to improve productivity and promote innovation. Given the importance of agriculture for growth and poverty reduction, '*raising agricultural productivity and value addition while ensuring food security*' is a key priority of the EDPRS. The agriculture and food security strategy of the Ministry of Agriculture and Animal Resources (MINAGRI) – the second Strategic Plan for Agricultural Transformation (PSTA II) covering 2009-2012– articulates the approach and activities required for achieving 8-9% growth in Rwanda's agriculture sector between 2009 and 2012—the goal set out in the country's Vision 2020 and EDPRS. Consistent growth rates of 8% or more in agriculture, will allow Rwanda to achieve the first Millennium Development Goal of halving extreme poverty by 2015.

5. The objectives of the PSTA II are for "agricultural output and incomes to increase rapidly under sustainable production systems for all groups of farmers and to ensure food security for all the population"; and "to increase output of all types of agricultural products with emphasis on export products, which have high potential and create large amounts of rural employment; this under sustainable modes of production." The PSTA II addresses the unique set of challenges outlined above through its four programmes:

Table 1. Programs of the PSTA II of Rwanda

1) Intensification and Development of Sustainable Production Systems	2) Support to the Professionalization of Producers	3) Promotion of Commodity Chains and Agribusiness Development	4) Institutional Development
Targeting the relief of physical and economic constraints to food and nutrition security, erosion control, water capture and management, input use and livestock integration. This program is the absolute priority. The main aim of this programme is to increase production of food crops for national food security.	Emphasises the delivery of effective extension services through participatory mechanisms, supporting producers through their cooperatives and ensuring that agriculture becomes a knowledge-intensive sector through quality research.	Focuses on creating the environment, infrastructure, financial services and knowledge necessary for the commercialisation of agriculture, strong domestic markets as well as promoting production for export.	Strengthen the institutional environment, particularly at Ministry level, to improve its capacity to implement the sector's strategy.

6. As the first country to draft and sign a CAADP Compact and the first country to have its Agriculture Sector Investment Plan (ASIP) peer-reviewed through the CAADP process, Rwanda has aligned its national agriculture objectives to the CAADP pillars and strategic objectives. Thus, Pillar One: Land and Water Management is aligned to Programme 1 of the PSTA II; Pillar 2: Market Access is aligned to Programmes 2 and 3, while Pillar 3: Food Supply and Hunger is addressed by all Programmes, but particularly Programme 1. Finally, Pillar 4: Agricultural Research, falls under Programme 2 of the PSTA II. The PSTA II also reflects the focus of the Government of Rwanda on food security and the central role of agriculture in poverty reduction, as demonstrated by Rwanda's signature of the Maputo and Abuja Declarations. In addition to the PSTA II's log-frame (see p.93 of the PSTA II, submitted with this proposal), the following strategic indicators are used to track the effectiveness of Rwanda's agriculture and food security strategy within the country's Common Performance Assessment Framework (CPAF) for its EDPRS:

Table 2. ***Strategic indicators of effectiveness of the PSTA II***

Indicator	Indicator Type	Source
1) Production of key food security crops ('000 MT)	CPAF and EDPRS indicator	Ministry of Agriculture and Animal Resources
2) Mineral fertilizer used (MT)	CPAF and EDPRS indicator	National Bank of Rwanda
3) Area of marshland developed for agricultural use (ha)	EDPRS indicator	MINAGRI
4) Proportion of arable land sustainably managed against soil erosion	CPAF and EDPRS indicator	Land Commission Report
5) Percentage of livestock in intensive systems	EDPRS indicator	Agricultural Survey
6. Ratio of farm households to extension agents	EDPRS indicator	MINAGRI
7. Value of agricultural exports	EDPRS indicator	Ministry of Finance

1.2 Key elements of the policy environment

7. The Government of Rwanda has facilitated the process of intensification by creating the legal framework necessary for smallholders to benefit from agricultural technologies. The two most important tools here have been the land consolidation decree (passed in to law in February 2010) and implementation of an improved land registration process, following the revision of the land ownership law in 2005.

8. The Government of Rwanda has encouraged smallholders to participate in voluntary land consolidation, to allow farmers to benefit from economies of scale, to facilitate access to inputs, financing, and the marketing of produce as well as to increase the speed of technology transfer and adoption. Where individuals, cooperatives or the private sector decide to consolidate their land, a participatory process is used to choose the crop that will be grown on that land, based on profitability and agro-climatic analyses and input parameters. The land consolidation decree provides the legal framework that protects smallholders who have entered into such agreements with each other.
9. Following the passing of the Land Law (2005), the Government of Rwanda, in collaboration with Development Partners, has set about to provide all land owners with titles for their plots. Evidence from the world over, including Rwanda, shows that land titles provide owners with the security that allows them to invest more in their land. Furthermore, evidence suggests that land titles already permit smallholders to use their land as collateral to access commercial loans. Beyond this, MINAGRI has committed itself to a number of strategic policy actions to be completed each financial year until the end of June 2012, which will provide the framework necessary for a commercial agriculture sector to flourish. These include, creating the legal framework for Water User's Associations for improved management of irrigation infrastructure; and establishing a National Plant Protection Service as a unit within MINAGRI to implement the Phytosanitary Law (2009). The latter forming the basis of the critical framework required for increased exports, particularly (but not exclusively) for horticulture.
10. In addition to these, the GoR as a whole has been actively supporting private sector development in Rwanda. In the agricultural sector in particular, the private sector is being strengthened through public private partnerships, such as the fertilizer auction system which enables the private sector to bid for the distribution of fertilizer that has benefitted from bulk purchase savings by Government. The system also provides targeted subsidies to farmers in a market-friendly fashion (using vouchers rather than blanket subsidies) that seeks to strengthen private distributors. MINAGRI supports the creation of business development centers that assist farmers to prepare business plans for value addition loans with financial service providers and to access programs such as the Rural Investment Facility, financed by the World Bank. MINAGRI will also actively support the agricultural and rural finance aspects of the new Access to Finance Rwanda initiative, which serves to consolidate support to the private sector for more effective delivery of rural financial services.

1.3 Plan components to achieve the objectives

11. To achieve the objectives of the PSTA II (of rapidly increasing output, incomes and exports under sustainable production systems and to ensure food security for all the population) a number of institutional and natural resource issues must be faced. Specifically, the sector faces several challenges: (i) a binding land constraint that rules out *ex*tensification (bringing more and more land under cultivation)—hence PSTA II's emphasis on *in*tensification in Program1; (ii) small average land holdings (0.4 ha) that have led to the sector's land consolidation policy and the agricultural programs built on this; (iii) poor water management (uneven rainfall and ensuing variability in production) resulting from very low levels of irrigation (15,000 ha in the whole country). This is directly addressed in Program 1 of the PSTA through the plan's irrigation components (sub programs 1.3 and 1.4—see table below); (iv) the institutional need for greater (public and private) capacity from the district to the national levels (leading to the development

of PSTA Program 4) and the lack of extension and proximity services for farmers (addressed in Program 2); and (v) limited commercial orientation constrained by poor access to output and financial markets, for which the PSTA components in Program 3 were developed. With these constraints in mind, it is not difficult to understand the articulation of 'sub-programs' (Table 3) for Rwanda's strategic plan for the transformation of agriculture:

Table 3. ***Programs and* sub-programs of PSTA II in brief.**

1) Intensification and Development of Sustainable Production Systems	2) Support to the Professionalization of Producers	3) Promotion of Commodity Chains and Agribusiness Development	4) Institutional Development
SP 1.1. Sustainable management of natural resources and water and soil preservation SP 1.2. Integrated systems of crops and livestock SP 1.3. Marshland development SP 1.4. Irrigation Development SP 1.5. Supply and use of agricultural inputs SP 1.6: Food security and vulnerability management	SP2.1 Promotion of farmers' organisations and capacity-building for producers SP2.2 Restructuring proximity services SP2.3. Research for transforming agriculture	SP3.1 Creating a conducive environment for business and entrepreneurship development and market access SP3.2 Development of traditional exports SP3.3 Development of non-traditional high-value export products SP3.4 Production and value addition for domestic staple products SP3.5 Market-oriented rural infrastructure SP3.6 Strengthening rural financial systems	SP4.1 Institutional strengthening and capacity building SP4.2 The policy and regulatory framework for the sector SP4.3 Agricultural statistics and ICT SP4.4 M&E systems and coordination of the agricultural sector SP4.5 The decentralisation program in agriculture

12. In executing its programs, MINAGRI is the principal ministry responsible for delivery. MINAGRI is held responsible for all strategic indicators for the agricultural sector, although this delivery of the plan's activities often requires active cooperation with a number of other ministries. For example, for district level execution of all activities (Programs 1, 2 and 3) and its support for the decentralization program in agriculture (SP4.5), MINAGRI works with the Ministry of Local Administration, Good Governance, Community Development, and Social Affairs (MINALOC). For its professionalization of cooperatives under Program 2, the support of the Ministry of Trade and Industry (MINICOM) is essential. For strategic overview and the strengthening of rural financial systems (SP3.6) the Ministry of Economic Planning and Finance (MINECOFIN) are the natural partners, as is the Ministry of Environment and Lands and the Environment (MINELA) for most of Program 1. In all, MINAGRI is responsible for delivery, either through its agencies, directorate and boards (see MINAGRI organigram in Annex 1; through memoranda of understanding with related ministries, or through contractual relations with private sector service providers, as appropriate.

1.4 Planned composition and level of spending to implement the components

13. Planned expenditure for the PSTA II period (2009-2012) is divided across the four programmes and associated sub-programs above and explicitly costed in the ASIP. At Rwanda's Post-Compact Meeting in Kigali in December 2009, MINAGRI presented the ASIP for endorsement, based on the PSTA II, as foreseen by the CAADP process. This plan was subsequently also validated by an FAO review mission in February 2010, as recommended by the CAADP Post-Compact Meeting.

Table 4. Cost estimates of the PSTA II by program and sub-program

Programs/Sub-Programs	Total Estimated Cost	% of ASIP	2009/10	2010/11	2011/12
Program 1: Intensification and development of sustainable production systems	**624,821,658**	**76.62%**	**187,446,497**	**187,446,497**	**249,928,663**
SP 1.1. Sustainable management of natural resources and water and soil preservation	158,571,429	19.45%	47,571,429	47,571,429	63,428,572
SP 1.2. Integrated systems of crops and livestock	60,481,118	7.42%	18,144,335	18,144,335	24,192,447
SP 1.3. Marshland development	41,188,900	5.05%	12,356,670	12,356,670	16,475,560
SP 1.4. Irrigation Development	131,190,000	16.09%	39,357,000	39,357,000	52,476,000
SP 1.5. Supply and use of agricultural inputs	215,690,211	26.45%	64,707,063	64,707,063	86,276,084
SP 1.6: Food security and vulnerability management	17,700,000	2.17%	5,310,000	5,310,000	7,080,000
Program 2: Support to the Professionalization of Producers	**41,960,157**	**5.15%**	**16,863,664**	**15,808,446**	**9,288,047**
SP2.1 Promotion of farmers' organizations and capacity-building for producers	12,600,000	1.55%	5,443,345	5,532,391	1,624,264
SP2.2 Restructuring proximity services	15,900,000	1.95%	5,565,000	5,565,000	4,770,000
SP2.3. Research for transforming agriculture	13,460,157	1.65%	5,855,319	4,711,055	2,893,783
Program 3: Promotion of commodity chains and agribusiness development	**127,822,126**	**15.68%**	**44,266,280**	**38,346,638**	**45,209,208**
SP3.1 Creating a conducive environment for business and entrepreneurship development and market access	13,248,000	1.62%	3,974,400	3,974,400	5,299,200
SP3.2 Development of traditional exports	42,235,471	5.18%	12,670,641	12,670,641	16,894,188
SP3.3 Development of non-traditional high-value export products	10,085,000	1.24%	3,025,500	3,025,500	4,034,000
SP3.4 Production and value addition for domestic staple products	14,522,417	1.78%	4,356,725	4,356,725	5,808,967
SP3.5 Market-oriented rural infrastructure	26,653,638	3.27%	13,915,733	7,996,091	4,741,813
SP3.6 Strengthening rural financial systems	21,077,600	2.58%	6,323,280	6,323,280	8,431,040
Program 4: Institutional development	**20,831,000**	**2.55%**	**6,249,300**	**6,381,947**	**8,199,753**
SP4.1 Institutional strengthening and capacity building	11,750,000	1.44%	3,525,000	3,525,000	4,700,000
SP4.2 The policy and regulatory framework for the sector	1,341,000	0.16%	402,300	534,947	403,753
SP4.3 Agricultural statistics and ICT	5,190,000	0.64%	1,563,134	1,557,000	2,069,866
SP4.4 M&E systems and coordination of the agricultural sector	1,050,000	0.13%	712,637	323,231	14,133
SP4.5 The decentralization program in agriculture	1,500,000	0.18%	536,343	486,093	477,565
ALL PROGRAMS	**815,434,941**		**254,825,741**	**247,983,528**	**312,625,672**

14. Over the last three years the budget of MINAGRI increased substantially from RwF 26 to 68 billion representing an increase in the share of the national budget from 3 to 7%, thus emphasizing the high priority the Government of Rwanda has accorded to the agricultural sector in general--and to food security in particular.

15. The recent affirmation by the GoR that they will maintain the 7% level of investment in agriculture rather than the anticipated 10% of the CAADP process is a product of the need for investment in complementary infrastructure for commercialization of smallholder agriculture, namely, the provision of necessary roads to market and electrification for agro-processing and value addition. Table 4 indicates the cost estimates of each program and sub program.

1.5 Financing sources and gaps

The CAADP-approved ASIP clearly articulates the following resource and gap scenarios(Table 5):

Table 5. ***Sources of financing for the PSTA by year and total***

	Total Cost	Source	Available Funds			Total
			2009/10	2010/11	2011/12	
P1: Intensification and development of sustainable production systems	624,821,658	GoR	49,595,153	55,899,862	67,058,444	172,553,458
		DPs	47,222,235	59,548,026	54,135,121	160,905,382
		Total	**96,817,388**	**115,447,888**	**121,193,565**	**333,458,840**
P2: Support to the Professionalization of Producers	41,960,157	GoR	3,259,531	2,667,498	1,902,654	6,306,240
		DPs	9,549,273	9,187,001	1,634,454	20,370,728
		Total	**12,808,804**	**11,854,499**	**3,537,108**	**26,676,968**
P3: Promotion of Commodity Chains and Agribusiness Development	127,822,126	GoR	3,934,545	4,057,736	4,687,945	12,680,226
		DPs	18,923,576	11,622,990	4,842,182	35,388,748
		Total	**22,858,121**	**15,680,726**	**9,530,127**	**48,068,974**
P4: Institutional Development	20,831,000	GoR	327,494	482,564	339,119	1,149,178
		DPs	3,511,329	1,779,175	822,480	6,112,984
		Total	**3,838,823**	**2,261,739**	**1,161,599**	**7,262,162**
Total	**815,434,941**	**GoR**	57,116,723	63,107,660	73,988,162	192,689,102
		DPs	79,206,413	82,137,192	61,434,237	222,777,842
		Total	**136,323,136**	**145,244,852**	**135,422,399**	**415,466,944**

16. As a consequence of this resource scenario, the ASIP shows a considerable funding gap of US$ 325 million (see Table 5 below), equivalent to 40% of the PSTA II cost. The financial gaps as distributed across the programs and sub-programs are shown in Table 6 at the following page.

Table 6. ***Financial gaps distributed across the programs and sub-programs***

	Total Cost	Source	Total (2009-2012)	Private Sect. Contribution	Investment Gap	Gap (%)
				2009-2012		
P1: Intensification and development of sustainable production systems	624,821,658	GoR	172,553,458			
		DPs	160,905,382			
		Total	**333,458,840**	**18,300,000**	**273,062,818**	**43.70%**
P2: Support to the Professionalization of Producers	41,960,157	GoR	6,306,240			
		DPs	20,370,728			
		Total	**26,676,968**	**600,000**	**14,683,189**	**34.99%**
P3: Promotion of Commodity Chains and Agribusiness Development	127,822,126	GoR	12,680,226			
		DPs	35,388,748			
		Total	**48,068,974**	**56,735,000**	**23,018,152**	**62.39%**
P4: Institutional Development	20,831,000	GoR	1,149,178	**0**	**13,568,838**	**65.14%**

		DPs	6,112,984			
		Total	**7,262,162**			
Total	**815,434,941**	**GoR**	192,689,102			
		DPs	222,777,842			
		Total	**415,466,944**	**75,635,000**	**324,332,997**	**39.77%**

1.6 Process by which the strategy and investment plan was developed

17. Rwanda's agriculture and food security strategy was first articulated in the National Agriculture Policy that was drafted and adopted by Cabinet in 2004. The policy is based on extensive consultations with stakeholders both within and outside MINAGRI. The first stage of the process consisted of mapping all existing projects and program in the sector, to provide a comprehensive overview of the activities being carried out, both by government and other stakeholders. This was followed by in-depth dialogue with other stakeholders, including development partners, NGOs, service providers and the private sector. The purpose was to determine how best the nation's agricultural challenges could be addressed. The voices of farmers were represented throughout this process by umbrella organizations, both at the national and provincial levels.

18. The process was overseen by the Agriculture Sector Working Group (then the Rural Cluster), a forum where development partners, government and non-governmental bodies as well as any other interested stakeholders meet to discuss agricultural policy initiatives and to oversee developments in the sector as a whole. The CAADP pillars and its participatory approach also informed and underpinned the drafting of the National Agriculture Policy. It provided the framework for the first Strategic Plan for Agricultural Transformation. This was again drafted with the involvement of all significant stakeholders, with smallholder producers and their representative organizations at the fore of all consultations. The PSTA 1 was peer reviewed at the CAADP roundtable to help define the alignment to the CAADP pillars. This plan covered the period from 2004 to 2008.

19. The second Strategic Plan for Agricultural Transformation follows a similar outlines as the PSTA I and includes inputs from peer review process. Following an evaluation of the PSTA I, the PSTA II was amended to align with Government's increasing emphasis on food security and the recognition of the central role of agriculture in poverty reduction and growth as laid out in the EDPRS. All stakeholders were given the opportunity to contribute to the process and it was discussed extensively within the Agricultural Sector Working Group. Furthermore, the PSTA II has since been peer-reviewed and approved by the CAADP pillar institutions, making Rwanda the first country to complete the CAADP process. Following the post compact CAADP meeting and the technical approval of the PSTA II, the costing therein was then reviewed by the FAO to validate investment gaps presented by government. While the review mission made minor corrections to the costing of the plan, it found it to provide an adequate basis for sector investment needs.

20. The drafting of PSTA II coincided with the signature of Rwanda's Agriculture Sector-Wide Approach (SWAp) in December 2008. The SWAp places the PSTA II at the center of Development Partner commitments and forms the basis of all collaboration and policy alignment within the sector

Part 2: Specific Proposal for GAFSP Financing

2.1: Specific objectives, targeted results

21. Agriculture is the backbone of Rwanda's economy, accounting for about 39 percent of GDP and 90 percent of the country's food needs. Total arable land in Rwanda is slightly above 1.5 million ha, 90 percent of which is found on hillsides. As referred to in Section 1.3 above, the sector faces several challenges, some cross cutting (e.g. low central and decentralized capacity, rain fed dependence) and some particular to hillsides (e.g. erosion; fertility depletion). Without the option of extensification, agricultural intensification must take place in the context of a potentially fertile, but challenging, physical environment. Steep terrains and the highest population density in sub-Saharan Africa (355 inhabitants per km²) make good land husbandry a necessity (to curtail erosion and otherwise maintain the quality of the soil), as well as an environmental prerogative. Arable land on hillsides constitutes the vast majority of the total agricultural land in the country, but erosion costs the country 1.4 million tons of fertile soils per year. Given its high dependence on rain fed agriculture, irrigation is critical to reducing the sector's vulnerability to climatic variation and to aligning the right incentives for intensification.

22. The GAFSP aims to scale up agricultural assistance. The manner, in which the scale-up takes place, is critical. It is worth noting that budget increases of recent years have been absorbed largely by Programme 1: Intensification and Development of Sustainable Production Systems.

23. This represents a consensus among Government, Development Partners and stakeholders that in order to improve food security, eradicate poverty, achieve MDG1 and maximize the impact of growth, investments need to be channeled towards the intensification of means of production (Programme 1). In order for this to translate into sustainable growth beyond subsistence agriculture, however, many of the private-sector commercialization support represented in Programme 3 and producer support activities of Programme 2 must also be developed. Strong institutions, the focus of Programme 4, must also be there to deliver or provide the framework for private sector delivery. Any reduction in the financing gap of the PSTA must therefore focus on Programme 1, but be accompanied by the minimal complementary investments needed from the other programs.

24. The Government's Land Husbandry, Water Harvesting and Hillside Irrigation (LWH) Program for hillside intensification was accordingly designed to take account of these important linkages. It addresses the critical intensification issue for hillsides head-on, and it incorporates the complementary investments in extension, farmer organization, community mobilization and commercial value chain development required to make intensification pay for smallholders. To scale up the LWH is to reduce the financing gap in Rwanda's agricultural sector plan in a holistic manner that maximizes results.

25. The Government's LWH Program is a two-phased program to implement improved land husbandry and increased productivity in 101 watersheds covering 30,250 ha of land. The first phase targets 32 sub-watersheds (sites) and will form the essential basis, in terms of lessons learned, for the Program's escalation into the remaining 69 sites. Financing the first phase then,

is imperative to meeting the sector's objectives on the hillsides. The LWH Project—approved by the World Bank Board of Directors in December 2009—finances 5 of the first sites of the first phase of the overall LWH Program. Co-financier commitments from CIDA and USAID will account for an additional 4 sites, while JICA, in a parallel operation, has committed to financing a further 3-5 site in a future operation. A GAFSP scale up of the LWH Project would contribute significantly to the completion of the critical first phase, and would scale up assistance to agriculture through a vehicle that closes the gap in the PSTA in a holistic and sensible way.

26. As a scale-up proposal, the following description of the objectives, activities, costings, etc are identical to those of the existing World Bank-approved LWH Project and are drawn from its Project Appraisal Document (PAD). (Except where specifically indicated, all references to a "Project" in the following refer to the original LWH Project and encapsulate a proposed LWH scale up Project for which GAFSP financing is being sought.)

27. The LWH Project uses a modified watershed approach to introduce sustainable land-husbandry measures for hillside agriculture on selected sites, as well as developing hillside-irrigation for sub-sections of each site. The Project envisions the production of high-valued horticultural crops with the strongest marketing potential on irrigated portions of hillsides, and the improved productivity and commercialization of rain fed food and export crops on the rest (the majority) of the site catchment area hillsides. It represents a transformation of hillside intensification with a view to increasing productivity in an environmentally sustainable manner.

Overarching Development Objectives

28. The overall Project Development Objective (PDO) is to increase the productivity and commercialization of hillside agriculture in target areas on a sustainable basis. This PDO, and the key performance indicators summarized in Table 6 below, were developed together with Government and development partners as part of the Common Framework for Engagement for the Government's overall LWH Program.

Specific Objectives.

29. The proposed Scale-Up Project, like the original LWH Project has three specific objectives corresponding to three components. Indicators for these objectives, as well as for the overall PDO, can be found in the Project's results framework below. Specific project component (see below) objectives are:

1. To develop the capacity of individuals and institutions for improved hillside land husbandry, stronger agricultural value chains and expanded access to finance. Gendered community mobilization and the strengthening of farmer-led and farmer-targetd institutions and services is central to the Project's approach.
2. To improve infrastructure for hillside intensification—inlcuding good water management and sound erosion control—in a participatory fashion, to accompany the capacity develoment and institutional strengthening activities mentioned above.
3. To ensure that Project activities are effectively managed within the new SWAp structure for Ministerial implementation of programs and projects at MINAGRI.

30. Indicators for these objectives, as well as for the overall PDO, can be found in the Project's results framework in Annex 3 of the PAD and are replicated below in Table 7. The detailed Results Framework (Log frame) is presented in Annex 2.

Table 7. LWH development objectives and outcome indicators in brief

Project Development Objective	PDO Indicators	Use of Outcome Monitoring
The Project Development Objective (PDO) is to increase the productivity and commercialization of hillside agriculture in target areas.	1. Increase in productivity of targeted irrigated command area ($/ha)	These indicators will show if farmers have adopted improved technologies that result in increased productivity; and also show if productivity gains improve farmer incomes.
	2. Increase in productivity of targeted non-irrigated hillsides ($/ha)	
	3. Increase in share of commercialized products from target areas (%)	Indicator will show if project is successful in moving from subsistence farming to a more commercialized farming.
Specific Objectives	**Outcome Indicators for each specific objective**	**Use of Outcome Monitoring**
Component A Capacity and Institutional Strengthening for Hillside Intensification and Commercialization ▪ Improved hillside land husbandry technologies and techniques ▪ Strengthened value chains for agricultural products ▪ Expanded access to rural finance	1. Increased revenues made by cooperatives in project areas	To assess the market/business orientation of farmers' organizations
	2. Cost recovery ratio for operation and maintenance of WUA in project areas	To assess the sustainability of irrigation infrastructure
	3. Proportion of farmers in project affected areas using improved farm methods (**disaggregated by gender**)	To assess if extension strategy is successful
	4. Percentage of total adult population in the project affected areas which use the services of formal financial institutions (**disaggregated by gender**)	To assess if access to financial services is being increased
	5. # of project participating financial institutions (PFIs) using new products	To assess if the needed financial products to increase access to finance are being used
Component B Infrastructure for Hillside Intensification ▪ Improved infrastructure for hillside agriculture	1. Proportion of land protected against soil erosion in project areas (ongoing assessment each year)	To assess the improved infrastructure developed by the project
	2. Area developed for Irrigation in project (ha)	To assess the improved infrastructure developed by the project
	3. Reduced annual soil loss in project areas (MT/ha)	To assess the environmental benefits and sustainability of Project SLM activities
Component C effective Project management within MINAGRI	Achievement, by Project end, of the Project's PDOs	To inform on sustainability and capacity of implementation for wider hillside intensification agenda at MINAGRI

31. In addition, the Project will monitor the number of female and male beneficiaries, to ensure equal gender participation in the LWH. It is worth noting, however, that in its attention to production of fodder (through land husbandry) and water management (through water harvesting), the LWH contributes directly to the reduction of onerous, and traditionally female, tasks of fodder and water collection.

2.2. Activities to be financed

32. As described in detail in the Bank-approved PAD for the LWH, the project has three components:
    A. Capacity development and institutional strengthening
    B. Infrastructure for hillside agriculture intensification
    C. Institutional Strengthening and Capacity Building for Effective Project Management

33. Table 8 below outlines the Project's components and sub components that are the same activities to be financed in a site-scale up under the GAFSP. Table 8 also maps the project's sub-components directly to the PSTA programmes and sub-programmes. So, for example, the construction of infrastructure and the use of modern inputs falls under Programme 1 (Sub-programmes 1.4 and 1.5), while expanding value chains and improving access to finance fall under program 3 (sub-programs and 3.1, 3.4 and 3.6). Support to the project implementation team for LWH will contribute directly to the capacity of MINAGRI for implementation (Program 4), etc.

Table 8. ***LWH scale-up activities to be financed through the GAFSP and their alignment with Programs and sub-programs of ASIP***

Activities to be Financed	Sector Strategy and ASIP Program/ sub-program	Related CAADP Technical Pillar
Component A: Capacity Development and Institutional Strengthening for Hillside Intensification		
A1: Strengthening Farmer Organizations	SP 2.1 SP4.2 , and SP 3.1	Pillar 4 : Agricultural Research, Technology Dissemination and Adoption
A2: Improving the Extension System	SP 2.2 SP 4.2	Pillar 4 Pillar 2: Rural Infrastructure and Trade-Related Capacities for Market-Access
A3: Support to Marketing and Rural Finance	SP 3.1, SP 3.3, SP 3.4 SP 3.5, SP 3.6	Pillar 2
Component B: Infrastructure for Hillside Intensification		
B 1: Construct Land Husbandry Infrastructure	SP 1.1 SP 4.2	Pillar 1: Land and Water Management Pillar 3: Increasing Food Supply and Reducing Hunger
B 2: Construct Water Harvesting Infrastructure	SP 1.4 SP 4.2	Pillar 1 Pillar 3
B 3: Construct Irrigation Infrastructure	SP 1.4 and SP 4.2	Pillar 1 and Pillar 3
Component C: Implementation through the Ministerial SWAp Structure		
C 1: Detailed Survey and Design Study and Resettlement	Program 4	Pillar 4

**See Annex 2 for the full log frame of the LWH Project

34. In terms of alignment, the PDO speaks directly to Programmes 1 and 3 of the PSTA II, which seek to intensify production and increase the marketing and commercialization of crops, respectively. Support to the project implementation team for LWH will contribute directly to the capacity of MINAGRI for implementation (Program 4) in future phases of the Government's LWH Program. A brief description taken from the PAD of each of these activities follows:

Component A: Capacity Development and Institutional Strengthening for Hillside Intensification

35. The objective of Component A is to develop the capacity of individuals and institutions for improved hillside land husbandry, stronger agricultural value chains and expanded access to finance. Using a value chain approach to the Project's PDO, Component A covers the capacity development and institutional strengthening for both production and marketing, including the access to finance issues that can constrain both.

Sub-component A 1: Strengthening Farmer Organizations

36. The success of the Government's hillside intensification objectives requires solid farmer-based institutions both at the local, provincial and national levels. As a first step toward this, and towards a more commercially-minded approach for farmers, gendered community mobilization on proposed Project activities and active farmer input into participatory crop selection are essential Project activities. In addition to this critical community mobilization indicated above, the institutional diagnosis undertaken for the LWH Project identified a number of weaknesses in Rwanda's agricultural organizations that will be addressed through the Project: (i) governance; (ii) management; and (iii) market orientation. Running throughout Project activities on organizational development is the awareness that some 60% of farmers in Rwanda are women, so their active and demonstrable involvement[1] in Project-related decisions and governance structures is key to the Project's approach.

Sub-Component A 2: Extension

37. The demand for extension services in the LWH is considerable, as the project, by its nature, calls for a holistic approach to watershed management which involves technical and technological challenges. In addition to food crops in rainfed Project areas, the production of non-traditional export crops on irrigated portions also requires knowledge and understanding of phytosanitary issues. The project will finance those extension activities that address the most critical knowledge gaps of LWH watershed producers. In particular, the Project will finance the implementation arrangements necessary for an extension delivery system that incorporates the key observations of the diagnostic conducted for the LWH. These include defining clear organizational mechanisms for farmers and extension agents to interact, a common framework for "participatory extension", and defining approaches for evaluation and validation of the results achieved with the adoption of new technologies and practices.
38. The Program will also support the institutional dimension of extension which include ensuring adequate representation of farmers (see also A1), clarifying the respective roles of MINAGRI and its agencies, local authorities and non-governmental players, and clarifying on the role of institutions involved in input marketing.

Sub-component A3: Support to linking producers to marketing and rural finance

Marketing

1 For example, Project site committees must have a minimum of 30% representation by female beneficiaries and additionally include representation for identified vulnerable groups in the Project-affected area.

39. This sub-component will finance investments in marketing infrastructure and build the capacity necessary to address the challenges surrounding successful horticultural development that prevent Rwanda from profiting from the country's ideal agro-climatic conditions for the production of a wide variety of fruit and vegetables.

40. The key constraints to be addressed and financed by the project are:

- Lack of linkages between buyers and sellers: Alliances between buyers (and processors) and producers need to be strengthened. Positive examples in the region exist (e.g. East Africa Growers' Association) and can be replicated.
- Quality: To produce high quality outputs, intensive, hands-on technical assistance over several years is required in addition to classic farmer extension;
- Poor post harvest infrastructure: Critical infrastructures include coolers and dryers at the field level, cold chain facilities, greenhouse or tunnels and improved rural access roads;
- External certification: Financial and technical assistance for obtaining external certification (e.g. organic, GAP, etc.) will be important for market penetration.

41. Under the same sub-component, the project will support the necessary enabling regulatory environment for horticultural marketing and export, and collaborate with complementary projects underway in the country, including electrification and rural access roads.

Rural Finance

42. Access to finance in Rwanda remains limited, particularly for rural farmers. A recent DFID-financed financial access survey shows that Rwanda is characterized by a high level of financial exclusion. Little over 50 percent of Rwandan adults have access to any form of financial services and only 14% of the adult population is banked. These figures are worse for rural women and men, than for urban.

43. The project will finance investments in improving rural access to financial services on a sustainable basis, by: (i) developing savings, leasing and value-chain financing products (including the exploration of warehouse receipting and index-based weather insurance) in collaboration with financial institutions; and (ii) increasing financial literacy; and (iii) promoting sustainable rural financial services through the support of AFR. All capacity building measures will be offered strictly on a demand basis. The demand driven process will be gender sensitive ensuring that the needs of women clients are well articulated, alongside those of men.

Component B: Infrastructure for Hillside Agriculture Intensification

44. The objective of this component is to provide the essential 'hardware' for hillside intensification in a participatory fashion, to accompany the capacity development and institutional strengthening activities of Component A. Its three sub-components are organized around the L, the W and the H of LWH.

    (i) **L**and husbandry infrastructure supports the development of participatory and comprehensive land husbandry throughout the sub-watershed to improve productivity for both rain fed and irrigated areas;

(ii) **W**ater harvesting infrastructure, including valley dams and reservoirs; and

iii) Hillside irrigation infrastructure, including the development of the conveyance structures for hillside irrigation.

45. Project site selection under the LWH Scaled-up financing will require the identification of sites. The Project will therefore finance detailed survey and design work and any requisite studies. This includes: i) detailed topographic, soil, hydrological and geological surveying and testing; ii) developing detailed design for the valley dam reservoirs to be constructed, irrigation infrastructure and conveyance to be installed, and land husbandry technologies to be chosen and implemented; iii) preparation of detailed specifications for each of the design work; iv) preparation of the tender document to be used for bidding. This component will also finance the necessary accompanying safeguards work including environmental, dam safety and any resettlement and compensation activities. Although all compensation is to be financed from the government contribution, the Project will finance the preparation activities for social and environmental safeguards.

46. The actual site selection will be guided by the common site selection criteria developed for the entire LWH Program and made part of the Common Framework for Engagement (CFE). The precise package of interventions to be implemented per site will be decided using a participatory options assessment tool[2] that has already been adopted under the existing LWH project.

Sub-Component B 1: Land husbandry Infrastructure

47. The Program will develop participatory and comprehensive land husbandry practices in a sub-watershed setting. Activities to be financed will include soil conservation measures and infrastructure appropriate to differing slope categories (Table 9), and downstream reservoir protection through the development of a silt trap zone for sediment reduction into the reservoir. These activities are meant to improve hillside agricultural management to protect against erosion and enhance sustained crop productivity and ecosystem conservation. As it is stated above, beneficiaries will participate in refining the selection of appropriate practices and technologies.

48. The Project will use participatory land use processes to promote high level stakeholder involvement, and to build awareness and empower the community members to enhance their buy-in for the comprehensive land management work. Six steps were identified early in LWH-Project preparation of the on-going LWH sites, which include (a) sub-watershed selection based on pre-defined criteria that include community buy-in and degree of district ownership; (b) formation of a multi-disciplinary planning team, with participation of key stakeholders, farmers' representatives, district officers and entrepreneurs, local experts and others; (c) community communication and sensitization on the options assessment (see Component A above), based on developed communication strategy; (d) detailed socio-economic and technical survey and analysis; and (e) drafting of a plan for site development; and (f) community feedback and plan finalizations. The same criteria will be followed for the project sites benefitting from a scale up under GAFSP.

2 For further information, please see the LWH Project Appraisal Document.

Table 9.*Proposed land-husbandry technologies by Slope Category*[3]

Slope Category		Land-husbandry Measures
1	Nearly level to strongly undulating (slope 0-6 %)	1. Grass strips/trash lines (~1km /ha)
		2. agroforestry interventions
		3. intercropping with plant cover and green manuring
		4. Applying manure/compost at the rate of 10 tons/ha & mulching
2	Gently rolling to strongly rolling (slope 6- 16%)	1. Construction of soil bunds (1 km /ha) (level or graded as per agroclimatic zone
		2. Planting trees/shrubs along the lower side supporting the bunds
		3. intercropping and green manuring
		4. Applying manure /compost at 10 tons/ha and mulching
3	Hilly to steep (slope 16 – 40 %)	1. Constructing Bench (radical) terraces (~1km/ha)
		2. Planting trees/shrubs along the lower side supporting the radical terraces
		3. intercropping and green manuring
		4. liming with agricultural lime at 2.5 tons/ha
		5. Applying manure /compost at 10 tons/ha and mulching
4	Very steep (slope 40 – 60 %)	1. Constructing progressive terraces (~5 km/ha)
		2. Intercropping and green manuring
5	Extremely steep (slope 60 – 120%)	1. Constructing micro-basins with tree planting pits at 1000 /ha
		2. Planting tree seedlings (reforestation) at 1000/ha

49. The project will invest in infrastructure for downstream reservoir protection. The aim of downstream reservoir protection is to guarantee the environmentally friendly and long-term use of valley-dam reservoirs. Activities would include survey and design of catchments that contribute water in the form of run-off to the reservoirs, including land area to be inundated; and actions for change of land use (from annual crop production to perennial crop production) among farmers who own the land. These activities including facilitation of any resettlement issues; fencing the reservoirs; planting perennial forage legumes in all immediate upstream sides of the reservoirs; and planting perennial commercial trees in all immediate upstream sides of the forage legume area.

Sub-Component B 2: Water harvesting infrastructure

50. The Project will invest in water harvesting infrastructure, including study and construction of valley dams and reservoirs on the selected sites. Dams will vary in size, largely remaining under 20 meters in height, and will inundate about 7 - 13 ha each on average. Water storage allows for about 100 days of irrigation on average, permitting a second crop during the dry season. Water harvesting infrastructure will be developed jointly with the irrigation infrastructure (sub-component B 3) and after completion of the beneficiary consultation process. Water-harvesting and the layout of conveyance structures give time saving and avoidance of back-breaking water collection activities (most usually done by women and children on these rugged topographies) opportunities. Water access to livestock and sanitation will increase significantly.

3 Slope categories of erosion hazard adapted from Wischmeier & Smith 1978 and Bergsma 1985.

Sub-Component B3 : Irrigation infrastructure

51. The Project will develop conveyance structures for hillside irrigation. This includes primary, secondary and even tertiary level water distributions and field level application for basin or furrow irrigation. The component also includes command area development of irrigated hillsides, such as land preparation and land leveling, bench and bund terracing, etc. Project activities include (i) confirmation of site selection criteria; (ii) beneficiary consultation and design options selection; (iii) full detailed feasibility level survey and design; (iv) hillside irrigation on all sites developed; and (iv) asset management plans developed for each of the sites developed. In order to strengthen the sustainability of the investments, the Project will train water user associations (WUAs) in operation and maintenance (O&M) of the lower level of the irrigation schemes. For the primary and secondary part of the system, the project will consider piloting outsourcing of O&M to private operators through performance based O&M contracts.

52. The Project will follow a consultative process for hillside irrigation development. As with other sub-components, activities will include stakeholder consultations with women and men farmers and other stakeholders, ideally after completion of pre-feasibility studies and the preparation of preliminary design options. Separately, an Environmental Management Plan (EMP) and Resettlement Action Plan (RAP) will be customized to fit to these sites. For each site, an asset management plan will be developed that will outline activities, responsibilities and timeline for operation and maintenance of the infrastructure, including WUAs. When the irrigation infrastructure is in place and made operational, it will reduce the risks and vulnerabilities associated with seasonal fluctuation of rainfall and not having cashable items. The high-value crop production will effectively link the smallholder farmers to markets.

COMPONENT C: Project Implementation through the Ministerial SWAp Structure

53. The purpose of this component is to ensure that Project activities are effectively managed within the new SWAp structure for Ministerial implementation of programs and projects at MINAGRI. The SWAp implementation structure is composed of four program implementation units, one for each of the PSTA II programs. Each PSTA II program has a Program Manager (PM), and will have a team of implementation support staff. The core team for Program 1 is in place, and a scale-up would imply an accompanying scale up in implementation capacity, financed through Component C (see Table 9). That is, the GAFSP would also help to finance the additional implementation arrangements required for a scaled up LWH.

54. The LWH project supports the piloting of the SWAp structure. In order to build the capacity of the structure, the LWH Project will initially be the only activity to be implemented under Program 1, and will follow World Bank procurement and financial management procedures, as per ongoing SILs and APLs in the country (see 2.4 on Preferred Supervising Entity). As the single multi-faceted activity being implemented under Program 1, the LWH falls under the direct responsibility of the Program 1 Manager who works with strong bondage with all the three other programs.

Financing Modality and Sustainability

55. The modality of financing for the GAFSP proposal is that of an investment project, as it is a scale up of an existing investment project. MINAGRI's implementation structure for Program 1 will form the implementation framework of the project. This is reinforced by World Bank support for the execution of procurement and financial management functions both at the central and decentralized levels. Such support provides additional assurance while also building the capacity of the PSTA II Program 1 implementation team (see 2.4 Supervising Entity below).

56. The common framework of engagement (CFE) ensures the sustainability of a consistent approach to hillside intensification in Rwanda. In working with the Government and other development partners on the CFE, common approaches to hillside intensification, sustainable land management, dam and irrigation construction and the social and environmental safeguards that accompany these in the CFE also ensures the sustainability of a common approach to the LWH, beyond the World Bank co-financed and GAFSP operation.

57. Finally, the Project is designed with sustainable intensification in mind. The lion's share of project affected area falls under comprehensive land husbandry activities aimed at curtailing erosion and maintaining/restoring soil fertility. The Project activities are undertaken with a careful eye to externalities and to ensuring buy in by women and men farmers and affected households. Such local level ownership is imperative to the sustainability of the measures undertaken in the LWH and form a core part of the Project's activities and approach. Finally, it is worth noting that LWH has been conceived as a community mobilization project that empowers farmers, through Water User's Associations and cooperatives **to take over the maintenance of any infrastructure.**

2.3: Financing Requested and Priority for Funding

58. The GAFSP proposal for Rwanda is to scale up financing for the LWH. As the LWH is the key mechanism for financing across PSTA II, a scale up of LWH is the best vehicle for providing additional finance for Rwanda's CAADP-approved investment plan for the sector. As indicated above, the activities of the LWH are very much interconnected, so a holistic approach (to all components) is essential. For instance, because it is in a hillside setting, conducting the water harvesting (dam reservoir) without treating the water catchment will shorten the life of the Project (and its infrastructures) drastically. Prioritizing the GAFSP proposal by project component is therefore not appropriate because of the nature of the project. Instead the GoR has prioritized (shown in Table 10) the request for GAFSP funding in terms of two site-based options. Option 1 (top priority), therefore, being a request to finance 11 additional sites with all associated components and option two, lower rank in priority being to finance additional 8 sites. The difference between the two options is that with option 1 the project will be able to reach an additional 40,000 HH while with option 2 the project will reach 27000 - 30, 000HH.

59. Table 10 at the following page represents two financing scenarios in order of priority; one for 11 additional sites, and one for 8 additional sites. The basis for the indicative cost estimates for each activity is existing detailed design and costing studies for the pilot LWH sites of the existing GoR/World Bank operation.

60. As seen in Table 2, the total gap for the PSTA II in the CAADP-approved ASIP is approximately US$ 325 million. GAFSP support for priority scenario 1 (scale up financing for 11 sites) will

account for 22% of the gap of the overall investment plan gap. GAFSP support for priority scenario 2 (scale up financing for 8 sites) will account for 15% of the overall investment plan gap.

Table 10: Activities and budget to be financed under two Scenarios, prioritized

Activities to be Financed	Priority 1: 11 Site Scale-up USD 71.65 million (approx. 8000 ha)	Priority 2: 8 Site Scale-up USD50 million (approx. 5775 ha)
Component A: Capacity Development and Institutional Strengthening for Hillside Intensification		
A1: Strengthening Farmer Organizations	3.00	2.20
A2: Improving the Extension System	3.65	2.65
A3: Support to Marketing and Rural Finance[4]	12.45	7.65
Component B: Infrastructure for Hillside Intensification		
B 1: Construct Land Husbandry Infrastructure	18.27	12.65
B 2: Construct Water Harvesting Infrastructure	15.88	11.55
B 3: Construct Irrigation Infrastructure	16.85	12.20
Component C : Implementation through the Ministerial SWAp Structure	1.55	1.10
Total	**USD 71.65 million**	**USD 50 million**

61. The LWH was first presented to the development partner (DP) community in March 2008. The final design of activities was amply informed by rounds of DP feedback. As discussed above, the open culture of engagement and the subsequent adoption of a common framework of engagement resulted in co-financing support from USAID and CIDA, as well as a commitment towards a parallel support from JICA. This process has taken two years and yielded commitments from the aforementioned DPs. Any GAFSP funding is therefore purely additional and there is little risk of crowding out other donor support.

2.4: Preferred Supervising Entity

62. The World Bank is chosen as a supervising agency for a number of reasons. First, it is already supervising the implementation of the current LWH Project, approved by its Board of Directors in December 2009. The World Bank led the development of the CFE with MINAGRI and with the input of other financing partners, (CIDA, JICA and USAID). Its familiarity with the Project on a partnership basis is historically sound. Further, the World Bank is the Lead Donor for the agricultural sector in Rwanda and has over the last few years committed strongly to providing adequate implementation support and oversight in many aspects of sector policy, in a partnership that is much appreciated by MINAGRI. Finally, the World Bank has strong experience and expertise in agricultural intensification projects within and without Rwanda.

63. The LWH scale up proposal for GAFSP was presented to the ASWG and validated by it. It is worth noting here that before settling on the LWH, a number of other options were considered

[4] The World Bank-financed LWH project has a fourth sub-component under Component A, entitled "Support to Capacity Development and Institutional Strengthening of MINAGRI and its Agencies". This aspect of federal level LWH is sufficiently funded and does not require scaling-up.

by the Government, but it was agreed that LWH represented the best vehicle for scaling up support to the sector in a balanced fashion that reflects Government's food security, growth priorities and opportunities for filling the highest gaps.

2.5: Timeframe of the Proposed Support

64. The original timeframe for the existing LWH project was from 2009 – 2013, covering 8-10 sites, depending on final co-financing scenario. This overlaps with the period of the ASIP and PSTA II. Increasing the number of sites through a GAFSP scale up, however, may well imply the extension of the Project beyond 2013, although the length of extension may be tempered by the gains in efficiency with a larger number of sites. That is, with the addition of the proposed number of sites, it may be possible to attract larger companies for a scaled-up LWH project and thereby improve the quality and speed of implementation.

65. Nonetheless, because the scale up implies a potential tripling of the number of sites, extending the implementation period of the LWH to 4 years is proposed in order not to compromise the quality of the program. This is of particular importance as it relies heavily on participatory techniques in working **with** smallholder farmers, which are critical and time consuming.

2.6: Risks and Risk Management

66. As for all World Bank-financed projects, throughout the preparation of the LWH Project, consideration of potential risks and related mitigation measures was systematically undertaken. Table 11 below highlights some of these key risks that may affect the implementation of each activity—and thus of the project's objectives—along with mitigation measures that have consequently been put in place.

Table 11: Potential Risks and Mitigation Measures

Activities to be Financed	Potential Risk	Mitigation Measures
Component A: Capacity Development and Institutional Strengthening for Hillside Intensification		
A1: Strengthening Farmer Organizations	Due to the transformational nature of LWH productivity measures on private land, community buy-in from women and men beneficiaries is critical to the operation's success.	⇨The Project financed (through Project Preparation Fund) a strategic social assessment for communication, mobilization and gender to fine-tune activities by site and proposes a common approach for the CFE; ⇨As a result, the Project's design specifically includes community mobilization, communication and gender activities—all fully resourced;
A2: Improving the Extension System		
A3: Support to Marketing and Rural Finance		
Component B: Infrastructure for Hillside Intensification		
B 1: Construct Land Husbandry Infrastructure	The issue of land titles, the absence of which reduces willingness of people to undertake investments on their land, is under the purvey of a separate Ministry (MILENA);	⇨The rights to land are already protected by the 2005 Land Law and the Project, by design, communicates their rights to beneficiaries ⇨There is a firm Government commitment to the land titling agenda to complete all titling by 2012. Phase 1 of the National Land Tenure Regularization Program has been completed and Phase 2 begun (with £18,500 DFID support). ⇨Discussion has already begun to prioritize LWH districts in the Land Tenure Regularization Program at the DP level with DFID, and MINAGRI will undertake the same with MILENA

B 2: Construct Water Harvesting Infrastructure	Water harvesting and hillside irrigation under LWH affects the use of productive resources, especially land, by rural people. Failure to adequately implement the Project's Resettlement Policy Framework (RPF) activities, particularly compensation, in a timely manner would undermine community interest and participation in the project, as well as violate Bank social safeguards policies.	⇨Consistent with World Bank safeguards policies, an RPF has been prepared and will be implemented for all developed sites. ⇨Any potential risks similarly applied to environmental or dam safety risks are fully covered by the World Bank's safeguard policies. These policies and their required instruments have been prepared for the Project and cleared by the relevant Bank departments; a framework is in place for environmental management plans and dam safety plans for any new sites selected under the scale up. These are subject to Bank clearance.
B 3: Construct Irrigation Infrastructure	The procurement of infrastructure works throughout Component B implies procurement and financial management risks related to the handling of complex transactions	In early recognition of these risks: ⇨The Project started the early recruitment of a procurement specialist at the national LWH program level under the PPF, who is now in place and has received support and training from Bank procurement staff; ⇨The World Bank agreed with Government that this LWH/Program 1 implementation team would initially be uniquely charged with LWH Project implementation (as opposed to the other activities possibly fitting under Program 1) in order to mitigate the risk of overburdening capacity
Component C : Implementation through the Ministerial SWAp Structure	The LWH has multifaceted activities due to a holistic watershed approach and strong coordination is required. The new Ministerial implementation structure meets the GoR and development partners' commitments to a sector SWAp and Paris Declaration Principles, but it will be a pilot with the LWH which entails some implementation risk.	⇨The early and full engagement of the MINAGRI (DFID and IFAD-supported) PAPSTA project throughout project preparation has ensured that the extensive diagnostic work undertaken by PAPSTA on MINAGRI implementation capacity have informed LWH implementation arrangement, which are coasted and funded through the Project ⇨Similarly, decentralized implementation is a core part of MINAGRI's strategy and supported by its own budget. ⇨The LWH is a SIL, with the procurement, FM and supervisory oversight of the Bank at all times.

2.7. Consultations with Local Stakeholders and Development Partners

67. In March 2008, MINAGRI presented the LWH Program—including a detailed site-level technical proposal—to DPs in the Agriculture Sector Working Group (ASWG). DPs were asked to feedback on the project design at that stage and throughout the subsequent one and half years through repeated iterations of the LWH proposal presented in successive ASWG meetings. These iterations eventually led to the commitment of financial support from the World Bank, USAID, CIDA and JICA. In preparing the World Bank operation, DPs were consistently invited to participate in meetings, field visits and other preparation activities. Furthermore, as mentioned, interested DPs were invited to develop with MINAGRI the Common Framework for Engagement, which guides the design and implementation of LWH, regardless of financier. The GoR had therefore actively engaged DPs throughout the life of the project, leading to the design and support of activities as described in this proposal.

68. Given its transformational nature, the LWH depends critically on community buy-in. For this reason, project sites are always selected in consultation with women and men of the local watershed community. The physical selection process itself involves the guidance of the local stakeholders to the specific sites and through the proposed technologies. Their division of responsibilities and returns are discussed at (the smallest administrative unit (Imudugudu), Cell and sector level. Once approved by the community, Project activities are formally adopted into

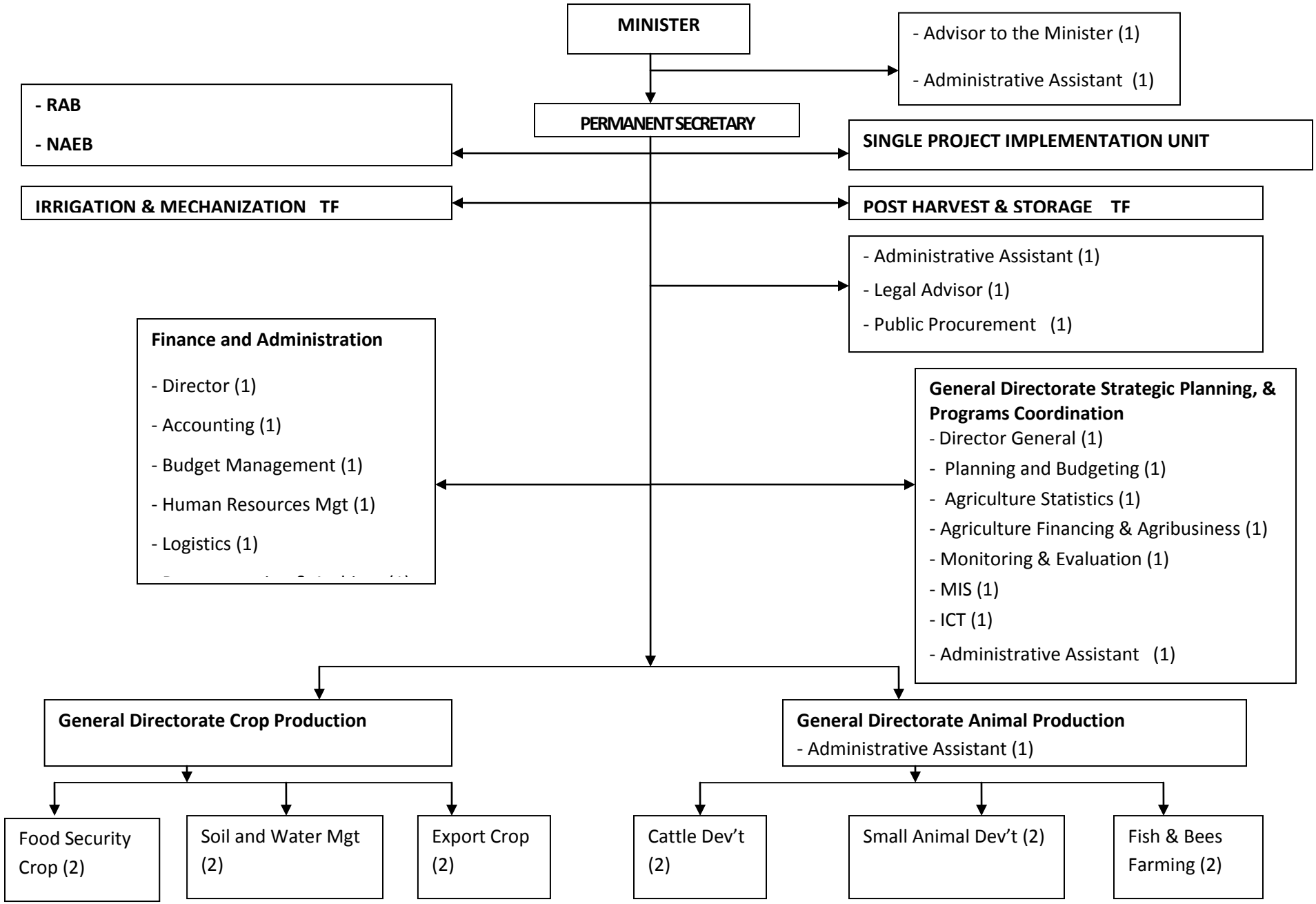
the District's Development Plans and the District leadership is actively engaged in Project oversight. In-depth discussion with the individual stakeholders who will be directly affected by the project interventions continues throughout the detailed survey and design study period, as LWH sites financed under GAFSP are considered for selection. Project activities and resources reflect the critical nature of community mobilization and input into site and participatory selection of crops: Over half of the resources dedicated to sub-component A1 is for gender and community mobilization activities to ensure smallholder and community buy-in.

69. Once the survey and design is completed, community mapping exercises are undertaken whereby women and men are asked to locate their homes, their fields and their places of community interest directly on the map. The process then shows them where infrastructure will be built, where activities will take place and how that will affect them. They are then given ample opportunity to ask questions, debate and decide on their future involvement with LWH.

70. At national level, the Management Committee of the different ministries is consulted. Their shares are defined and the mayor offices of all the 4 relevant districts of the LWH Scale-up project know and approve the initiative. More specifically, the Ministry of Finance is consulted for its approval and future support.

71. Lastly, once the GoR decided that LWH scale up was the preferred proposal to be submitted to the GAFSP; a meeting of the Sector Working Group was called to discuss the choice of the project. Most of DPs were outright supportive but some asked a few questions and wanted to know that the Government had thought of/considered other proposals/ideas before settling on an LWH scale up. All questions and concerns were addressed in the context of the Investment Plan and at the end of the meeting; the LWH Scale Up was overwhelmingly supported as the proposal to be submitted for GAFSP financing.

Annex 1. Organogram of the Ministry of Agriculture and Animal Resources (MINAGRI)



Annex 2: Results Framework and Monitoring

RWANDA: Land-Husbandry, Water-Harvesting and Hillside-Irrigation (LWH) **Project**

Project Development Objective	PDO Indicators	Use of Outcome Monitoring
The Project Development Objective (PDO) is to increase the productivity and commercialization of hillside agriculture in target areas	1. Increased Productivity in irrigated command area ($/ha)	These indicators will show if farmers have adopted improved technologies that result in increased productivity; and also show if productivity gains improve farmer incomes
	2. Increased Productivity in non-irrigated hillsides ($/ha)	
	3. Increased share in commercialized products in project areas (%)	Indicator will show if project is successful in moving from subsistence farming to a more commercialized farming
Intermediate Outcome for each Component	**Outcome Indicators for Components**	**Use of Outcome Monitoring**
Component A Capacity and Institutional Strengthening for Hillside Intensification and Commercialization ▪ Improved hillside land husbandry technologies and techniques ▪ Strengthened value chains for agricultural products ▪ Expanded access to rural finance	4. Increased revenues made by cooperatives in project areas	To assess the market/business orientation of farmers' organizations
	5. Cost recovery ratio for operation and maintenance of WUA in project areas	To assess the sustainability of irrigation infrastructure
	6. Proportion of farmers in project affected areas using improved farm methods (disaggregated by gender)	To assess if extension strategy is successful
	7. Percentage of total adult population in the project affected areas which use the services of formal financial institutions (disaggregated by gender)	To assess if access to financial services is being increased
	8. # of project participating financial institutions (PFIs) using new products	To assess if the needed financial products to increase access to finance are being used
Component B Infrastructure for Hillside Intensification ▪ Improved infrastructure for hillside agriculture	9. Proportion of land protected against soil erosion in project areas (ongoing assessment each year)	To assess the improved infrastructure developed by the project
	10. Area developed for Irrigation in project (ha)	To assess the improved infrastructure developed by the project
	11. Reduced annual soil loss in project areas (MT/ha)	To assess the environmental benefits and sustainability of Project SLM activities

Arrangements for Monitoring and Evaluation of the Results Framework

			Target Values				Data Collection and Reporting			Observations and Comments
	Baseline	End of project	YR1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection	
Project Outcome Indicators										
1. Increased Productivity in irrigated command area ($/ha)[5]	1000	1700	200	1200	1400	1700	Annually	Survey and Coop reports	LWH M&E	Data on mt/ha on crops eventually selected will also be available to report to MINAGRI[6]
2. Increased Productivity in non-irrigated hillsides ($/ha)	1000	1400	800	1000	1200	1400	Annually	Survey and Coop reports	LWH M&E	Data on mt/ha will be available to report to MINAGRI This indicator does not include the water catchment area.[2]
3. Increased share in commercialized products in project areas (%)	35%	60%	30%	45%	55%	60%	Annually	Cooperative M&E Committee Report	MINAGRI and LWH M&E	The share will be calculated based on the value in $ of the production and the marketed share of it (%)[2]
Intermediate Outcome Indicators										
Component A: Capacity development and Institutional Strengthening for Hillside Intensification										
4. Increased revenues made by cooperatives in project areas	Year on year increase	50% increase from YR1 revenues	Collection of baseline coops revenues(BR)	BR+15%	BR+30%	BR+50%	Annually	Cooperative M&E Committee Report	LWH M&E	Revenues would include revenues from several sources e.g. sales, services etc.
5. Cost recovery ratio for operation and maintenance of WUA in project areas[7]	N/A	40%	N/A	N/A	20%	40%	Bi-annual	LWH progress report	LWH M&E	Data will be available by site as well

[5] Note that project end reflects the period when irrigated cultivation is just taking off. The difference in productivity gains by the 5 or 6 year mark will be markedly higher.

[6] Data is based on self assessment of farmers. In the future the data will also be triangulated with data from cooperatives that will be created by the project. This will improve data quality but may also show some difference in values. This comment applies to all PDO indicators.

[7] On the assumption of best practice full cost recovery (100%) over five years, assuming the irrigation scheme will be up

			Target Values				Data Collection and Reporting			Observations and Comments
	Baseline	**End of project**	**YR1**	**YR2**	**YR3**	**YR4**	**Frequency of Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**	
6. Proportion of farmers in project affected areas using improved farm methods (disaggregated by gender)	Male=30 Female=25	M = 90% F = 90%	M = 50% F =50%	M = 70% F =70%	M = 80% F = 80%	M = 90% F = 90%	Annually	Survey	MINAGRI	Improved farm methods are defined as follows: improved planting materials, IPM, soil fertility management, conservation tillage, agro-forestry interventions, intercropping with plant cover and green manuring, apply manure/compost & mulching, liming
7. Percentage of total adult population in the project affected areas which use the services of formal financial institutions (disaggregated by gender)	M = 22.0 F = 17.6	M = 40 F = 36	M = 26 F = 22	M = 30 F = 26	M = 35 F = 31	M = 40 F = 36	MTR and End-of-project	Survey based on FinScope methods	MINAGRI	
8. # of project participating financial institutions (PFIs) using new products	N/A	12	0	3	6	12	Bi-annual	LWH progress report	LWH M&E	Based on a count of PFIs per sector; two SACCOs or credit unions belonging to the same network but located in two different sectors are counted as two PFIs
Component B: Infrastructure for Hillside Intensification										
9. Proportion of land protected against soil erosion in project areas (ongoing assessment each year)	44.5%	80%	50%	60%	70%	80%	Bi-annual	MINAGRI data and/or Survey	LWH M&E	Land protection methods are defined as follows: grass strips/ trash lines, agro-forestry interventions, intercropping with plant cover and green manuring, construction of soil bunds, planting

			Target Values				Data Collection and Reporting			Observations and Comments
	Baseline	**End of project**	**YR1**	**YR2**	**YR3**	**YR4**	**Frequency of Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**	
										trees supporting bunds, construction of radical or progressive terraces, construction of micro-basins with tree planting, reforestation
10. Area developed for Irrigation in project (ha)	0	900	0	0	350	900	Bi-annual	LWH progress report	LWH M&E	No irrigation is expected in YR1 and YR2 due to tendering and dam construction activities.
11. Reduced annual soil loss in project areas (T/ha)	Q	0.5 Q	Amount of soil loss from project site (T/ha) = Q	10% as compared to control farms	30% as compared to control farms	50% as compared to control farms	Annually	LWH progress report	LWH M&E	Pin method will be used within the project area and in control farms across various slope categories, soil loss reduction will be calculated on seasonal and annual basis.

Annex 2. Continued from previous page

Arrangements for Results Monitoring

1. **The monitoring and evaluation (M&E) system for the Project will be in line with the proposed implementation structure of the Project and therefore fully embedded into the MINAGRI M&E system.** The new SWAp structure in MINAGRI envisions three levels of M&E activity. First, there is one lead M&E specialist in the Policy, Planning and Coordination Unit: The MINAGRI Management Information System (MIS) Specialist. The MIS Specialist oversees the overall MIS of MINAGRI. In this, the MIS Specialist coordinates with MINAGRI's M&E Statistician, whose oversight includes the new market information system (eSoko). The Country STATA, a FAO developed tool, will support the systematic capturing of agricultural data and post it to the MINAGRI web site for dissemination. The new SWAp structure then has one M&E Officer for each of the four major programs of the SPAT, including that of the LWH, Program 1. Finally, the LWH District Implementation Support Team will also have an M&E Assistant to support the site-level M&E activities.
2. **The M&E Coordinator of Program 1 will coordinate data collection** and reporting for all activities in the Program and will be assisted in this at the decentralized levels by the M&E assistants recruited for the Districts in which LWH operates. In each district, s/he is assisted in this by an agronomist collecting data from the different producer organizations. This decentralized data collection structure will allow LWH to benefit from the provided information and avoid duplication in structures. The links between the Project and the MINAGRI system will assure a better use of LWH data and will support timely and informed decision making regarding the achievement of project objectives, without creating parallel M&E systems, in line with the SWAp.
3. **The M&E capacity at MINAGRI will be of key importance to ensuring that data will be available to track progress and to adjust project activities**. To this end, the Project will support the capacity development of the structure mentioned above (Component C), in coordination with similar activities from the PAPSTA project. That is, the three levels (District M&E Assistant, Program 1 M&E Coordinator and MINAGRI MIS Coordinator) will be strengthened through the Project. In this way, the Project contributes to establish the needed capacity not only for the implementation of LWH, but also for the overall functioning of MINAGRI in the future, in support of the SWAp.
4. **The Project has developed with Government a common set of results- based indicators** that are reflected in the Results Framework (see above). With the exception of the additional rural finance indicators, the Project's Results Framework is that of the CFE for the whole Government LWH Program. Indicators are in line with EDPRS and sector strategies, including two indicators that will be disaggregated by gender. By establishing gender specific baselines and targets, the Project will ensure that women and men benefit equally from the

operation. Deviations in this regard could be addressed by specific interventions if needed. Beside the gender disaggregated indicators in the Results Framework, the project will also be collecting additional disaggregated data that will inform Project management on a more day-to-day basis, e.g. training provided for men/women. Furthermore the team developed a results chain to show the intervention logic from activities to outcomes (see).

5. The LWH M&E system and arrangements will incorporate additional elements to strengthen data collection and use of M&E information. This includes the establishment of a link between the LWH Results Framework M&E and the GIS based dynamic information framework (LWH DIF); which will be set up at MINAGRI under LWH. Data collection and data verification could partially be done in a joint exercise with local communities and cooperatives. This participatory approach would not only improve data quality of the GIS system but would also open the opportunity to better use of the data and projections of the GIS by farmers and cooperatives on the ground.