TECHNICAL & FINANCIAL FILE

SUSTAINABLE IMPROVEMENT OF THE BANANA CROPPING SYSTEM IN KAGERA REGION AND KIBONDO DISTRICT IN KIGOMA REGION

TANZANIA

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LIST OF ABBREVIATIONS

ADB/F	African Development Bank/Fund
AIDS	Acquired Immuno Deficiency Syndrome
ARDI	Agricultural Research and Development Institute
ASDP	Agriculture Sector Development Programme
ASDS	Agriculture Sector Development Strategy
ASLMs	Agricultural Sector Lead Ministries
ASSP	Agricultural Services Support Programme
BSF	Belgian Survival Fund
BTC	Belgian Technical Cooperation
BXW	Banana Xanthomonas Wilt
CBO	Community-Based Organization
CORDEMA	Client-Oriented Research and Development Approach
CRS	Catholic Relief Services
CSP	Country Strategy Paper
DADP	District Agriculture Development Plan
DADPs	District Agriculture Development Plans
DALDO	District Agriculture and Livestock Development Officer
DANIDA	Danish International Development Agency
DASIP	District Agriculture Sector Investment Project
DC/LGA	District Council/ Local Government Authority
DED	District Executive Director
DGCD	Directorate General for Development Co-operation
DPLO	District Planning Officer
EAHB	East African Highland Bananas
EU	European Union
EUR	Euro
FADECO	Family Alliance for Development and Cooperation
FAO	Food and Agriculture Organization of the United Nations
FBO	Faith Based Organization
FFS	Farmer Field School
FHIA	Fundación Hondureña de Investigación Agrícola
GDP	Gross Domestic Product
GoB	Government of Belgium
GoT	Government of Tanzania
HIV	Human Immunodeficiency Virus
IFAD	International Fund for Agricultural Development
IFPRI	International Food Production Research Institute
INIBAP	International Network for the Improvement of Banana and Plantain
IPM	Integrated Pest Management
JAST	Joint Assistance Strategy of Tanzania
JLPC	Joint Local Partner Committee
KCDP	Kagera Community Development Programme
KoB	Kingdom of Belgium
KUL	Katholieke Universiteit Leuven
LGA	Local Government Authority
LGRP	Local Government Reform Programme

MAFSC	Ministry of Agriculture, Food security and Cooperatives
MALI	Muleba Association for Agriculture and Local Industries
MFEA	Ministry of Finance & Economic Affairs
NAEP	National Agricultural Extension Programme
NARO	National Agricultural Research Organization (Uganda)
NFSP	National Food Security Policy
NGO	Non-Governmental Organization
NMB	National Micro-finance Bank
NPES	National Poverty Eradication Strategy
NSC	National Steering Committee
O&OD	Opportunities and Obstacles to Development
OVI	Objectively Verifiable Indicator
PADEP	Participatory Agricultural Development and Empowerment Project
PFG	Participatory Farmer Group
PMO	Prime Minister's Office
PMO-RALG	Prime Minister's Office - Regional Administration and Local Government
PRA	Participatory Rural Appraisal
PRS/P	Poverty Reduction Strategy Paper
RAS	Regional Administrative Secretary
SACA	Savings and Credit Association
SACCOS	Savings and Credit Cooperative Society
SIDO	Small Industries Development Organization
SWOT	Strengths, Weaknesses, Opportunities and Threats Analysis
TDV2025	Tanzania Development Vision 2025
TFF	Technical and Financial File
ToR	Terms of Reference
TOSCA	Tanzania Official Seed Certification Agency
VADP	Village Agriculture Development Plan
VDC	Village Development Committee
VEO	Village Executive Officer

EXECUTIVE SUMMARY

Banana is the most important staple food in many communities of the Great Lakes Region of East Africa; in Kagera Region, banana is food for about 70 to 95 percent of the total population and it plays a very significant role to the regional economic development. The combination of increasing infestations of banana pests and diseases, tenure pressure, declining soil fertility, low genetic vigour of local varieties and inadequate access to markets, are threatening banana farmer's livelihoods. Growing local banana varieties susceptible to one or more of these threats has led to a decline of banana production and high vulnerability to food and income insecurity for poorer farmers. This situation has been compounded by the prolonged price crises of coffee, the major traditional cash crop grown by smallholder farmers in the region.

In 1997, the Belgian-Tanzanian funded Kagera Community Development Programme (KCDP) was established with the goal of improving the standard of living for the rural communities, with a component focused on "Superior banana varieties that are either resistant to weevils, panama, nematodes, low fertility and drought, alone or in combination are introduced, multiplied and distributed." The justification for the project was that existing varieties of bananas, the main staple food in a large part of the region, were not resistant to a number of pests and diseases and should be replaced as fast as possible by more resistant varieties, accepted by the population. A gradual replacement should be based on a simple laboratory technique, merismatic in-vitro production of clean plant material. Banana plants rosed in nurseries and multiplied in multiplication fields were distributed to farmers in 5 districts. By 2003, at the end of the project and according to the project final report, an estimated 2,5 million banana suckers had diffused among farmers in Kagera Region either directly from the multiplication fields or indirectly from farmer to farmer. The KCDP project may be considered a frank success in terms of introduction of improved hybrid varieties. An initial adoption study conducted in 2002 indicated that 29 percent of 177 households surveyed from the all districts of the Kagera region had planted at least one new banana variety; adoption has increased in the aftermath of the project. The impact on productivity and income was evaluated as very positive, with some social bias in adoption towards more market-oriented farmers.

This new project is conceived as a consolidation phase, with an expansion to Kibondo district in Kigoma region. The main challenges for this new project are:

- Overcoming constraints in diffusion of new varieties: multiplication fields and nurseries transferred at the end of KCDP to district authorities and NGOs have mostly stopped functioning, showing low sustainability while farmer-to-farmer diffusion has thrived although demand is still not met with spontaneous diffusion.
- Targeting the poor and vulnerable households;
- Facing new challenges from BXW: the outbreak of Bacterial Xanthomonas Wilt, to which new varieties are not resistant, raises new technical constraints on banana production;
- Strengthening innovation in soil fertility management: good practices exist among banana farmers to maintain soil fertility although they are generally labour-intensive and thus not always adequate for poorer households; there is ample space for further applied research to overcome some of the constraints;
- Mainstreaming banana development in the decentralization process.

Four axes of intervention have been defined within the new strategy:

1. Consolidate institutional capacities and networking.
2. Improve the efficiency of the dissemination of the banana varieties already tested and demanded by many farmers because of superior productivity and tolerance to pests, disease and drought.
3. Disseminate best management practices for improved banana production & protection.
4. Improve post harvest, value adding and marketing skills.

The Overall Objective is "Incomes and food security in Kagera Region and Kibondo district increased." The Specific Objective is: "Strengthened institutional capacities and public-private partnerships ensuring the sustained spread of farmer-led innovation in banana production in Kagera region and Kibondo district". Four expected results have been defined:

- Institutional capacities and farmer empowerment consolidated allowing an enabling environment for technical and entrepreneurial innovation.
- A sustainable supply of improved banana varieties planting material ensured through public-private partnerships and a farmer-based dissemination system.
- Dissemination of best available banana cropping and management practices ensured through participatory experimentation and farmer-to farmer extension.
- Spread of innovations increased and sustained by improved post-harvest, processing and marketing skills.

The project will target approximately 300 farmer innovators in 112 wards of the 8 districts concerned. At least 250 of them will also work as banana multipliers. The vast majority of banana producers, who combine food security and market-oriented production with banana as pivotal crop, will constitute the bulk of beneficiaries of the project. Tentatively 112 wards in the 8 districts have been targeted for their potential for banana improvement.
An estimate of 300 Participatory Farmer Groups will be supported with capacity-building, including about 6.000 households. Indirectly, a much bigger number of households will be reached by the intervention

The project will be implemented within the framework of the Agricultural Sector Development Programme applying its core principles of increased control of resources by beneficiaries, pluralism in service provision, results-based resource transfers, integration with government systems and client-oriented research and development approach.

The local level activities will be implemented by Local Government Authorities (LGAs) All activities implemented at district level and funded under the project will be embedded in the District Agricultural Development Plans (DADPs). Village-level activities will rely on Participatory Farmers Groups (PFG). The Maruku Agricultural Research and Development Institute (ARDI-Maruku) will be an important stakeholder of the project as public service provider. The districts will also be able to outsource some specific services through partnerships with private service providers such as NGOs and Consulting firms.

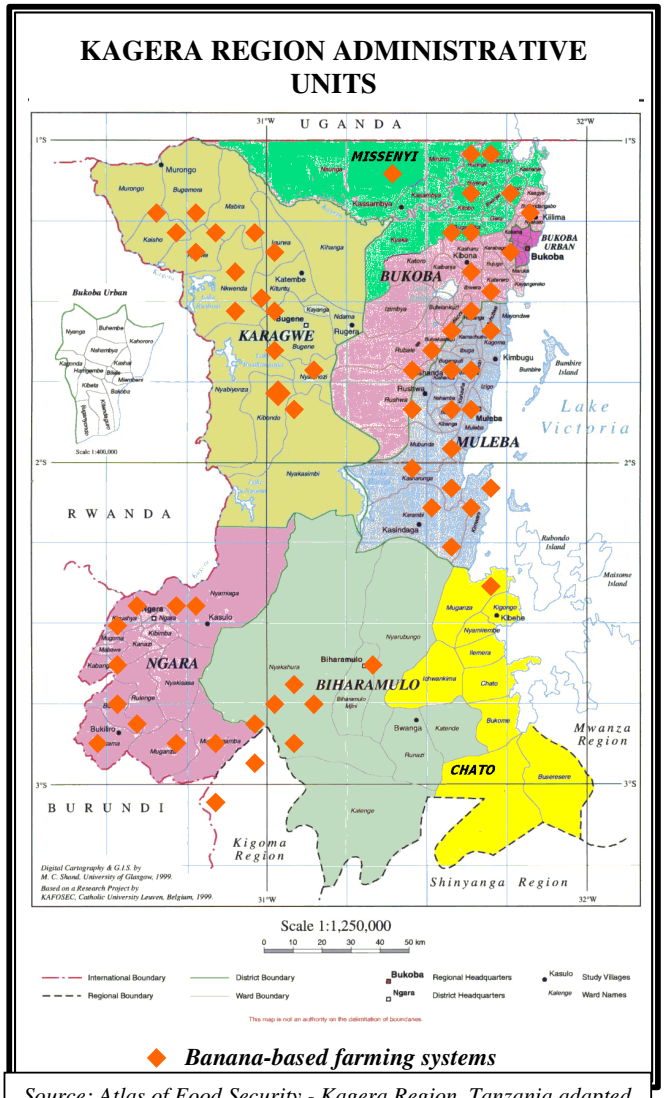
The Project Facilitation Team will count on National Experts hired by BTC for project coordination and support to capacity-building of the implementing District teams. International scientific support and backstopping will be provided to the stakeholders, primarily in the technical field, including services provided through the Bioversity International (formerly INIBAP).

The duration of the project is **4 years**. The amount of the Belgian Contribution is 1,500,000 €.

1 SITUATION ANALYSIS

1.1 Importance of banana in Tanzania

Banana is the most important staple food in many communities of the Great Lakes Region of East Africa (Uganda, Tanzania, Burundi, Rwanda, Kenya and Democratic Republic of Congo). In Tanzania, based on the crop production records, banana ranks as third food crop after maize and cassava; overall 30 percent of the population derive their carbohydrates from bananas with an annual per-capita consumption in the range 28-500 kg. In Kagera Region, banana is a staple food for about 70 to 95 percent of the total population and it plays a very significant role to the regional economic development.



Source: Atlas of Food Security - Kagera Region, Tanzania adapted

In Tanzania bananas are mainly dominated by the East Africa Highland Bananas (EAHB). Based on their uses, there are four major types of bananas; cooking, brewing, roasting and dessert. Their proportions greatly vary within and between the zones. Cooking banana type is more grown in the Lake, Northern and Southern Highlands Zones while dessert and roasting types are more grown in Eastern zone and Zanzibar respectively.

Tanzania ranks second in banana production in Africa after Uganda, 7th in the world, and produces some 3.7 million tons per year from some 403,000 hectares. There are three major sources of bananas (cooking and dessert types) that are sold in different markets within and outside Tanzania:

- Kagera region supplying mainly to Mwanza, Shinyanga and a little to Tabora Regions; export to neighbouring countries (Burundi, Rwanda, Uganda) is very low.
- Arusha and Kilimanjaro supplying bananas to Dar Es Salaam, Dodoma, Singida and Tanga. A small portion is sold in Kenya and some times in Somalia.
- Mbeya supplying to Ruvuma, Iringa, Dar Es Salaam, Dodoma also out of the country to Zambia, Malawi and Namibia

Kilimanjaro and Kagera are the most famous banana growing regions in the country, producing 1,383,800 and 1,150,000 tons respectively (2001).

1.2 The target area

Kagera Region is situated in the northwestern corner of Tanzania, just below the Equator between latitudes 1° 00' and 2° 45'south. The region borders the western part of Lake Victoria. It has a common border with Uganda to the north, Rwanda and Burundi to the west, Shinyanga, Kigoma and Mwanza regions to the south. Kagera Region covers a total land area of 28,953 km².

Kagera Region comprises seven Administrative Districts: Bukoba, Muleba, Karagwe, Biharamulo, Ngara and the newly formed districts of Missenyi and Chato. It has eight Councils, including Bukoba Town and Bukoba Rural. According to the 2002 National Census, the population was at 2,003,888 with an annual growth rate of 3.1%.

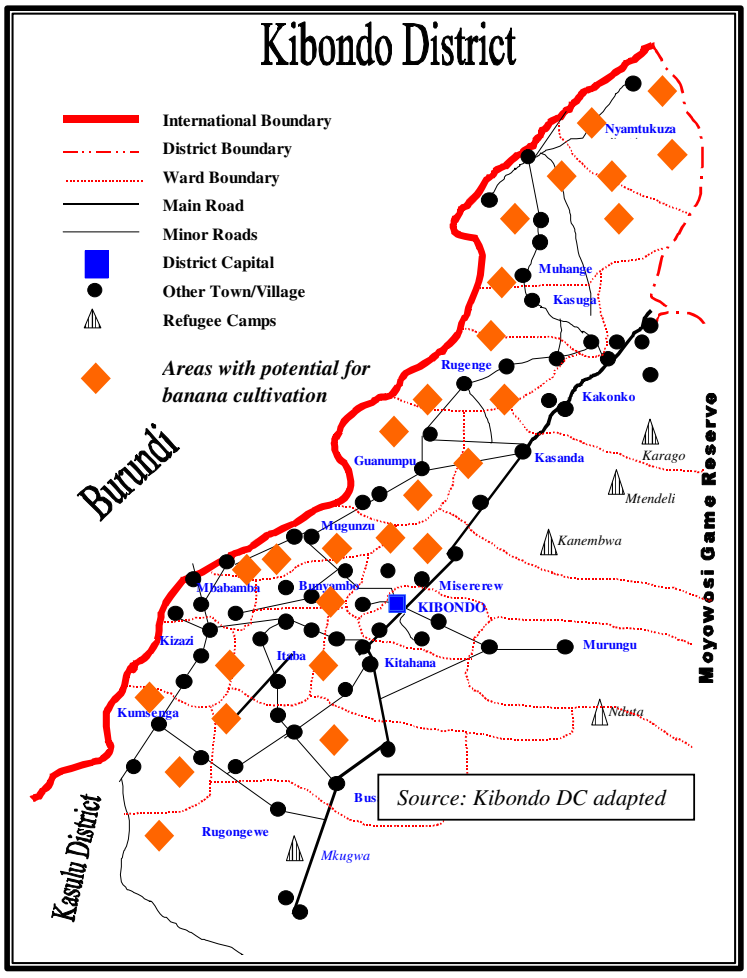
Geographically, Kagera is the remotest region from the administrative centre of Dar Es Salaam along with Kigoma; poor roads into the region further compound Kagera's isolation. The region's isolation and close proximity to the three foreign countries has made Kagera very vulnerable to foreign influences and problems, particularly the war with Uganda in 1978-9 and the influx of refugees from Rwanda and Burundi first in 1972 and later in1994 and afterwards.

Table 1. Distribution of administrative units and population by rural district, Kagera region and Kibondo, 2002

District	Division	Wards	Villages	Population 2002
Biharamulo	2	8	43	164.878
Bukoba (Rural)	4	24	92	239.927
Chato	3	14	74	251.264
Karagwe	4	28	117	423.421
Missenyi	3	16	N.a.	153.209
Muleba	5	31	134	386.328
Ngara	4	17	72	334.409
Kibondo (Kigoma)	4	20	67	414.767
Total	**29**	**158**	**599**	**2.368.203[2]**

Sources: Kagera Regional Commissioner's Office, Tanzania National Census, 2003; and data from Bokoba District Council

Kibondo is one of the 4 districts of the Kigoma Region of Tanzania. It is bordered to the North by the Kagera Region, to the East by the Shinyanga and Tabora Regions, to the South by the Kigoma Urban District, to the West by the Kasulu District and to the Northwest by Burundi.



The District covers an area of about 16,058 square kilometres. According to the 2002 National Census, the population of Kibondo District was 414,764. Of these, there were about 290,000 local people and at least 120,000 refugees from Burundi in 5 refugees' camps. The District is administratively divided into 20 wards.

The region's climate is influenced greatly by its proximity to Lake Victoria. Prevailing winds from the east tend to bring higher rainfall to the shore strip and highlands close to the shore. The shore highlands create a rainfall shadow over the central area. The main rains come twice a year (bimodal) in March to May and during the months of October to December. The dry period begins in June and ends in September. There is also a short and less dry spell during January and February.

Seven major agro-ecological regions occur in Kagera and Kibondo. They can be grouped in three classes according to relief and high, medium and low rainfall:

- The lakeshore and islands area has bimodal precipitation ranging from 1400mm to 2000mm at an altitude of 1300m to 1400m above sea level. The population density is very high (more than 230/km2). Soils are heavily leached and low fertility is a major constraint.

- The plateau and highland area characterized by moderately high rainfall with annual bimodal rainfall reaching 1000 mm to 1400mm on a heavily dissected plateau with an altitude of 1300m to 1899m above sea level. The plateau area of Muleba and Bukoba, Karagwe and Ngara district as well as Kibondo highlands adjoining the Republic of Burundi, fall within this zone. Population densities vary from extremely high in Bukoba and Muleba (over 350/km2 in some areas) to around 130/km2 in the Karagwe and Ngara highlands. Soil leaching is less pronounced.

- Lowland area in flat plains with occasional ridges and annual rainfall averages 500mms to 1000mms in unimodal pattern. The lowland zone covers some small parts of Muleba and Bukoba Rural districts, most of Biharamulo and Bushubi in Ngara district below the Rubuvu River. The southern part of Kibondo district is drier and mostly occupied by game reserves.

1.3 Banana in farm systems of North West Tanzania

1.3.1 Agriculture and banana production in target area

Agriculture engages about 90% of the region's economically active population in the production of food and cash crops. Major food crops are bananas, beans, maize and cassava. Coffee, tea and cotton are the main cash crops. Livestock is the second most important economic activity in the region. Fishing provides employment for people along the lakeshore but is not industrialized like in Mwanza or Mara region. The industrial base of the region is still very small and includes the Kagera Sugar Company Ltd as well as other agro based industries dealing with coffee, cotton, tea and tobacco.

Kagera region had the lowest per capita GDP in the year 2001 due to some factors such as the region's heavy dependency on agriculture in general and coffee and the drastic fall in the price of coffee on the world market.

Banana is the predominant food crop followed by cassava. An average of 478,115 hectares were under food crops annually in the region between 1996/97 and 2000/2001. Karagwe district managed to put under food crop production 144,254 ha annually (30% of regional total of hectares under food crops). The major banana growing districts in the region are Bukoba, Karagwe and Muleba, which accounted for 82 per cent of total hectares under banana in the region between 1996/97 and 2000/2001.

Banana is the major staple food for the people in the Kagera region; around 75% of the population depends on banana as its main source of food. The production is seasonal with a peak in the period of June – October and lower production during the remainder of the year. The excess production of banana is mainly disposed of in local markets and in neighbouring regions of Mwanza and Shinyanga. Cassava, sweet potatoes and maize supplement the main diet. Because of poverty among the majority of peasant farmers in the region and lack of alternative cash crops to coffee, tea and cotton, food crops are also sold as cash crops in different proportion to supplement family income.

97% of Kibondo population depend on Agriculture to make their living. They normally practice shifting cultivation, characterised by small farms mainly meant for subsistence. Surplus is minimal, the income per capita is very far below the national average.

About 60% of the population suffer food insecurity for at least 3 months of the year and the education level is very low. Agriculture suffers very low productivity, despite the fact that Kibondo has very good potential for both crop farming and livestock farming. Banana is secondary to maize and cassava in Kibondo.

Table 2. Importance of banana production by districts (2005)

Region	District	Area under banana (has)	Average size of *kibanja* (has)	Average productivity T/ha/year	Banana as present in % of meals	Banana as % of agr.income
Kagera	Biharamulo	2.505		N.a.	29%	48%
	Bukoba	43.773	0.5	2.9	43%	40%
	Chato	14	N.a.	N.a.	29%	32%
	Karagwe	42.095	1.5	7.5	93%	6%
	Misenyi	with Bukoba	0.5	3.0	43%	40%
	Muleba	37.947	0.5	5.0	86%	47%
	Ngara	14.050	0.6	6.0	43%	20%
Kigoma	Kibondo	2.850	N.a.	N.a.	N.a.	N.a.
TOTAL		**143.234**		**4.6**	**50%**	**29%**

Source: District Agricultural Development Plans – ARDI and KCDP Maruku reports

About 43.8 percent of the total acreage reported under banana production in Tanzania is found in this region.

As table 2 shows, Bukoba, Karagwe and Muleba districts concentrate most of the banana production. Productivity is very low in the lakeshore area due to the prevalence of diseases and declining soil fertility (see below). Banana-based farming systems are concentrated in the high-density areas of high and medium rainfall. In the low rainfall areas, dominating the southern part of the area in Biharamulo, Chato and Kibondo districts, the farming systems are maize-based and banana cultivation limited.

1.3.2 The banana-based systems (kibanja or itongo)

People of the densely settled area in the western Lake Victoria basin, along with areas of Uganda and Rwanda, have developed a highly intensive banana-based farming system over at least three centuries. The farms characteristically combine an intensively cared home garden (called *kibanja* near the lake, *itongo* further West), and open grassland, called *lweya* or *rweya* where cattle are grazed, and scattered annual cultivation occurs in plots called *musiri* or *kikamba*.

The *kibanja* surrounds the homestead and is dominated by intensive banana cultivation, combined with a high variety of annual crops (generally dominated by maize and beans), fruit and horticultural crops mainly grown for home consumption, as well as coffee as cash crop (robusta and/or arabica) and timber species. Missionaries reportedly introduced coffee in the early 20th century. The size of kibanja greatly varies among the households. Studies have shown variation in size per holding from as little as 0.08 ha to around 1 ha, the latest corresponding to rather well off households. Mean kibanja area is around 0,4-0,5 has in all available studies.

The local varieties of banana can be divided into three according to utilization. These are: the cooking banana ('kitooke'), brewing banana ('mbire'), and roasting banana ('nkonjwa'). Kitooke is the dominant component in most gardens, constituting more than half of total banana stands in kibanja. All varieties belong to the East African Highland Banana (EAHB) varieties and have been transmitted over generations.

Kibanja is a zero-tillage intensive system; the soil is always covered with mulch to maintain fertility. Any type of crop residue such as banana leaves and maize stalks are utilized to improve fertility with cattle manure and grasses derived from lweya. Lweya provides various grasses to feed cattle, which in turn provide their dung applied to the kibanja farm. Since cattle manure is believed to bring the best effect on banana growth, farmers place priority on manure for which there is even a market in some areas.

The management of the perennial crops, including banana, is basically the responsibility of men although this varies from place to place. It is a women's job to handle all the production process of annual crops including the crops in the kibanja (beans, maize).

1.3.3 Banana in maize-based systems

Further south (lowlands of Biharamulo and Chato districts and Kibondo district in Kigoma) farming systems are dominated by maize and banana appears regularly but in small patches around homesteads or in thalwegs where soil retains more moisture; it rarely approaches the degree of intensity in management shown by the kibanja system. Banana is not a principal food staple and mostly used for brewing. The growing urban markets for banana stimulates an expansion of banana groves in some areas of Kibondo and Biharamulo.

1.4 Constraints and challenges

1.4.1 Population pressure and declining soil fertility

The traditional kibanja system has shown, through many studies, a capacity for sustained productivity thanks to highly efficient traditional farming methods, based on complementarities between the components of the farming system: the crops, woody species and cattle. However at present, the productivity of the farming system is declining sharply. Studies have reported a decline of more that 50% in productivity of bananas and coffee between the late 1970s and early 1990s. This decline is partly attributed to inadequate return of nutrients to compensate for losses when crops are harvested and increasing pressure of crop pests and diseases. Soils have been intensively farmed for generations and the inheritance system produces ever diminishing plots from which families have to derive food and income.

As banana production declines, the population is forced to depend more on maize and root crops, extending the cultivation of these crops into marginal areas (normally used for cattle and production of mulch for banana groves).
Between 1961 and 1998, human and cattle population showed distinctly adverse trends in Bukoba and Muleba districts, where population pressure is highest. A study in Bukoba showed that at the time of independence, each household had 6 cows on average, and about half of households had access to cattle manure; in the 1990s, only one-sixth could still keep cows.

Declining returns to labour in both food production and income characterize a process of "agricultural involution" for the banana–based system, especially in the high rainfall zones. The trend of soil fertility decline is strongly correlated to social level, with poorer farmers unable to produce or purchase manure, using only grass mulch insufficient to counteract nutrient leaching.

The system is labour intensive: high labour investments are needed for maintenance, mulching and manuring so that households with capital resources hire labour especially for cutting mulch grass in common areas. There is a trade in manure and mulch grass in high population density areas. Poor, land-constrained households hire labour out to the bigger farmers; they face therefore higher constraints in maintaining soil fertility in their own plots.

The social stratification of households may be related to the size of "kibanjas", with surplus producing households (kibanja area from 1.5 to 2 has), self sufficient households: (kibanja 1 ha average), marginal households (kibanja 0.5 ha average) and landless households. The high-density areas with clan-based tenure system show a high rate of expulsion towards lesser density areas, fishing islands etc, related to the involution of the traditional system.

1.4.2 Pests and disease

The major pests of bananas found in Tanzania are banana weevils (*Cosmopolites sordidus*), **nematodes** (*Pratylenchus goodeyi*, *Meloidogyne* spp and other species), **Black Sigatoka** (*Mycosphaerella fijiensis*) and Fusarium Wilt or **Panama disease** (*Fusarium oxysporum cv cubence*). Regardless of the banana farming system, local banana varieties demonstrate some tolerance to Fusarium Wilt while none tolerate banana weevils and nematodes. Exotic banana varieties such as Gros Michel and small yellow sweet are very susceptible to Fusarium wilt. The banana weevil *Cosmopolites sordidus* is very difficult to manage in all banana-based cropping systems especially so in backyard and subsistence banana systems, where the perennial cropping of banana and plantain, coupled with the planting of infested material, result in pest build-up and crop losses. Traditionally, farmers replace diseased stools of local cultivars by suckers of the same cultivar obtained from fellow farmers, sometimes contributing to the spread of the pests and diseases. In the lake shore districts with high rural population cultivars have deteriorated substantially in combination with decreasing soil fertility and high rainfall.

Since 2006, Kagera banana systems are also threatened by Banana **Xanthomonas Wilt (BXW)**, caused by the bacterium *Xanthomonas campestris pv. musacearum*, originally restricted to Ethiopia, but recorded for the first time in Uganda in 2001 and by the end of 2003, in the eastern part of the Democratic Republic of Congo.

It has assumed epidemic proportions in Uganda, where prevalence in farmers' fields reached up to 70% in a period of one year, affecting 23 of the 56 districts of Uganda. In Kagera region, BXW was confirmed in January 2006 in Muleba district, and currently outbreaks are reported in Bukoba, Biharamulo, Missenyi and Karagwe. While the spread of the disease may be prevented by simple practices (removal of male bud and use of clean tools) and outbreaks may be controlled if early warning systems function, it places another threat on the banana-based system.

1.4.3 Market opportunities and constraints

Banana used to be grown solely as a subsistence crop in most of Kagera, with some uses such as ingredient for banana beer and spirit for local marketing; in the 1980s, when the demand for cooking banana arose in urban dwellers with economic liberalization in Tanzania, surplus-producing farmers started marketing bananas towards the urban markets of Bukoba and Mwanza. Improvements in transportation have promoted the increase of such local banana trade from 1990 onwards. Not all banana varieties can be equally marketable, and some

varieties are in high demand: local varieties are much looked after by Bukoba consumers, while the varieties that give better yield, produce big clusters and have good appearance are appreciated in urban markets further south. Nowadays the composition of banana varieties grown by a farmer reveals its market orientation.

The dramatic decrease in coffee prices encouraged more and more farmers to market their banana surpluses and adapt their production. While brewing is a commercial activity preferred by women, especially in female-headed households where women buy bunches from villagers, for selling the beer locally, the marketing of fresh banana is more of a men's task.

In rural areas where bananas are cultivated, each ward has open-village markets, collecting at least once per week. The major open-village markets can be visited by 5 to 15 large traders per day coming mainly from urban and mining areas of Mwanza and Shinyanga Regions. It is expected that the demand for bananas in the zone will increase at least by 10 to 20 percent from increased urban population and improved main and feeder roads within the zone. At the moment small scale petty traders using bicycles mainly do marketing in remote localities.

While Karagwe remains the leading district in banana production in Kagera Region as well as in the Lake Zone, it is also the remotest of all banana-growing areas in the zone. The major outlets of its bananas are Bukoba (from whence banana is shipped to Mwanza) and Kahama/Shinyanga. Small quantities are sold in Burundi and Rwanda. The high supply period is June-October when it is estimated that more than 2.000 tons exit Karagwe daily. Bukoba, Missenyi and Muleba districts are increasingly dedicated to marketing of banana also. With improved roads, the amount of bananas transported to Mwanza, Shinyanga and central Tanzania areas such as Tabora, Singida and Dodoma could dramatically increase.

During peak time, the surplus of bananas is such that much production is lost and farm gate prices get prices which are about one third of the prices in October-January when production is scarce.

The main marketing constraints identified for farmers are lack of market information, lack of organization for selling their produce, reduced number of buyers and high taxes charged per bunch. The bulkiness and perishability of the produce, and the poor quality of most roads, compound the problem. Although Tanzania has adopted trade liberalization since 1985, the marketing system of agricultural products, particularly food crops, has not yet much improved. The construction of main and feeder roads has been very slow and has not enabled some major supply areas to be accessed by traders.

1.4.4 A system under threat

The combination of increasing infestations of banana pests and diseases, tenure pressure, declining soil fertility, low genetic vigour of local varieties and inadequate access to markets, are threatening farmers' livelihoods.

Growing local banana varieties susceptible to one or more of these threats has led to a decline of banana production and high vulnerability to food and income insecurity for poorer farmers. This situation has been compounded by the prolonged price crises of coffee, the major traditional cash crop grown by smallholder farmers in the region.

In some districts, expansion of cultivation of other crops such as cereals, root and tuber crops are noticeable especially among poorer farmers, while other households rather concentrate on the kibanja system. As a coping strategy with land shortage, many younger villagers have started growing more bitter cassava and access to the fallow fields is limited for grazing. In Bukoba district, the percentage of Kibanja lands to total area cultivated decreased from 90% to 67% from 1961 to 1999.

1.5 Innovation in banana production

1.5.1 Innovation strategies and the experience of KCDP project

Research on banana improvement has begun in the Kagera region with the creation of Maruku Agricultural Research and Development Institute in 1949. Germoplasm collections from East African Highland Bananas cultivars were established in the 1960 with over 150 cultivars. During the 1980 research was directed mainly towards soil fertility management and in the 1990s, IPM became a focus of research with the increasing impact of pests and diseases.

In 1997, the Belgian-Tanzanian funded Kagera Community Development Programme (KCDP) was established with the goal of improvement of the standard of living for the rural communities, to fight malnutrition and to assist in the development of rural resources and incomes in the Kagera Region. It had four components: water supply, food security, ox-mechanization and improvement of primary health. The food security component was focused on the expected result "*Superior banana varieties that are either resistant to weevils, panama, nematodes, low fertility and drought, alone or in combination are introduced, multiplied and distributed*."

The specific "Propagation and Diffusion of Superior Banana Plants" project started on 3/3/1998 for duration of 5 years. The total budget was 1,586,518.56 EUR.

The justification for the project was that existing varieties of bananas, the main staple food in a large part of the region, were not resistant to a number of pests and diseases and should be replaced as fast as possible by more resistant varieties, accepted by the population. A gradual replacement should be based on a simple laboratory technique, merismatic in-vitro production of clean plant material in Maruku Research station, with the aim of distributing approximately 1,000,000 resistant plants in 5 years time.

In order to reach the specific objective, 3 different intermediate results were expected:

1) A productive "in vitro" laboratory rehabilitated/constructed in Tanzania. In the early stages of the project, 70,000 « in-vitro » plants were purchased from the International Transit Centre, Laboratory of Tropical Crop Improvement of KUL in Belgium. In the context of the project, no banana "in vitro" plant was produced in Tanzania as the planned laboratory did not result feasible at the time.
2) Banana plants raised in nurseries: after their production in the laboratory, the "in-vitro" plants were raised in "pot-nursery" before being transplanted in "field-nurseries" for further multiplication through suckers. The "field-nurseries" became 20 multiplication fields distributed within the 5 districts. After a period of 5 years, a total of 610,000 suckers were directly diffused to farmers

3) Banana plants multiplied, screened and diffused: before being released to farmers on a large scale, the new banana varieties were intensively multiplied and screened, in different zones with different climate, soil, landscape. On farm trials were established in five district as well as numerous "Demonstration Plots" installed in farmers' field, the project financing the complete installation of the plot, including manuring and labelling, before handing over it to its owner. Intensive testing (supervised by researchers) was conducted in Bukoba District and extensive testing (supervised by KCDP staff) was conducted in other districts of the Kagera Region, where researchers provided support services.

The on-farm trials included a total of 14 new varieties. By March 2002, according to the project report, an estimated 1 million banana suckers had diffused among farmers in Kagera Region either directly from the multiplication fields or indirectly from farmer to farmer. The KCDP project involved government extension services, non-governmental organizations, church-based groups, primary schools, and progressive farmers in the establishment of nurseries and multiplication of planting material.

1.5.2 The dynamics of banana innovation in farming systems

The KCDP project may be considered a frank success in terms of introduction of improved hybrid varieties. An initial adoption study conducted in 2002 indicated that 29 percent of 177 households surveyed from the all districts of the Kagera region had planted at least one new banana variety (Weerdt 2003); the rate of adoption was particularly high in the Bukoban high-rainfall zones, the worst affected in terms of pest and disease, where 100 percent of farmers sampled used some of the new planting material, compared with only 6 percent of farmers in the Karagwe zone.
A new survey made in 2006 by IFPRI confirmed increased adoption rate with an overall rate of 50 percent of farmers surveyed in the Kagera region during the survey year. Adopters used in average 16% of their grove under the new varieties, indicating in some cases a trend towards diversification. 20% of adopters identified in the new survey had never been directly exposed to KCDP, reflecting the strength of farmer-based systems for exchanging new planting material which stems from a long tradition of exchange and farmer informal research.

Although the IFPRI survey stressed non-monetary exchanges within the social network, the formulation mission collected information about a burgeoning trade in suckers from improved varieties by individual farmers, with high prices varying from 250 to 500 Tsh per sucker (compared to the initial price of Tsh 100 practised in KCDP nurseries). A similar situation occurs in Uganda where local varieties are exchanged within social networks while introduced hybrids are commercialised.

The factors found influencing positively adoption of hybrid varieties include individual and household characteristics such as dependent ratio and importance of home consumption, articulation to markets, formal training, social networks, availability of cattle. In general, somewhat wealthier households with a larger resource base and market orientation prefer hybrid varieties. The formulation mission has confirmed previous observations that hard-hit banana production areas are characterized by a higher demand for new varieties, while the relatively preserved banana systems of the Karagwe district have a very low demand.

While institutional investments are always necessary to ensure the widespread adoption of varieties, evidence from Kagera as well as NARO's work in Uganda, confirms that farmer-

participatory selection and dissemination improve farmer confidence in new banana varieties, help them acquire skills and develop criteria to select genotypes; planting material distribution systems designed by the farmers themselves appear to be efficient for step-by-step and systematic diffusion of improved varieties.

On the other hand, supply constraints are still great as demand increases and the small number of farmers specializing in sucker production limits the offer.

1.5.3 Impact and comparative advantages of the improved varieties

Of all new banana varieties diffused by KCDP, the varieties most planted by farmers were Yangambi km5, FHIA 17, FHIA 23, Cadarba, SH3436-9 and Bita3. Currently FHIA 17, 23 and 25 and Yangambi km 5 are the most recommended.

The following impacts linked to the adoption of new varieties have been observed:

- Increased number and size of bunches: new varieties produce 30 to 35 fingers while local varieties produce seven to twelve fingers as mentioned by farmers from many villages, pointing to a significant increase in banana production from 1997 to 2005 in early adopter villages while banana production is still declining where adoption rates for new varieties is still low.
- Increased household income: increased income from selling bananas and/or local brews is mentioned by farmers in all villages; the new varieties, which were not initially appreciated by local population for consumption, are much appreciated by traders because of the size and quality of bunches and thus receive better farm gate prices.
- Food security improvement: a study in Kiilima village reported that the number of banana meals increased from one meal per month in 1995 to four meals per week in 2005, improving the nutritional status and health. This impact is somewhat slowed by the still prevailing preference for traditional varieties, and by the high cost of purchasing suckers.
- Diversification of banana varieties per household: the introduction of new banana varieties has helped increase the number of varieties cultivated per household; where banana production constraints are less severe, farmers are filling gaps rather than replacing their old local bananas.
- Increased production of banana juice/beer: farmers remarked that the introduction of new banana varieties has contributed to increased production of local beer and juice because new banana varieties produce juice and brews of superior quality and longer shelf life than the local banana varieties. Yangambi Km5 in particular produces sweeter juice than local bananas.

The surveys on adoption rate of the new varieties show that some social bias exist:

- female-headed households are less likely to be adopters;
- adoption rates are higher for well-off households owning livestock and oriented towards markets;
- adopters have more acquired human capital, in terms of both formal education and contacts with extension agents while poor households have limited formal linkages and hence are less likely to learn through formal sources about any new practices or technology;

- isolated communities are less exposed to information as average distance from the source of planting materials (banana suckers) is of 2.8 km.

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In areas where banana production had been badly affected by banana constraints, the majority of farmers agreed to plant the new bananas without delay, while in areas where the traditional banana varieties were still producing enough bananas, the majority of farmers hesitated to plant the new varieties, instead waited and observed their performance
from volunteer neighbours.

1.5.4 Lessons learnt and challenges for consolidation

The results of KCDP intervention contributed to improving the capacity for adaptation of banana farmers in Kagera. At the time of closure of the project, a follow-up intervention was recommended to consolidate the results. An evaluation of adoption of improved varieties contracted by KCDP in 2002 made the following recommendations:

- Continuing information diffusion on the qualities and husbandry of improved varieties;
- Guaranteeing the availability of improved varieties planting material in areas where indirect diffusion cannot cope with demand;
- Providing extension work on banana husbandry in general (both for improved and local varieties);
- Assuring sustainable access to manure;
- Creating efficient markets so overproduction can be translated into income.

It was also advised that further research be done, particularly to assess the impact on the food security and income situation within the region, while also gaining insights in the mechanisms of indirect diffusion (i.e. from farmer to farmer). Although KCDP analysed initial adoption rates and acceptability in the areas of project intervention, systematic information was lacking regarding the extent and determinants of adoption, as well as the social and economic impacts.

Five years later, the challenges facing banana production in Kagera may be analysed again thanks to available surveys and studies, and to the evolution of the demand for improved varieties. The recommendations of 2002 remain globally relevant while new challenges have become obvious:

- **Overcoming constraints in diffusion of new varieties**: one approach to supplying improved planting material is to maintain large or medium-scale planting stock nurseries for direct sale to farmers and wholesaling to stockists; another is to establish nurseries managed by “expert” farmers supported by community organizations. 12 multiplication fields and nurseries were transferred at the end of KCDP to district authorities and NGOs; due to lack of entrepreneurial management, all but one have stopped functioning, showing low sustainability while farmer-to-farmer diffusion has thrived although demand is still not met with spontaneous diffusion.

- **Targeting the poor**: surveys show that emphasizing contact with poorest households, including women- and orphan-headed households, may increase adoption rates and should have positive effects on incomes and food security.

- **Facing new challenges from BXW**: the outbreak of BXW raises new technical constraints on banana production; although technical measures are simple enough, they require extension, coordination between actors, surveillance and early warning systems. Planting material must be guaranteed against infection.

- **Strengthening innovation in soil fertility management:** good practices exist among banana farmers to maintain soil fertility although they are generally labour-intensive and thus not always adequate for poorer households; there is ample space for further applied research to overcome some of the constraints, from simple, locally-developed innovations, to more sophisticated but economically feasible innovations such as inoculation with endomiccorrhiza, soil borne fungi capable of improving nutrient recovery from the soil. Stabulated dairy systems and agroforestry diversification as promoted by several NGOs has a potential for improvement.
- **Mainstreaming banana development in the decentralization process:** KCDP intervention was supply-driven since demand for new varieties had to be created; this has had a cost in terms of sustainability, as exemplified by the demise of centrally managed nurseries. Since 2003 the process of decentralization has opened new opportunities and challenges for agricultural development, and banana development and protection has to become a shared policy objective in the region if any new intervention is to be sustainable.

2 STRATEGIC ORIENTATIONS

2.1 Axes of intervention

2.1.1 Institutional capacities as basis for sustainability of innovation

The project will aim at the sustainable improvement of the banana cropping system in the Kagera region and Kibondo district in Kigoma region. The banana cropping system of the Lake zone has been the subject of a multi-stakeholders innovation process aiming, through collaborative programs involving mainly Tanzanian, Ugandan and international partners, at meeting the challenges faced by the banana producers. The screening and dissemination of improved varieties in Kagera region through the collaboration between KCDP, Maruku Agricultural Research Centre and other stakeholders has been a key aspect of this innovation trend, which has to be viewed as a long-term process of adaptation and development. Innovation is not only needed in germoplasm (varieties), but also in agronomic and entrepreneurial practices as well as institutional management. A collaborative process incorporating many different stakeholders requires also an enabling policy environment and adequate institutional capacities in order to be sustainable.

The sustainable improvement of the banana production and commercialisation systems through the spread of innovation is therefore foremost a capacity-building process towards institutional strengthening at different levels where stakeholders are active:

- at farmers and processors level, institutional capacities through empowerment to organize, develop market-oriented approaches, scale up to access services, implement self-regulation to ensure basic quality standards, and make their voices heard through the participatory planning system institutionalised within the Agricultural Sector Development Programme (ASDP);
- at district level, institutional capacities of District Councils, through their agricultural services, to implement the District Agricultural Development Plans in the best way possible to respond demands, including by the outsourcing of private and public service providers;
- at regional level, institutional capacities include the capacity of the Regional Secretariat to plan, coordinate and monitor coherent regional development policies to support the banana production and commercialisation, and the response capacity of ARDI Maruku to fulfil its research and development mandate as public service provider following the Client-Oriented Research and Development Approach (CORDEMA).
- at national level the Government of Tanzania and its international partners need aligning their policies within the ASDP and Joint Assistance Strategy of Tanzania (JAST) to provide the necessary support and scaling-up to local and regional stakeholders;
- at international level, the Tanzanian banana stakeholders need to maintain and improve networking with the international stakeholders, including the agricultural research and support networks concerned with banana production and commercialisation.

This project aims primarily at the capacities of local- and regional-level banana stakeholders (farmers, processors, traders, district agricultural services and service providers) with some actions and linkages at the superior levels.

Four axes of intervention have been defined within this overall strategy:

1. Consolidate institutional capacities and networking.
2. Improve the efficiency of the dissemination of the banana varieties already tested and demanded by many farmers because of superior productivity and tolerance to pests, disease and drought (eventually introducing also other varieties).
3. Disseminate best management practices for improved banana production & protection.
4. Improve post harvest, value adding and marketing skills.

2.1.2 Consolidate institutional capacities and networking for banana support, monitoring and protection

The institutional capacities of local and regional banana stakeholders must be enhanced in order to ensure greater sustainability of the banana innovation and support process. Given the priorities of the intervention, institutional capacities to be addressed will be the following:

- the capacities of banana farmers and processors to organize themselves in Participatory Farmer Groups (PFG) in order to access support services, market opportunities and participate in the bottom-up planning and monitoring of District Agricultural Development Plans (DADPs);
- the capacities of specialists and extensionists both within District agricultural staff and private service providers staff, to plan and implement client-oriented capacity-building and extension activities using state of the art methodologies and technical know-how;
- the capacities of District agricultural staff to facilitate and consolidate District Agricultural Development Plans (DADPs) from the participatory planning at village level, and to liaise with other districts and with public and private service providers to ensure their implementation;
- the capacity of the research institutions (foremost ARDI-Maruku) to implement an efficient and effective Client-Oriented Research and Development Approach (CORDEMA) towards responding the needs of banana producers and processors, and to network with local, regional and international stakeholders;
- the capacity of the network of banana stakeholders to respond to the most pressing challenges in a collaborative way, in particular the coordination of monitoring, prevention and response to Banana Xanthomonas Wilt outbreaks or any other future threats.

2.1.3 Consolidate innovation trough farmer-led dissemination of improved varieties

The learnings from the long-term banana research and development process since the early 90s, from KCDP intervention and its aftermath, confirm the validity of the general approach towards client-oriented agricultural research and extension followed by ARDI-Maruku and incorporated in the agricultural policy with the trend towards bottom-up planning of agricultural development at district level.

The project will support the consolidation of the results of KCDP and the banana research and development in Kagera through implementation of a farmer-led approach building on the potential for innovation existing among banana farmers and processors, and embodied by what we will call "progressive farmers". Those are the ones amongst communities who show creativity in overcoming existing constraints and making good of opportunities, in a manner that has the potential for leading the way for others and for scaling up. Banana production and processing is a centuries-old system in Kagera and there is a wealth of indigenous knowledge which, combined with capacity for innovation, may pave the way for improvement much more effectively than any top-down approach to extension. Most researchers and specialists in the field currently recognize this.

Nowhere is this better proven than by the spread of the improved banana varieties through farmer initiative, a process that has allowed creating a market for improved banana suckers. Farmer-led dissemination must be seen as the main thrust of banana innovation. It shows, as discussed earlier, a better potential for sustainability than any other feasible alternative. The project will build on these initiatives so as to strengthen them and unlock their potential by providing the following possibilities:

- transform the existing informal farmer-based dissemination of improved varieties into a more transparent market mechanism with quality control and supervision;
- prevent the spread of diseases particularly BXW, by ensuring a clean supply at local level and avoiding the risks of uncontrolled dissemination over large areas;
- provide an enabling and supportive environment to innovative farmers so as to allow them to reach further and deeper amongst the banana farming communities;
- provide a connection between farmer multipliers and the extension and research systems.

Besides contributing to the organization of a supply chain for planting material of improved varieties, farmer based dissemination will provide a continuum between farmers and research, consolidating the Client-Oriented Research and Development Approach (CORDEMA). On top of the four most demanded varieties, others varieties with potential may be disseminated or further tried using the same system.

The support to banana multipliers will be organized within the framework of the ASDP.

The approach proposed for on-farm multiplication of improved banana reflects the On-farm Quality Declared Seed Production concept being pioneered by MAFSC through Local Government Authorities with support from DANIDA.

2.1.4 Ensure extension of best available improved farming practices

If new varieties are the foremost element of innovation in the banana-based farming systems so far, they cannot be considered like a panacea for all technical constraints met by these systems. Although the new varieties are tolerant to several pests and diseases, show better performance under drought and are much more productive than the traditional EAHB varieties, they are not resistant to BXW and do not by themselves solve the increasing constraints linked to declining soil fertility. In order to make the best of the potential of these varieties farmers will have to adopt good agronomic practices such as:

- intensive management of banana groves;
- integrated soil fertility management practices;
- integrated pest management practices (IPM) and BXW prevention and control;
- good management of other components of the farming system associated or complementary with banana production.

The extension and participatory research component will target the whole banana-based production systems and liaise with complementary actions (such as dissemination of stabulation techniques and agroforestry by several NGOs). The extension of good farming practice will use the innovation capacity of progressive farmers and multiplication potential of Participatory Farmer Groups, in accordance to farmer-led extension approaches mainstreamed through ASDP.

2.1.5 Improve post harvesting, value adding and marketing skills

The "pull" factor for the improvement of the banana production systems has to be the development of sustainable markets. Currently the lack of access to markets is constraining the development of banana production, and although new banana varieties show great promise in urban markets with higher prices even at farm gate, in areas where access is too difficult or badly structured this potential remains largely locked. The spread of innovation is thus linked to access to markets.

In accordance with ASDP, the project will support locally based initiatives in improving post-harvest, adding value and strengthening marketing skills of banana producers and processors in order to release the potential of new varieties and improved management practices to increase household incomes.

This support will address several aspects of the value chain at local level, using the same client-oriented approach. Starting from the actual state of value adding and marketing capacities, the process will be of progressive capacity-building allowing farmers, processors and local traders to improve their entrepreneurial skills and to make good of existing market opportunities. The scope of the intervention in time as well as in geographic coverage imposes to focus on achievable outputs of capacity building, organization and management of information.

2.2 Beneficiaries

2.2.1 Progressive farmers

Progressive farmers are those who are evolving towards more market-oriented farming systems, adapting their strategy to market opportunities and improving their cropping systems in order to generate increasing marketable surplus. Those farmers, who are in general better endowed in land and other production factors, and/or have been exposed to innovation, are those who are able to lead the drive, demonstrating the potential of new varieties, supporting local farmer-led dissemination of varieties and connecting their communities with new opportunities.

The project will target approximately 300 farmer innovators in 112 wards of the 8 districts concerned. At least 250 of them will also work as banana multipliers. These numbers are tentative and should be adapted according to the assessment of demand and existing groups and innovative farmers in each district.

2.2.2 Food security and market-oriented farmers

The vast majority of banana producers, who combine food security and market-oriented production with banana as pivotal crop, will constitute the bulk of beneficiaries of the project. They include also the households involved in banana processing activities. Tentatively 112 wards in the 8 districts have been targeted for their potential for banana improvement according to information available at district level at the time.

Only a portion of banana producing households (estimated at about 300,000 in the whole project area) will be targeted directly by the intervention for capacity-building. An estimate of 300 Participatory Farmer Groups will be supported with capacity-building, including about 6.000 households. Indirectly, a much bigger number of households will be reached by the intervention: it is estimated that by the end of the intervention, up to 2 million suckers of improved banana varieties may have been disseminated by banana multipliers, along with technical advice, reaching a substantial proportion of banana growing households in the region. Furthermore, the spreading of innovation will continue even after the closure of the project.

2.2.3 Vulnerable households

The project will target specifically vulnerable households in banana production areas, who, due to extreme conditions of vulnerability (under-economic size of holdings, lack of labour due to AIDS or other factors, such as in woman and orphan-headed households) can be benefited in their food security by adopting the improved varieties and accompanying cropping practices.

Some factors contribute to make the spread of improved banana varieties more difficult amongst vulnerable households: high market price of banana suckers, lack of social capital, lack of information and access to markets. Some pro-active action is therefore necessary to ensure that the spread of innovation reaches the most vulnerable. Two approaches will be combined: specific instruments for dissemination of banana varieties, and inclusion of vulnerable households in Participatory Farmers Groups.

A minimum number of 1.500 vulnerable households will be targeted for special distribution of improved varieties of banana. The distribution will be ensured by a voucher system, building on the experience gained with the farmer-based distribution of mosaic-resistant cassava cultivars. This set of beneficiaries will be targeted in coordination with the BSF-funded project "*Improvement of food security and livelihoods in Bukoba, Karagwe and Biharamulo districts of Kagera region*" in the districts where this project is present (Bukoba, Missenyi, Biharamulo, Chato, Karagwe) using the same methodology and channels. In the three remaining districts a similar approach will be used. The use of vouchers will allow targeted households to procure a set of banana suckers with farmer multipliers without distorting the market.

Besides, Participatory Farmer Groups will be encouraged to target and include vulnerable households so as to ensure their participation in the benefits provided.

2.3 Institutional setting and stakeholders

The project will be implemented within the framework of the Agricultural Sector Development Programme applying its core principles of increased control of resources by beneficiaries, pluralism in service provision, results-based resource transfers, integration with government systems and client-oriented research and development approach.

Local Government Authorities (LGAs) will implement the local level activities under the leadership of the District Executive Directors (DED) with day-to-day responsibility delegated to the District Agricultural and Livestock Officer (DALDO) and the District Agricultural Team. All activities implemented at district level and funded under the project will be embedded in the District Agricultural Development Plans (DADPs). The DALDOs will be responsible for ensuring that all such activities are mainstreamed into the District planning, implementing and reporting procedures. The DALDO will delegate technical issues to a Crop Specialist trained in banana production who will act as Focal Person for the project. The focal person will coordinate field activities.

The Regional Secretariats of Kagera and Kigoma regions will implement their institutional role in monitoring and evaluation of the DADPs including the banana related activities, providing administrative support to the LGAs

At village level the project will support the incorporation of specific banana-related activities in Village Development Plans so as to ensure the bottom-up incorporation of farmers and processors needs in the agricultural development planning. Village-level activities will rely on Participatory Farmers Groups (PFG), composed of banana-oriented farmers and processors, covering under this denomination existing groups or newly formed interest groups with specific interest in banana. PFG activities will be supported at individual level by a network of progressive farmers acting as banana multipliers and/or banana farming leaders. Banana related activities will be planned within the Village Development Plans (VDP) submitted by the Village Development Committees (VDC).

The Maruku Agricultural Research and Development Institute (ARDI-Maruku) will be an important stakeholder of the project as public service provider. The main services expected will include support and supervision of the farmer based dissemination system, training of district and private agricultural staff in banana production and protection, training of trainers at village level, specific studies etc. Most services provided by ARDI-Maruku will be contracted through the DADPs.

The districts will also be able to outsource some specific services through partnerships with private service providers such as NGOs and Consulting firms. These will include extension and capacity building services as well as specific activities such as the implementation of the voucher system for access to banana planting material.

The Project Facilitation Team will count on National Experts hired by BTC for project coordination and support to capacity-building of the implementing District teams.

International scientific support and backstopping will be provided to the stakeholders, primarily in the technical field, including services provided through the Bioversity International and Banana Research Network for Eastern and Southern Africa (BARNESA) network (formerly part of INIBAP).

The following figure illustrates the institutional structure proposed for project implementation.

2.4 Project location

The project is to be implemented in the banana production areas of all the rural districts of Kagera region (Biharamulo, Bukoba, Chato, Karagwe, Misenyi, Muleba, Ngara) and Kibondo district in Kigoma region.

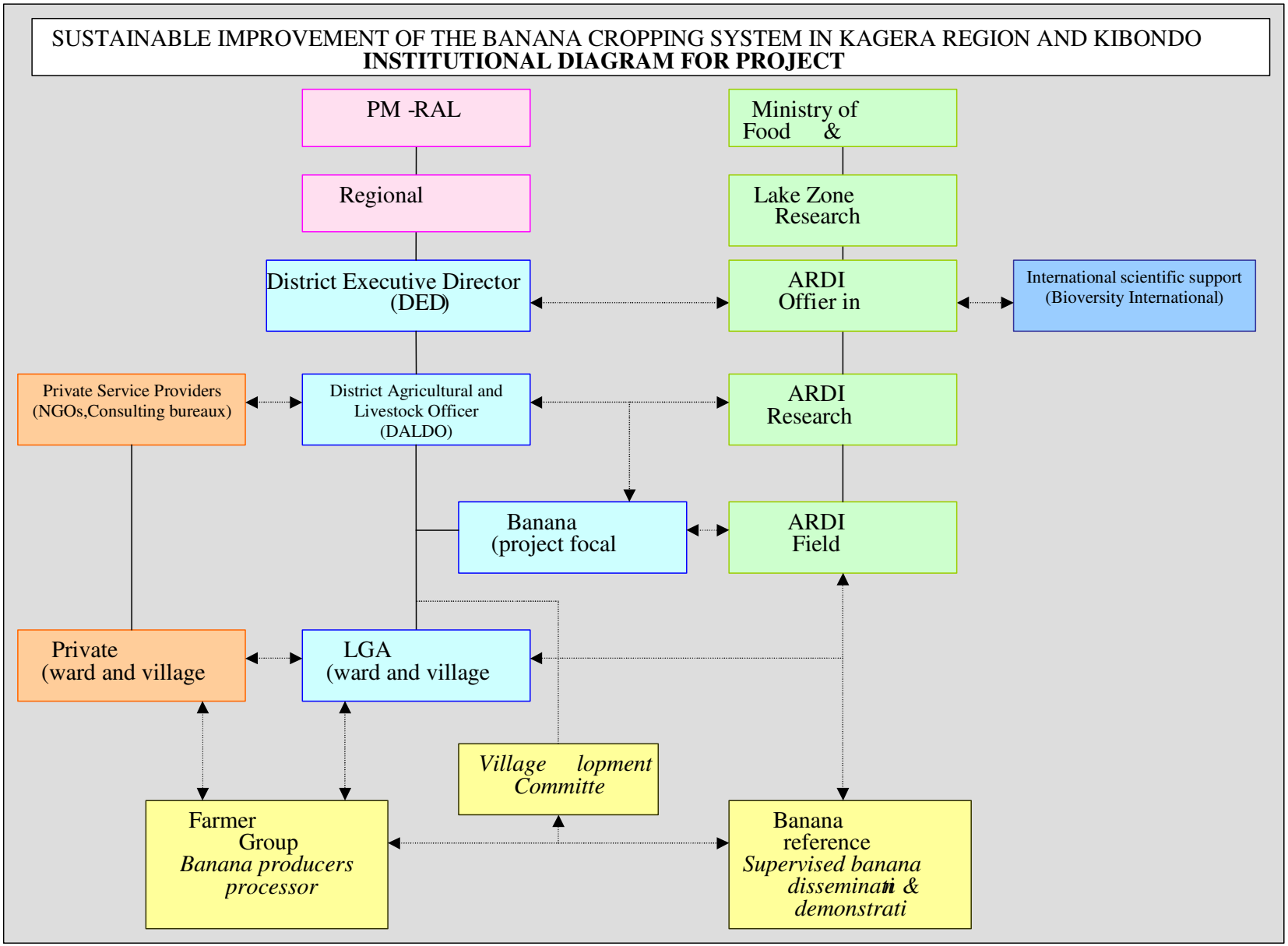
The activities will focus on the wards in each district with highest potential for banana cultivation and highest needs for improvement. This includes the medium- and high rainfall areas; tentatively including 112 wards in the 8 districts.

2.5 Project duration

The project duration will be four (4) years.

The period of 3 years proposed in the identification document has been considered too short to obtain and consolidate the expected outputs so that the implementation has been tailored to a longer period using the same budget.

SUSTAINABLE IMPROVEMENT OF THE BANANA CROPPING SYSTEM IN KAGERA REGION AND KIBONDO
INSTITUTIONAL DIAGRAM FOR PROJECT



3 OPERATIONAL PLANNING

3.1 Overall Objective

The Overall Objective is "*Incomes and food security in Kagera Region and Kibondo district increased.*"

3.2 Specific Objective

The Specific Objective is:

"*Strengthened institutional capacities and public-private partnerships ensuring the sustained spread of farmer-led innovation in banana production in Kagera region and Kibondo district*"

3.3 Results (outputs)

The specific objective will have to be achieved through four results (outputs):

1. *Institutional capacities and farmer empowerment consolidated allowing and enabling environment for technical and entrepreneurial innovation.*

The Institutional strengthening component will ensure the increase of support capacities and networking between farmer groups, district and NGO extension staff, research and other stakeholders in the framework of ASDP.

The LGA extensionists and specialist staff will be trained in state-of-the-art banana management practices so as to be able to respond to farmers needs; the training, based on preliminary assessment of training needs of extensionists, will also target field workers in participating NGOs and other private service providers. The district level specialists (primarily the project focal persons) will receive specific training and regular updates.

DALDOs and planning officers will also receive support for the integration of banana development in district level planning and monitoring, as well as specific administrative support. The Regional Secretariat will receive support for monitoring and statistics.

Participatory Farmer Groups and Village Development Committees will receive support for village level planning for banana development, empowering the banana stakeholders for improved access to services and resources.

Under this component there will also be support to upgrading of ARDI Maruku capacities, support to banana protection, monitoring and statistics at regional level.

The PMO and the MAFSC will provide technical backstopping and monitoring

The project will provide what for international scientific support by specialist research bodies (Bioversity International-Catholic University of Leuven).

2. *A sustainable supply of improved banana varieties planting material ensured through public-private partnerships and a farmer-based dissemination system.*

The dissemination component will ensure the establishment of a farmer-led dissemination system based on a network of trained, supervised and certified farmer-multipliers. Progressive farmers interested or already engaged in dissemination will be selected, trained and supervised in order to strengthen the existing market of improved banana suckers.

An indicative estimation of around 250 banana multipliers represented in 112 wards will be equipped with a start-up set of minimum 200 clean, guaranteed suckers from ARDI-Maruku and will be properly trained to establish multiplication plots in their own farms. Each multiplier will provide neighbouring areas with suckers at market prices. Each one should be able to provide around 4.000 suckers/year (200*20) from the next year if plots are well tended. Assuming a slow start due to selection and training of farmers and verification of ARDI's multiplication material (multiplication potential is already existing but safety has to be checked), by the end of the project fourth year a potential annual average of 1.000.000 suckers would be available for dissemination. By the end of fourth year, assuming further on-farm multiplication (at a much slower rate) the system could have disseminated nearly 2 million suckers, to be multiplied by banana farmers up to around 3,5 to 4 million banana plants. If demand is sustained, the multiplication rate could be higher. The following table is an estimation of the quantity of suckers distributed by the banana multipliers, and the total plant produce per year.

Table 3. Projection of farmer-based multiplication system

	Year 1	Year 2	Year 3	Year 4
Number of farmers	50	125	75	
Evaluation of Suskers distributed (200/farmer), by ARDI-Maruku	10,000	35,000	50,000	50,000
Multiplication by certified farmers (20/plant/year)		200,000	700,000	1,000,000
Indirect multiplication (2/plant/year)			400,000	1,400,000
Total plants per year	10,050	235,125	1,150,075	2,451,000
Total cumulated		245,175	1,385,200	3,601,080

Poor and vulnerable households will receive suckers through a voucher system comparable to what is currently used for mosaic resistant cassava.

Farmer banana multipliers will be regularly supervised and certified against a set of standards. Multipliers who do not satisfy these standards will be disqualified. There will be some specific on-field trials in new areas (Kibondo district) whenever necessary. The project will support also the official release of the 4 improved varieties at national level.

3. *Dissemination of best available banana cropping and management practices ensured through participatory experimentation, capacity-building and farmer-to farmer extension.*

The farmer capacity-building component will ensure the dissemination of best practices through a network of progressive, innovative farmers and on-farm training, demonstration and innovation. The network of banana multipliers along with other innovative farmers will serve as reference for the farmer participatory training. Innovative farmers will be expected to pass on advice and maintain demonstration plots in their own farms.

A participatory assessment of training needs will serve as starting point for the formation of 300 Participatory Farmer Groups with special interest in banana extension (existing groups will preferably be used when appropriate). The farmer participatory groups will be provided training, and will participate in exchange visits. Innovative farmers will be issued support instruments (leaflets etc).

Innovative practices will be pursued by farmers, monitored and their spread tracked. Micro-grants will be used to encourage innovative farmers.

The focus will be mainly on soil fertility management using a combination of methods (stabulation of cattle, improved mulching, leguminous crops, agroforestry, inoculation with endomycorrhiza). The activities will target the whole banana-based cropping system and synergy with other interventions will be procured whenever possible.

4. *Spread of innovations increased and sustained by improved post-harvest, processing and marketing skills*.

The entrepreneurial innovation component will ensure the increase of post-harvest and marketing skills of farmers, and entrepreneurial support to banana processing groups.

Activities will be oriented through an initial value chain analysis complemented by a market study. Value chain stakeholders will be identified and their training needs in terms of post harvest, value adding and marketing skills will be addressed.

Market empowerment activities will target farmer groups willing to organize group sales, and manage market information. The same group approach will be used for capacity building, based on progressive farmers and processors with a local leadership.

Banana marketing groups, banana-processing groups will receive business support (business plans) as well as other stakeholders (local women traders). Women's enterprises will be specifically targeted.

In the case where feasible micro-investments are identified through the business plans, micro-projects will be financed provided that they are approved at village level and included in the DADPs. The business plans and training will also empower groups to access credit with the existing micro-finance institutions.

3.4 Activities

Main activities have been determined for each of the four components. They are as follows:

A01 Institutional strengthening component:

A0101 Assessment of training needs of extensionists (LGA and NGOs)
A0102 Planning and implementation of training of district level specialists
A0103 Planning and implementation of training to extensionists
A0104 Support to district level planning for banana development
A0105 Support to village level planning for banana development
A0106 Upgrading of ARDI Maruku capacities
A0107 Support to banana protection, monitoring and policy building

A0108 International scientific support and backstopping

A02 Dissemination component:

A0201 Assessment of demand for improved varieties in each district
A0202 Planning of selection criteria and standards for banana multipliers
A0203 Farmer and site selection
A0204 Farmer training in multiplication techniques
A0205 Production of clean nursery material through macro-propagation
A0206 Distribution and establishment of multiplication plots at farm level
A0207 Planning of voucher system for vulnerable households
A0208 Implementation of voucher system
A0209 Monitoring, supervision and certification of banana multipliers
A0210 On farm and palatability trials in new areas (Kibondo district)
A0211 Application for official certification of improved varieties
A0212 International scientific support and backstopping

A03 Farmer capacity-building component:

A0301 Selection of innovative farmers (along with A0101)
A0302 Participatory assessment of training needs of farmers
A0303 Formation of Farmer Extension Groups
A0304 On farm training
A0305 Organization of exchange visits
A0306 Demonstration of innovative practices
A0307 Production of extension support material
A0308 Monitoring of spread of innovation
A0309 International technical backstopping

A04 Entrepreneurial innovation component:

A 401 Presentation of value chain analysis
A0402 Inventory of marketing and processing initiatives
A0403 Assessment of entrepreneurial training needs (farmers/processors)
A0404 Training of farmers in post harvest and marketing
A0405 Support to market empowerment (group sales, market information)
A0406 Training needs assessment of traders (women)
A0407 Business support to processors groups and traders (business plans)
A0408 Micro projects in value adding
A0409 International technical backstopping

The main activities are detailed in the following description files. They have served as reference for the establishment of a detailed budget. The activities are indicative and may be adapted to necessity during the implementation of the project.

Code	Name of the activity
A 01 01	*Assessment of training needs of extensionists (DC and NGOs)*

Description and justification

The technical and methodological capacities of extensionists at ward and village level need to be strengthened. Their current level of training is highly heterogeneous, both in DC agricultural staff and NGOs. Training of trainers will be designed for district crop specialists (project focal specialists). The main capacities to be strengthened through the project are the following:

- Technical knowledge of banana production and protection;
- Methodological knowledge of participatory extension (PRA, FFS and farmer-to-farmer extension)
- Methodological knowledge of farmer empowerment and facilitation (O & OD, participatory planning etc)
- Monitoring and reporting skills

The first activity will consist of an assessment of training needs of existing staff working in the target wards.

Institutional partners	Main actions	Expected outputs
DC agricultural staffs *NGOs* *ARDI-Maruku specialists*	*Inventory of available staff at district level* *Meetings and interviews at district level* *Participatory planning* *Curriculum planning*	*Training needs assessment document shared by all stakeholders* *Curriculum proposal for extension staff training program*

Resources

The resources planned include operational costs for ARDI Maruku specialists, district staff and the organization of 8 district level workshops

Code	Name of the activity
A 01 02	*Planning and implementation of training of district level specialists*

Description and justification

In each district one crop officer at DC level will be specially trained on banana development and protection and will become banana development focal person for the district. Its functions will be as coordinator of banana development activities in the district and as trainers for extensionists and farmers/processors; he will be part of the Project Facilitation Team.

Institutional partners	Main actions	Expected outputs
DC agricultural staffs *NGO staffs* *ARDI-Maruku specialists* *External consultants* *International scientific support consultants*	*Planning of training workshops and field days at district level* *Training of cropping specialists at ARDI Maruku* *Follow up – refreshment workshops*	1 banana crop specialist trained in each district to assume their functions as coordinators and trainers

Resources

The resources planned include the organization of a 4-day training workshop at ARDI-Maruku

Code	Name of the activity
A 01 03	*Planning and implementation of training to extensionists*

Description and justification

The ward- and village-level extension staff of participating DC and NGOs will receive theoretical and practical training in the priority issues identified in activity A0101. The training will be given by ARDI-Maruku specialists (banana development and protection, extension methodology) and other specialists and consultants (national consultants, international scientific support consultants).

Institutional partners	Main actions	Expected outputs
DC agricultural staffs *DC focal specialists* *NGOs staff* *ARDI-Maruku specialists* *External consultants* *International scientific support consultants*	*Planning of training workshops and field days at district level* *Training of extensionists*	*At least 10 extensionists trained in each district in the complete curriculum*

Resources

The resources include the organization of 2-days training workshop for 80 extensionists (10 per district)

Code	Name of the activity
A 01 04	*Support to district level planning and management for banana development*

Description and justification

The capacity of DEDs, DALDOs, District Planning Officers and their team to plan, design, implement, administrate and monitor activities for banana development within their District Agricultural Development Plans (DADPs) is a strategic capacity for the mainstreaming and sustainability of the intervention. These capacities are a major bottleneck in the implementation of the ASDP and need be addressed. The project will complement general support, training and monitoring provided by the DASIP program, in the sub sector of banana. The DC team will receive support from the project staff in order to plan, implement, administrate and monitor all specific banana activities. This activity covers also support to RAS monitoring, PMO monitoring visits and the JLPC meetings and field visits.

Institutional partners	Main actions	Expected outputs
DC agricultural staffs *DC focal specialists* *Project facilitation team (National Coordinator and accountant)* *MAFSC, PMO monitors* *RAS agric. advisors*	*Assessment of needs at district level* *Planning workshops with DALDOs and crop specialists* *Support and coaching to DC agricultural team*	*The banana activities are integrated in the DADPS and duly administered, reported and audited according to ASDP procedures*

Resources

The costs planned cover training workshops for DALDOS and DPO (regional), for district accountants (regional), support for monitoring by Regional Secretariat, field visits by PMO and JLPC visits/meetings

Code	Name of the activity
A 01 05	*Support to village level planning for banana development*

Description and justification

Village Development Committees (VDC) are expected, in the ASDP, to participate in the bottom-up planning of development plans by establishing local priorities for development. Resources are supposed to be channelled in priority to village development activities. DC staff is to support village organizations to plan by using the Opportunities and Obstacles to Development (O & OD) methodology, a simplified SWOT analysis. The project will support village-based organizations dedicated to banana development (Participatory Farmer Groups) so that their proposals may be articulated and included in the DADPs.

Institutional partners	Main actions	Expected outputs
Village Committees and farmers groups *DC agricultural staffs* *DC focal specialists* *NGO staffs* *ARDI-Maruku*	*Assessment of training needs* *Village planning meetings* *Village plans evaluation and consolidation meetings* *Follow up and supervision by district staff and ARDI-Maruku specialists*	*All participating villages plan banana development activities that are included in DADPs*

Resources

The resources support the organization of 200 village-level field days for the planning of banana development and protection activities

Code	Name of the activity
A 01 06	*Upgrading of ARDI Maruku capacities*

Description and justification

ARDI-Maruku has an important mandate in supporting banana research and development in the Lake region. The project will support the Institute in improving its technical capacities (staff training) and IT equipment to be able to improve its performance. The Institute will receive funding to allow specialists to attend international meetings on banana and attend short courses in the region.

Institutional partners	Main actions	Expected outputs
ARDI-Maruku *Ministry of Agriculture, Food Security and Cooperatives* *International Scientific backstopping*	*Computers and software (2 PCs, specialist software, beamer)* *Attending national and regional meetings* *Short courses to ARDI-ARDI-Maruku staff* *Infrastructure repair and maintenance*	*ARDI Maruku banana specialists duly trained and updated in banana research* *Equipments improved (IT equipment mainly)*

Resources

The budget plans support to ARDI-Maruku with Computers and software (2 PCs, specialist software, beamer), attending national and regional meetings, short courses to ARDI-ARDI-Maruku staff and an allowance for putting the project office in order.

Code	Name of the activity
A 01 07	*Support to banana protection, monitoring and statistics, and policy-building*

Description and justification

The protection of banana cropping systems in Kagera and Kibondo requires the setting up of a monitoring and rapid alarm system to spot BXW outbreaks and other emergencies, as well as a permanent monitoring system of the crop performance due to its strategic nature for food security in the region. Reliable statistics on the crop must be produced. Current capacities must be upgraded and the networking between farmer's organizations, ARDI Maruku, the DC agricultural teams, the Regional Secretariat and the Ministry of Agriculture must be improved and strengthened. Policy proposals will be discussed with the MAFSC and PMO

Institutional partners	Main actions	Expected outputs
Village Committees and farmers groups *DC agricultural staffs* *DC focal specialists* *ARDI-Maruku* *Regional Secretariat* *Ministry of Agriculture, Food Security and Cooperatives* *International Scientific backstopping*	Workshops for regional banana stakeholders network (1/year) Consultancy on design of monitoring and statistics Communication equipments for network (mobile phones) District level monitoring by ARDI-Maruku specialists Training workshops	Monitoring and quick response system operating Statistics on banana production improved Policy lessons

Resources

The resources planned are for Workshop days, Local consultant days, communication material, and ARDI-specialists days

Code	Name of the activity
A 01 08	*International scientific support and backstopping*

Description and justification

The banana development process will need scientific support from the international network on banana research so as to be able to steer and improve the process with state-of-the-art approaches. The project will fund regular support missions from the Bioversity banana program, specifically from the Leuven University. This activity may be pooled with activity A0212.

Institutional partners	Main actions	Expected outputs
ARDI-Maruku Katholieke Universiteit Leuven, Laboratory of Tropical Crop Improvement	Support mission from international scientific consultant (KUL) Backstopping	The banana specialists are updated regularly. Backstopping is provided to improve methodology and policies.

Resources

The resources planned are for international consultant-days and Brussels-Dar-Es-Salaam-Bukoba trips.

Code	Name of the activity
A 02 01	*Assessment of demand for improved varieties in each district*

Description and justification

The development of a supervised network of farmer multipliers producing banana suckers for the improved varieties is meant to be a market-driven process building on existing informal initiatives. In order to identify the potential for banana multiplication in each district, an assessment of existing and potential demand has to be made. This assessment will indicate which of the four screened varieties are in highest demand and what are the tendencies. The assessment will indicate with how many farmers to start in each district. It is expected that the demand will be much higher in high population density districts of Muleba, Bukoba and Missenyi where banana is the basic crop, than in Karagwe where traditional varieties are still performing well. The assessment needs not be very detailed as the number of farmer's multipliers may be adjusted with the evolution of the demand. The activity will be linked to the detailed value chain analysis of banana in the Kagera region and Kibondo district (activity A0301).

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku*	*Planning the assessment* *Preparing instruments* *Implementation of field visits* *Processing data* *Reviewing background data* *Finalizing assessment*	*Planning and itinerary agreed for each district* *Field checklist/questionnaire* *Visit of sample of villages in each ward* *Visit of existing farmer multipliers* *Comparative demand in each district per ward* *Comparing field data to population, banana production and potential data*

Resources

The assessment should involve approximately 10 man days for banana specialist at ARDI Maruku, 5 man days for each banana specialist at district level, and a visit at each village by district extension staff.

Code	Name of the activity
A 02 02	*Planning of selection criteria and quality standards for banana multipliers*

Description and justification

Selection criteria for banana multipliers will have to be defined and agreed between the different stakeholders. There must be technical (previous knowledge of banana, training during KCDP etc), social (local leadership and social commitment) and economic (self-sufficiency and entrepreneurship). It is important that the criteria are discussed between ARDI-Maruku, the DC agricultural staff and the participating NGOs to avoid distortions and conflicts of interpretation. The criteria must be public. Quality standards as to the management of multiplication plots must be based on state-of-the-art knowledge.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*Planning meeting with district specialists and NGOs representatives*	*Set of criteria for selection of farmer multipliers* *Set of quality standards for management of multiplication plots*

Resources

The resources planned are to cover the cost of organizing a planning workshops and making visits to the districts.

Code	Name of the activity
A 02 03	*Farmer and site selection for banana multiplication*

Description and justification

The farmer based multiplication system requires a network of farmer multipliers operating in each of the districts where demand for new varieties is expected. The exact number and repartition of farmer multipliers will depend on the assessment of demand (activity A0201). Tentatively the system would cover 112 wards with around 250 farmers. It is highly probable that the network will have to be adjusted progressively to the evolution of demand in each ward.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*District level assessment by ARDI-Maruku specialists with support from district staff and NGOs*	*A list of approved volunteers candidates covering all the target districts*

Resources

The resources assigned to this activity cover travel to the eight district to sustain meetings with district staff and NGOs and meet the farmer volunteering for multiplication.

Code	Name of the activity
A 02 04	*Farmer training in multiplication techniques*

Description and justification

The farmers selected for multiplication of improved varieties must be trained adequately. The training must include all the steps for safe multiplication avoiding infection of suckers, the standards of quality expected from multipliers, and the most important aspects of multiplication plot management and banana husbandry. The farmer multipliers must be able, after the workshops, to operate their multiplication plots according to standards and to pass adequate advice to the farmers who will come to buy banana suckers.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *Farmer multipliers*	*4 workshops will be organized at ARDI Maruku for training of groups of farmers. The workshops will last for 4 days.*	*A network of farmer multipliers able to operate their multiplication plots according to standards and to pass adequate advice to the farmers who will come to buy banana suckers*

Resources

The resources for this activity include the cost of workshops, transport and DSA for participating farmers and technicians.

Code	Name of the activity
A 02 05	*Production of clean nursery material through macro-propagation*

Description and justification

A mother nursery will be operating at ARDI Maruku. This nursery is to provide each farmer multiplier with a starting batch of around 200 clean, guaranteed banana suckers of the varieties in demand in each ward. The main technical challenge is to guarantee that all material is totally exempt from BXW, nematodes and other infections. The existing multiplication plot at ARDI-Maruku will have to be thoroughly tested, if necessary new material imported; regular testing will be made afterwards. Simple technologies like the PHYTOPASS developed at the Faculty of Gembloux in Belgium will be used for testing. The output expected from the mother nursery is around 75,000 plants for farmer multipliers in four years, but the nursery will also be able to attend other demands. Suckers will have to be carefully cleaned, disinfected and supervised before distribution.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *International scientific consultant*	*Testing of existing multiplication plot* *Importation of new materials* *Operation of multiplication plot* *Monitoring of multiplication plot*	*At least 50,000 banana plants of guaranteed quality distributed to farmer multipliers*

Resources

The resources involved include materials, testing equipment, and operating costs of the multiplication plot and macro-propagators including the salary of the labourer in charge.

Code	Name of the activity
A 02 06	*Distribution and establishment of multiplication plots at farm level*

Description and justification

The farmer multipliers are expected to establish multiplication plots in their own farms, without any other incentive than the training and the starting batch of guaranteed material. With the training provided and due supervision by District staff, the farmer multiplier are expected to establish their plots without any difficulty. Sites will have to be checked beforehand by extensionists and the establishment of multiplication plots regularly monitored.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *Farmer multipliers*	*Distribution and transport of planting material to districts* *Supervision of planting by district staff*	*About 250 multiplication plots at farm level in 112 wards by year 2 of the project*

Resources

The resources involved include transportation costs, and operational costs for supervision by district staff.

Code	Name of the activity
A 02 07	*Planning of voucher system for resource poor and vulnerable households*

Description and justification

In order to ensure that at least 1500 vulnerable households susceptible of benefiting from improved banana varieties may access planting material from multiplication plots with subsidy, an on-farm voucher system will be established. This system will follow the model used by CRS and other NGOs to distribute mosaic-resistant cassava from farmer multipliers in Kagera. The modalities will be planned between the district, implementing NGOs and ARDI-Maruku. The voucher will cover the cost of 20 banana suckers and therefore will not have a market value and do not require complex control mechanism. The main aspect to be planned is the characteristics of vulnerable households to be benefited. In principle female and orphan-headed households will have priority. The project will rely mostly on the knowledge and networks of existing NGOs. The activity will be planned in close coordination with the BSF funded food security project.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District staff* *NGOs*	*Planning meeting at ARDI ARDI-Maruku with 8 district focal points and NGOs* *Test field visits ARDI-Maruku specialists* *Voucher holders selection meeting*	*Criteria for household selection* *Approved list of 1500 targeted households for voucher distribution*

Resources

The resources included cover the organization of a planning workshop and supervision trips to the districts.

Code	Name of the activity
A 02 08	*Implementation of voucher system*

Description and justification

On Farm Voucher (OFV) is a demand-oriented approach where needy households are issued with vouchers of given value to exchange with farm inputs such as improved crop varieties based on their own choices. The implementation of the system for banana varieties will follow the experienced piloted by CRS for cassava. The system will have to be well known to District authorities, Village executive offices, Farmer multipliers and targeted villagers through sensitisation meetings. The voucher holders will be also trained by the same NGOs responsible for voucher distribution and monitoring. Actual planting of banana suckers must be monitored.

Vouchers will be reimbursed to farmer multipliers (or, alternatively, farmer multipliers will be asked to provided a number of free banana suckers as repayment of the subsidy and training provided to them).

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District staff* *NGOs* *Farmer multipliers*	*Distribution of banana vouchers* *Training of voucher holders* *Monitoring*	*1500 vulnerable households access a batch of 20 banana suckers to start the production of improved banana in their home gardens.*

Resources

The resources include the operating costs for implementing NGOs and supervision costs for district staff.

Code	Name of the activity
A 02 09	*Monitoring, supervision and certification of banana multipliers*

Description and justification

The network of banana multipliers is supposed to provide for the demand of safe, quality planting material of improved banana varieties. A quality control system is necessary to ensure that objective. Farmer multipliers will be regularly visited and supervised by Maruku and DC staff to check that quality standards are applied in their multiplication plots, that they sell the right material in safe conditions and do not practise unfair prices and other criteria that will have been agreed upon. Some testing of planting material against BXW and other diseases or pests will be done randomly. A kind of certification will be issued at district level to all farmer multipliers in accordance with the quality standards. The list of certified multipliers will be public. Multipliers who fail to respect standards would be sanctioned with the removal of their name from the list so that all farmers in the district know where safe material may be purchased.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District staff* *Farmer multipliers*	*Periodic supervision of farmer multipliers* *Periodic sample testing of multiplication plots* *Monitoring and evaluation meetings at district level* *Publication of certification list.*	*The network of certified farmer multipliers ensures the supply of high quality material on a sustainable basis*

Resources

The resources include funds for operational costs for supervision by ARDI-Maruku specialist (3 visits yearly) and district officer (3-monthly), and acquiring testing equipment (PHYTOPASS or other)

Code	Name of the activity
A 02 10	*On farm and palatability trials in new areas (Kibondo district)*

Description and justification

The district of Kibondo in Kigoma region was not covered by KCDP. The new banana varieties have been introduced informally but there was no formal program. The project will expand the dissemination of new varieties to this district. Considering the diversity of performance of banana varieties in differing ecoclimatic conditions, it is possible that some adaptation and palatability trials of new varieties may be necessary in Kibondo before decisions are taken on which of the varieties should be promoted there. The project will use the on-farm trials approach, using farmer multipliers for on farm trials.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *Kibondo District staff* *International scientific consultant*	*Site selection and supervision by ARDI-Maruku specialists* *On farm trials of planting material* *Laboratory tests* *Supervision by district staff*	*List of recommended varieties for Kibondo medium-rainfall and high-rainfall areas*

Resources

The resources involve operating costs for Maruku and district staff, and laboratory tests

Code	Name of the activity
A 02 11	*Application for official certification of improved varieties*

Description and justification

ARDI-Maruku needs to obtain the official release of the 4 most demanded varieties of banana in Tanzania by TOSCA. The Tanzania Official Seed Certification Agency (TOSCA) is responsible for quality control from the foundation seed farm stage up to the sale of certified seed to the farmers. The Main Seeds produced are hybrid and composite maize, sorghum, beans, wheat and sunflower but TOSCA is responsible for all agricultural varieties. The official release will allow to give a local name to the varieties and to diffuse them officially in all banana production areas of Tanzania. This does not exclude further research and dissemination of other varieties.

Institutional partners	Main actions	Expected outputs
Tanzania Official Seed Certification Agency (TOSCA) *ARDI Maruku* *MAFSC*	*Administrative registration* *Site selection for official reference plots in 3 districts (ARDI-Maruku specialists)* *Attendance at official release meetings in TOSCA (Arusha)*	*4 banana varieties officially registered in Tanzania*

Resources

The resources involved cover travels to Arusha, and the establishment of reference plots in two areas of Kagera and one in Kibondo District

Code	Name of the activity
A 02 12	*International scientific support and backstopping*

Description and justification

The farmer-based banana multiplication system will need scientific support from the international network on banana research so as to be able to steer and improve the process with state-of-the-art approaches. The project will fund regular support missions from the Bioversity banana program, specifically from the Leuven University. This activity may be pooled with activity A0108.

Institutional partners	Main actions	Expected outputs
ARDI-Maruku Katholieke Universiteit Leuven, Laboratory of Tropical Crop Improvement	Support mission from international scientific consultant (KUL) Backstopping	The banana specialists are updated regularly. Backstopping is provided to improve methodology and policies.

Resources

The resources planned are for international consultant-days and Brussels-Dar-Es-Salaam-Bukoba trips.

Code	Name of the activity
A 03 01	*Selection of innovative farmers (along with A0202)*

Description and justification

This activity is to be implemented at the same time as activity A0202. Extension on banana management is to be articulated around reference farmers, of which it is expected that multiplier farmers will constitute the bulk. However some reference farmers may not be interested in professional multiplication so that an additional number may be included only for extension activities. On the whole the project will target around 300 innovative farmers. Criteria will be agreed upon together with selection of multiplier farmers.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*Planning meeting with district specialists and NGOs representatives*	*Set of criteria for selection of innovative farmers*

Resources

The resources involved complement the budget for activity A0202 for mobilization of district staff.

Code	Name of the activity
A 03 02	*Participatory assessment of training needs of farmers*

Description and justification

The project aims at training farmers through a network of Participatory Farmer Groups (PFG) in several important aspects of banana production such as Integrated Pest Management, Integrated Soil Fertility Management, Crop management, post harvest, safe multiplication, prevention and control of BXW etc. The content of training programmes and the methodologies used will be determined by a training needs assessment. This participatory needs assessments will be done in collaboration between ARDI-Maruku, district staffs and collaborating NGOs. The participating institutions will agree in a planning workshop on contents of training and methodology.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*District level assessment by ARDI-Maruku specialists* *District level assessment by private providers (NGOs)* *Village level meetings* *Planning workshop*	*Training needs assessment document shared by all stakeholders* *Curriculum proposal for farmer capacity building*

Resources

The resources planned include expenses for district level assessment by ARDI Maruku and NGOs, field days at district levels for discussion with farmer representatives, and a planning workshop at regional level.

Code	Name of the activity
A 03 03	*Formation of Participatory Farmer Groups*

Description and justification

Participatory Farmer Group is a generic name used for any kind of farmer group, formal or informal, organized around common interests and goals to participate in an empowerment process. It includes existing groups working with NGOs, enterprises, informal groups of banana producers, so long as they agree to work together on improving their capacities to develop their banana production activities. Participatory Farmer Groups will be the recipient of training, organized around reference innovative farmers, be they banana multipliers or not. The project should reach up to 300 such groups, with an average of 20 participating members.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs* *Innovative farmers*	*District level assessment of groups* *Sensitisation village meetings* *Training workshops for innovative farmers*	*A network of 300 Participatory Farmer Groups identified for training on banana development* *300 innovative farmers trained as trainers in banana development*

Resources

The costs planned include operational costs for ARDI Maruku, district and NGO staff, the organization of 4 farmer trainers workshops

Code	Name of the activity
A 03 04	*On farm training*

Description and justification

The project will support a comprehensive on-farm training program targeting the Participatory Farmer Groups and using the demonstration plots of innovative farmers as field reference. The PFG will be supported with regular training sessions according to training needs assessments; ordinary training and support will be ensured by the innovative farmers (trained as trainers) and the district and NGO extensionists. ARDI-Maruku will provide support and supervision and refreshment workshops will be organized for farmer trainers.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs* *Innovative farmers*	Planning meetings (2 yearly/district) Farmer field days (300 Participatory Farmer Groups) Ordinary meetings of PFGs Follow up by district staff Supervision and training by ARDI-Maruku specialists Training from consultants Update workshops for 80 innovative farmers	300 Participatory Farmer Groups updated on banana development and protection according to regularly updated curriculum.

Resources

The resources include operating costs for extensionists and ARDI Maruku staff, workshops and farmer field days.

Code	Name of the activity
A 03 05	*Organization of exchange visits*

Description and justification

Exchange visits are one of the most effective means of disseminating knowledge in rural societies. The project will support an extensive program of visits to reference farmers from districts and wards where demand for improved bananas is still low, in priority from Kibondo. Groups of about 20 producers will be taken to visit communities where progressive farmers can demonstrate the advantages of improved varieties and improved management practices. Two visits will be organized to neighbouring Uganda where innovative experiences in banana management and farmer organization may be seen.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku*	District to district visits for groups of 20 farmers Visits to Uganda for groups of 20 farmers	Farmers to replicate experiences in their communities after visits

Resources

The resources planned would cover 8 district-to-district visit and two visits to Uganda.

Code	Name of the activity
A 03 06	*Demonstration of innovative practices*

Description and justification

On-farm trials of innovative practices in soil fertility management and banana management are necessary to develop and disseminate improved practices. The network of innovative farmers/banana multipliers will be used as reference. Innovative farmers will be encouraged to implement on farm trials with small grants so that experimental plots may be managed as micro-projects. Grants will be awarded on a participatory basis with a bottom-up selection process encouraging the most innovative farmers. The trials will be at the same time used as support for farmer training through farmer field days (activity A0305) Another activity will be the organization of field days in local fairs (Nane Nnne). Priority will be given to soil fertility management innovations. Grants would be awarded through districts after an inter institutional selection process.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs* *Innovative farmers*	*Micro-project grants for demonstrative practices* *Demonstration at agricultural fairs*	*200 micro-projects granted to innovative farmers for on farm trials and demonstration plots.*

Resources

The budget will cover small grants for 200 projects, 50 field days in agricultural fairs and supervision costs.

Code	Name of the activity
A 03 07	*Production of extension support material*

Description and justification

The project will support the production of extension support material on banana development and protection under the technical supervision of ARDI-Maruku. The support materials may be written (leaflets and posters), through local radio programmes or audio-visual media.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District agricultural staff* *NGOs* *Innovative farmers*	*Planning of support materials* *Validation of messages with farmers* *Production and diffusion* *Evaluation*	*Leaflets* *Radio programs* *Posters*

Resources

The budget will support the edition and diffusion of material and radiophonic programmes.

Code	Name of the activity
A 03 08	*Monitoring of spread of innovation*

Description and justification

The monitoring of spread of innovations will allow assessing the impact of the project in terms of adoption of new banana varieties and management practices. This monitoring, designed according to a proposal by ARDI-Maruku will be used to orient further extension activities in each districts. It will involve all field stakeholders of the project.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District agricultural staff* *NGOs* *Innovative farmers*	*Planning of monitoring system and protocol* *Implementation* *Evaluation and reporting*	*Regular reports assessing the spread of innovations promoted through the project*

Resources

The resources cover consultant days for the design of the system and operating costs for ARDI Maruku

Code	Name of the activity
A 03 09	*International technical backstopping*

Description and justification

The farmer-to-farmer extension programme will receive international backstopping with the visit of an international consultant at the moment judged adequate by the project team and BTC representation, to provide technical guidance and assess the relevance and effectiveness of the approach chosen.

Institutional partners	Main actions	Expected outputs
ARDI-Maruku	*Support mission from international consultant*	*Backstopping is provided to improve methodology and instruments.*

Resources

The resources planned are for international consultant-days and Brussels-Dar-Es-Salaam-Bukoba trip.

Code	Name of the activity
A 04 01	*Presentation of value chain analysis and market studies*

Description and justification

A value chain analysis and a complementary study on banana marketing will be implemented through Belgian funding outside the budget of this project. Given the importance of the results of these studies for the orientation of the entrepreneurial capacity building component, the project will support a workshop to present the conclusions of the studies and discuss the priorities for supporting the strengthening of banana marketing in Kagera and Kibondo.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District agricultural staff* *PMO-RALG* *NGOs*	*Workshop*	*Priorities for strengthening of marketing skills discussed and agreed upon by stakeholders*

Resources

The project will fund a one-day regional workshop

Code	Name of the activity
A 04 02	*Inventory of marketing and processing initiatives*

Description and justification

Many small-scale initiatives for processing and marketing of banana exist in Kagera region: banana wine and brewing groups, individual marketing arrangements, and some larger scale initiatives like MALI juice or FADECO banana chips. An inventory of existing initiatives will allow to know all active groups and individuals, and to identify innovative enterprises that may be used as references or jumpstarting points for the intervention. The inventory will be designed by ARDI-Maruku socio-economic team and implemented in coordination with district agricultural staffs.

Institutional partners	Main actions	Expected outputs
ARDI Maruku *District agricultural staff*	*Design and planning* *District-level inventory* *Processing of information*	*Listing of processing and marketing initiatives (both group- and individual level)*

Resources

The resources will cover operational costs for district staff and ARDI Maruku

Code	Name of the activity
A 04 03	*Assessment of entrepreneurial training needs of farmers and processors*

Description and justification

The project will provide training to processors and farmers involved in-group marketing, using the inventory of active groups as well as the network of Participatory Farmer Groups (PFG) among which many could be interested in organizing entrepreneurial activities. The content of training programmes and the methodologies used will be determined by a training needs assessment. This participatory needs assessments will be done in collaboration between ARDI-Maruku socio-economic staff, district staffs and consultant(s). The participating institutions will agree in a planning workshop on contents of training and methodology.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*District level assessment by ARDI-Maruku socio-economic specialists* *District level assessment by private providers (NGOs)* *Village level meetings* *Planning workshop*	*Training needs assessment document shared by all stakeholders* *Curriculum proposal for entrepreneurial capacity building*

Resources

The resources include funds for national consultants and operational costs for ARDI and district staff.

Code	Name of the activity
A 04 04	*Training of farmers in post harvest and marketing*

Description and justification

The project will support a training program targeting the Participatory Farmer Groups interested in improving post-harvest techniques and banana processing. Some areas for improvement of post-harvest at low costs exist, for instance in conditioning of banana bunches for transportation. The PFG will be supported with regular training sessions according to training needs assessments; ordinary training and support will be ensured by the innovative farmers (trained as trainers) and the district and NGO extensionists. ARDI-Maruku will provide support and supervision and refreshment workshops will be organized for farmer trainers. Specific exchange visits will be organized also.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs* *Participatory Farmers Groups*	*Planning meetings (2 yearly/district)* *Processor field days (25 participatory groups)* *Training workshops* *Exchange visits*	*At least 25 groups trained in post harvest and marketing skills*

Resources

The resources include funds for training consultants and operational costs for district staff and ARDI Maruku, as well as for farmer field days.

Code	Name of the activity
A 04 05	*Support to market empowerment (group sales, market information)*

Description and justification

Market empowerment means improving the information and understanding of markets by processors and farmers groups. This activity targets specifically the groups interested in organizing their access to markets. Those groups will receive training on management of market information, negotiation skills and organization of group sales. This activity will complement the former (A0404).

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs* *Participatory Farmers Groups*	Training workshops Exchange visits	*At least 25 groups trained in negotiation and access to markets*

Resources

The resources include funds for training consultants and operational costs for district staff and ARDI Maruku, as well as for farmer field days.

Code	Name of the activity
A 04 06	*Training needs assessment of traders (women)*

Description and justification

Women traders constitute a specific stakeholders group that at the moment is less visible and organized than others. Small traders operate between the urban markets and producers and face many constraints. According to the information gained form the value chain analysis and the inventory of innovative practices, it is hoped that a segment of women traders may be involved in training to improve their skills and contribute to the strengthening of access to markets in a sustainable way. The content of training programmes and the methodologies used will be determined by a training needs assessment. This participatory needs assessments will be done by consultant(s). The participating institutions will agree in a planning workshop on contents of training and methodology.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	*District level assessment by private providers*	*Training needs assessment document shared by all stakeholders* *Curriculum proposal for women traders capacity building*

Resources

The activity will be done by a national consultant (gender/income generation specialist).

Code	Name of the activity
A 04 07	*Business support to processors groups and traders (business plans)*

Description and justification

Currently most entrepreneurial groups lack the basic instruments for planning their business and understanding the basics of breaking even and managing their business. This is a general need that will be addressed by the project, aiming at processors and traders small enterprises and groups. The main activity will be a business course at some SME specialist training body like SIDO, as well as exchange visits.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *Specialist SME training institution*	*A training course offered to small enterprises with priority to women*	*20 persons trained on a specialized course of SME management and business plan*

Resources

The project will fund a consultant for training, an external training course for 20 persons

Code	Name of the activity
A 04 08	*Micro projects in value adding*

Description and justification

The project will support micro projects in the area of value adding to banana production: post-harvest, processing, marketing initiatives from local groups, with priority to women groups, will be eligible for small grants to acquire equipments, invest in technological improvement and entrepreneurial initiatives with a potential for unlocking market potential for bananas. The procedure for call for proposals, selection and implementation of grants will be agreed between the project and stakeholders.

Institutional partners	Main actions	Expected outputs
District agricultural staff *ARDI Maruku* *NGOs*	Planning and design of grant system Call for proposals and Selection at regional level Funding Monitoring and evaluation	Up to 50 micro projects supported with grant allowing to improve value adding and access to market with priority to women groups and enterprises

Resources

A fund for 50 grants (equivalent 2,000 € each)

Code	Name of the activity
A 04 09	*International technical backstopping*

Description and justification

The farmer-to-farmer extension programme will receive international backstopping with the visit of an international consultant at the moment judged adequate by the project team and BTC representation, to provide technical guidance and assess the relevance and effectiveness of the approach chosen.

Institutional partners	Main actions	Expected outputs
ARDI-Maruku	*Support mission from international consultant*	*Backstopping is provided to improve methodology and instruments.*

Resources

The resources planned are for international consultant-days and Brussels-Dar-Es-Salaam-Bukoba trip.

3.5 Indicators and means of verification

The indicators at specific objective level must be aligned with national-level indicators.

In the context of the MKUKUTA poverty reduction and growth strategy, the Government of Tanzania has defined a set of indicators corresponding to the main strategic clusters. For cluster 1 (growth and reduction of poverty), goal 2 (improving food availability and accessibility at household level) the relevant indicators for the project are*: food self-sufficiency ratio* and *% of change in food production*. For goals 4 and 5 (reducing income poverty of both men and women) the most relevant indicator is *% of farmers using modern methods of farming (including improved seeds).* The project must also take into account key ASDP outcome indicators: (i) Percentage of farmers accessing improved agricultural services and infrastructure and (ii) Percentage of farmers that show sustained use of one or more relevant technologies and the sustainable use of productive infrastructure.

Those indicators will be adapted for the project in the following form:

- *% of increase in banana production in Kagera region and Kibondo district;*
- *% of banana farmers adopting innovation practices (improved varieties and management);*
- *number of districts with operating broad-based institutional partnership for banana innovation (farmer and processors organization-district agricultural staff-private and public service providers with in-built capacities and networking).*

The first indicator deals with the contribution to food security and the second one with the spread of innovation. The source of verification will be the monitoring of impact of banana innovation on a sample of farmers compared to the baseline. The sample will be representative of all districts so that it can be extrapolated to the total number of agricultural households in banana producing wards.

The third indicator consolidates the results of the capacity-building, networking and empowerment activities of the intervention. It will assess on a relative scale for each district, the in-built capacities of different banana stakeholders: organization, planning and implementation capacity, technical training, networking etc. The initial baseline will be the reference for this scale to be proposed at the onset.

At results (outputs) level, indicators are straightforward and easily verified as indicated in the following table.

Table 4. Objectively verifiable indicators

COMPONENT	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION
A01 Institutional strengthening component	• *100 DC and NGO specialists and extensionists trained on banana development and protection* • *8 DC planning banana development activities in DADP* • *300 villages planning banana development activities* • *Durable partnerships between ARDI, DC and NGOs*	• Reports from training and capacity building events and programmes • Memoranda and contracts between DC and service providers

A02 Dissemination component	• *At least 250 farmer banana multipliers in the 8 districts by year 2* • *800,000 improved suckers yearly available from year 3* • *1,500 vulnerable households benefited* • *At least 200 banana multipliers certified by year 3*	• Monitoring and supervision reports of banana multipliers networks • List of certified banana multipliers
A03 Farmer capacity-building component	• *300 Participatory Farmer Groups trained in banana development and protection by year 4* • *200 demonstration and on farm trial sites ensuring spread of innovation in 8 districts by year 3*	• Monitoring and supervision reports of farmers training programmes
A04 Entrepreneurial innovation component	• *At least 25 farmers groups trained for group marketing of bananas improving incomes from sale of bananas* • *At least 50 women groups and enterprises trained for entrepreneurial skills, improving incomes from processing and trade activities*	• Monitoring and supervision reports of farmers and women's groups training programmes

3.6 Preconditions, Assumptions and Risks

3.6.1 Preconditions

The most important pre-conditions for starting the implementation of the project are the following:

- Commitment by each district to implement the project, delegate day-to-day implementation to the DALDO and a crop specialist and commit a minimum number of extensionists;
- Verification of administrative status of each district in terms of qualification for ASDP funding and previous auditing;
- Opening of a specific account for project funds by each district.

3.6.2 Assumptions

The main assumptions at Project Specific Objective level are:

- Improvements in productivity scaled-up among all categories of banana farmers: it is assumed that the package of improved varieties, improved management and protection practices and entrepreneurial innovations may have a positive impact across all banana producers in all districts, although of course at different levels. If conditions proved contrary for some sectors a social bias contributing to a marginalization process might take place.
- GoT and donors commitment to ASDP and decentralization maintained and strengthened: the project intervention is embedded in a decentralization process that is still weak and needs long-term commitment and support in order to be successful.

The main assumptions at results (outputs) level are:

- DC and RAS hierarchies supportive of Project Facilitation Team: in order to be able to commit themselves to the success of the project, DALDOs and crop specialists coordinating through the Project Facilitation Team must receive support and adequate delegation of responsibility.

- NGOs willing to participate constructively in ASDP framework: NGOs have an important social basis in the region; their involvement as service providers to the districts and as partners of the ASDP is still incipient and has to be strengthened and roles clarified in order for outsourcing to become a common policy.
- ARDI-Maruku focus maintained: the focus of the actual team on banana development, client-oriented research and farmer-based innovation is essential for the technical quality of the intervention, therefore the maintenance of this focus and the key staff members is an important assumption.
- Demand for new banana varieties to be strengthened by market conditions and increasing evidence of good performance for both income and food security: actually the high farm gate prices fetched by new varieties, superior qualities for brewing outweigh the lower acceptability as favourite food item in all districts but Karagwe; acceptability for food increases in the most pest-ridden areas, favouring demand for the new varieties.
- Existing network of community groups and former banana reference farmers of KCDP covering most target wards: the capacity-building component must consolidate former efforts, especially through KCDP and it is assumed that many farmers trained by KCDP may be identified and used to jump-start the activities at community level.
- Possibility of short-term improvement in access to market and efficiency of value chain: entrepreneurial innovation in post-harvest, processing in marketing must produce incentives in terms of improved incomes on the short term.

3.6.3 Risks

The main fiduciary risk will reside at District Council level. The project will have to advance funds for the implementation of local activities to each district council, under the joint responsibility of the District Executive Director (DED) and the District Agricultural and Livestock Development Officer (DALDO).

Applying the following procedures will minimize the risks:

- BTC will check on the record and qualification of the target districts within the ASDP before transferring funds;
- Project funds will be deposited in a specific project account in each district with double signature;
- The project will provide support and follow-up to DALDOS for the whole process of planning of activities, implementation, monitoring, accounting and reporting;
- There will be a ceiling to disbursements for the districts of 10,000 €;
- There will be a combination of audit mechanisms between central government audit (annual), BTC internal auditing and external audits.

The project will benefit from synergies with the ADB-funded DASIP project, which is providing support and coaching to the districts in the intervention area for the implementation of ASDP.

As some districts are not quite capable of implementing all the activities budgeted in the DADPs, it is necessary that the projects assumes from the start that capacity-building and coaching are a fundamental dimension of the intervention, rather than expecting the district

staffs to deliver according to plan. Therefore important aspects of the intervention will have to address the efficiency risk:

- Improve the bottom-up planning and ensuring that activities included in the DADPs are really emanating from the stakeholders, and are institutionally feasible;
- Provide comprehensive technical and managerial training to DALDOs, crop officers and extensionists;
- Provide continuous backstopping and support to the DALDOs and their agricultural team;
- Provide crossed supervision and coaching between the BTC-hired project staff (National Coordinator and accountant) and the ARDI-Maruku staff;
- Improve the complementary roles between the Regional Secretariat and the DC;
- Ensure that the PMO, PMO-RALG and the Ministry of Agriculture implement a meaningful and constructive kind of monitoring;
- Reinforce networking between the different districts so that the most dynamic DALDOS may orient the slower ones;
- Maximize synergy with the DASIP support services.

The missions of the project stakeholders are very clearly defined in the Agricultural Sector Development Programme and in the framework of decentralization. The proposed intervention is based on this framework so that all the actors have well defined roles to play. The networking between the actors is also part of the policy with a trend towards outsourcing of services by the districts towards private and public service providers. This is already implemented by collaboration between the districts and ARDI Maruku. Partnership with the NGOs and other private providers is not yet very effective; the linkage between the Ministry of Agriculture and the district agricultural staff also needs strengthening. The demand from the beneficiaries sector (banana producers and processors) is not yet very articulate due to the low level of organization with economic purposes. The participatory planning exercises implemented by the districts to prepare DADPs with the "Opportunities and Obstacles to Development" methodology (O&O.D) are still very superficial.

The effectiveness risks that might affect the attainment of the project specific objective are thus mainly linked to the level of organization and the networking and partnership between the different stakeholders. To reduce this risk the project is including a specific component to address those issues for the banana sub-sector.

The institutional embedding and the choice of farmer-based activities have minimized the sustainability risks of the intervention.

3.7 Implementation actors / agencies

The project will be implemented through existing actors and agents in Kagera region and Kibondo district and with the national line ministries. The whole intervention is embedded in the decentralization process and the Agricultural Sector Development Programme.

Table 5. Institutional actors and stakeholders and role in implementation

Institution/ actor	Role in implementation
Ministry of Finance & Economic Affairs (MFEA)	Co-authorizing/ supervise financial aspects
Prime Minister Office - Regional Administration and Local Gov . (PMO-RALG) **Ministry of Agriculture, Food Security and Cooperatives** (MAFSC)	Supervise, advise and monitor the technical arrangements of implementation. The MAFSC will play its consultative and advisory role through the Regional Secretariat as per standing procedures.
Kagera **Regional Secretariat** and Kigoma Regional Administrative Secretariats (RAS) Regional agricultural advisors (Kagera and Kigoma regions)	On behalf of (PMO-RALG) coordinate all development intervention, will carry overall responsibility for the coordination and supervision of the project implementation in both regions. Assist LGAs on matters of preparation, collection and monitoring of DADPs and quarterly reports and participate in annual assessments.
Belgian Technical Cooperation (BTC)	Co-authorizing; technical and administrative supervision; technical assistance
District Councils of target districts The District Executive Directors (DED) District Agricultural and Livestock Development Officer (DALDO) Banana crop specialist	Facilitation, coordination and supervision of implementation of all activities of the project within their respective territories Responsible for the implementation of the project in accordance with the existing LGA financial and other regulations and rules. Day-to-day responsibility of management, facilitation and backstopping to the District Agricultural Team. The DALDO will delegate technical issues to a crop specialist trained in banana production who will act as Focal Person for the project. The focal person will coordinate field activities.
Maruku Agricultural Research and Development Institute (ARDI-Maruku)	Strategic public provider for which two levels of activities are planned: field activities under contract with the DCs, and core activities to be funded directly through BTC. - research specialist assigned to the project activities
Village Development Committees	The Village-level institutions will be responsible for the planning of village-level activities to be incorporated in the District Agricultural Development Plan
Farmers organizations (generically denominated **Participatory Farmer Groups**)	Responsible for organizing the participation of villagers to banana development and training activities
Farmer multipliers/reference innovative farmers	Responsible for establishing banana multiplication plots at village level and providing banana suckers at market prices Responsible for maintaining demonstration plots and being host to farmer field days and training workshops
Private service providers (NGOs and consultants)	Provide specific services under contract with the DC
International scientific support consultant (Katholieke Universiteit Leuven), **Laboratory of Tropical Crop Improvement**)	Provides scientific support and backstopping to the project mainly through ARDI-Maruku

3.8 Implementation Planning

The project is planned for duration of four years. The implementation will follow three phases:

1. Start-up phase (6 months)

During this phase the main focus will be on the establishment of the Project Facilitation Team, as well as all preliminary assessments, planning and activity design, contracting of service providers and other preliminary activities. At the end of this phase the project must be in a position to start activities in all target districts.

2. Main implementation phase (3 years)

During this phase the four components will be activated and the project expected outputs will have to be attained before the final phase.

3. Consolidation phase (6 months)

During this phase the closure of the project will be prepared and all measures taken to ensure the continuity of activities necessary to ensure the further flow of benefits from the intervention after project closure.

In the context of the intervention, the focus will coincide with the HIV-AIDS mainstreaming. Orphans are the most vulnerable section of Kagera society and will therefore be targeted in priority.

As for another vulnerable sector, Burundese refugees in Kibondo, the current developments of the situation point to a quick closing of refugee camps in 2008 to 2009 and therefore they do not constitute a target sector for the intervention if the situation is not reversed.

3.9 Conditions of sustainability

3.9.1 Socio-Economic sustainability

Banana production is a core economic activity in the region; the project pretends to increase its productivity and profitability, based on previous proven experience.

Banana multiplication will be sustainable in the approach selected since banana multipliers will sell planting material at market prices and therefore generate an income from the activity. This income might be at least of Tsh 800,000 yearly, assuming an average price of Tsh 200 per banana sucker. If the investment in capacity-building during the intervention is well focused and efficient, the same progressive farmers will continue contribution to the spread of innovation.

Banana processors and traders will improve the sustainability of their enterprises through the capacity-building and networking facilitated by the project.

3.9.2 Institutional sustainability

Banana research and development is a core mandate of ARDI-Maruku and is thus a sustainable activity from the point of view of this institution. The Institute has been capable of pursuing, albeit at a reduced pace, its banana program after the closure of KCDP, thanks to its international networking and increasing contracting from districts. It is then to be expected that

the improvement of capacities and networking of the Institute during the project implementation will improve the sustainability of the banana program, even if a funding crunch is again to be expected at the end of this intervention.

The district agricultural staffs have to address the priority needs of agricultural development and food security in their respective territories. Banana being a vital crop for the Kagera region and increasing important for Kibondo, it is improbable that the district would altogether abandon the banana development and protection activities promoted during the implementation of the project. It is therefore probable that they will pursue the effort including banana related activities in their DADPs. The main sustainability risk is about financial resources. Since the project will not fund any structural costs of the districts (salaries, infrastructure etc) but only operational costs of the staff involved in banana promotion (transportation costs, DSAs) the institutional continuity will not be at risk at the closure of the project. What is to be foreseen is a financial crunch on the field activities of extensionists, until further funding is ensured. Luckily the DASIP program will provide much needed support and further basket- and budget support to the agricultural sector is foreseen for Tanzania.

The less sustainable intervention will be by NGOs since their activity is completely dependent on external funding. However capacity-building in the banana support activities of NGO staff may be used in further projects. If their relationship with DC as service providers is improved their sources of funding will be diversified.

3.9.3 Ecological sustainability

As mentioned under environment the intervention will contribute to strengthen the banana-based intensive systems as best indigenous alternative for sustainable land use under high population pressure. The introduction of new improved varieties and management practices aims at improving the sustainability of the traditional banana-based farming system. Care will be taken to avoid a trend towards erosion of agro biodiversity in banana plantations.

3.9.4 Replicability

The replicability of the intervention is the possibility of the outcomes being internalised, scaled up and replicated by national institutions without further major external support.

This project has the potential for generating lessons and methodological instruments to be applied not only in other banana-producing regions of Tanzania, but also in other similar approaches to crop development. The intervention, if successful, may generate the means to its replicability by:

- providing tools or resources that enable the model/approach to be replicated;
- providing documentation or findings that can be disseminated to and utilized by others;
- developing a strategy to scale-up the successful aspects of the project.

Replicability may be assessed in terms of labour intensity, cost, complexity, degree of acceptability, and potential for successful outcome of the project approach and instruments. The monitoring and evaluation activities to be implemented between the project stakeholders should generate, at regional level, the aforementioned means of assessing replicability. It is

suggested that backstopping resources be used to support the generation of methodological documents.

Ultimately, the replicability of the innovations in policy and practice as discussed above depends on their being adopted as national policy. There is an opportunity, through the monitoring and supervision done directly by the MAFSC, PMO & PMO-RALG, and through the JLPC, to generate policy proposals to this end.

There are in particular, important opportunities for policy-making f+or the Plant Health Service and the Crop Promotion Service at MAFSC.

4 RESOURCE PLANNING

4.1 Human resources

The intervention will depend mostly on available human resources at local and national level. These include at institutional level:

- DC staff: the human resources for coordinating the implementation of the project will be drawn from existing capacity within the Councils of the eight target Districts: the DALDO, a crop specialist nominated as focal point, and a group of extensionists (6-8 according to the number of wards targeted by the project).
- ARDI-Maruku staff: a banana specialist (focal person) plus field officers and socio-economic team and support staff.
- RAS staff: the Regional Agricultural Advisor will be the reference for regional monitoring, coordination and policy aspects.
- NGO staff: according to terms of service delivery with the Districts.
- PMO-RALG and MAFSC: project-monitoring officers.

At village level a network of 250 to 300 innovative farmers will function as commercial banana multipliers and as reference persons for capacity-building and demonstration; they will be involved in liaising between the District and ARDI-Maruku staff and the beneficiaries. They will play their role on a voluntary basis but the main incentive will be a combination of economic (sale of banana suckers) and social (community leadership). They will be selected according to a set of standards.

The core human resources of the project will be contracted by BTC and be as follows:

- National Project Coordinator: NPC
- National Administrative and Financial Officer - AFO - (50% basis shared with Food Security Project)
- Support staff (cashier, secretary and drivers).

This core team will be under the supervision of BTC for the good implementation of the project.

The day-to-day coordination of the project activities will be ensured by a Project Facilitation Team composed of:

- The National Project Coordinator;
- The ARDI-Maruku Research specialist assigned to the project activities;
- The 8 crop specialists assigned as Focal persons by the DALDO of each District;
- The National Administrative and Financial Officer and support staff

4.2 Material resources

The project will be based at ARDI-Maruku. The Institute gave a verbal agreement to available office space and housing. A formal written agreement has to be signed before the project start.

This will allow for maximum integration between the core team and ARDI-Maruku team. The project will contribute to equipment of the working facilities with:

- Vehicles (2 x 4W car hardtop model);
- Office material;
- Office small equipments;
- Office furniture;
- IT equipment (PC, Software, Laptops);
- Contribution to office maintenance.

Besides some additional equipment for ARDI-Maruku is budgeted under component A01.

4.3 Financial Resources

The total financial resources that is available for implementation of the project amount to 1,650,000 EUR.

This amount is made up of the following partner contributions

- Belgian Government 1,500,000 EUR
- Tanzanian Government (GoT) 80,000 EUR
- Beneficiaries 70,000 EUR

The contribution of the GoT will be through the eight participating Districts and ARDI-Maruku in terms of personnel (salaries), and office space. The budget is not included in the budget presented in this document. The details of these contributions will be worked out during the inception period of the project.

The contributions of the beneficiaries will be mainly in kind (material and labour).

The budget for the contribution of the Belgian Government is indicated below.

It consists of three main budget levels:

- Implementation funds for Components (estimated at 1,053,047 EUR)
- General means (estimated at 424,953 EUR)
- Budget reserve (estimated at 22.000 EUR)

Of this budget 482,753 EUR will be under direct management of BTC (regie) and 1,017,247 EUR under co-management with the Ministry of Finance & Economic Affairs (MFEA).

The direct management budget is mainly dedicated to core personnel, equipment and general means, as well as international technical and scientific assistance.

Table 6. General budget of Belgian contribution

TOTAL BUDGET BELGIAN CONTRIBUTION			TOTAL
A		**Components**	**1,053,047**
A	*01*	*Institutional strengthening component*	*217,990*
A	*02*	*Farmer-based dissemination of new banana varieties*	*245,334*
A	*03*	*Farmer capacity-building component*	*388,830*
A	*04*	*Entrepreneurial innovation component*	*200,893*
Y		**Budget reserve (max 5% * total activities)**	**22,000**
Z		**General means**	**424,953**
Z	*01*	*Staff*	*195,400*
Z	*02*	*Equipements and investments project staff*	*58,200*
Z	*03*	*Operational costs*	*75,260*
Z	*04*	*BTC Monitoring*	*20,000*
Z	*05*	*Auditing*	*58,400*
Z	*06*	*Evaluation*	*17,693*
TOTAL			**1,500,000**

Direct Management (Régie)	*482,753*
Co-management	*1,017,247*

Some recurrent expenses for the activities are operational costs for ARDI-Maruku specialists (DSA and transportation), for district staff (DSA and transportation), field days, workshops and farmer exchange visits. The following table indicates the calculation of average unit costs for these items as used for the detailed budget. Current DSA rates for in-district and regional transportation have been included.

Table 7. Estimated Unit costs for recurrent inputs in activities budget

Output	Inputs considered	Value Tsh	Average amount €
ARDI specialist man-day	DSA specialist	50,000.00	120.00
	Fuel	122,000.00	
	DSA driver	20,000.00	
Field day (one specialist, one district extensionist, 30 farmers)	DSA specialist	50,000.00	220.00
	DSA extensionist	30,000.00	
	Food & refreshment	120,000.00	
	Driver DSA	20,000.00	
	Fuels	120,000.00	
	Stationaries	25,000.00	
Regional workshop (technical)	DSA RAS, DALDO	450,000.00	2,400.00
	DSA 16 officers	900,000.00	
	DSA drivers	300,000.00	
	DSA others (5)	450,000.00	
	Transport costs	1,000,000.00	
	Meals, stationeries	400,000.00	
Farmer exchange visit (within region) 30 participants	Transport	900,000.00	1,875.00
	Accommodation	1,800,000.00	
	DSA 2 staff	180,000.00	
	Stationeries	100,000.00	

The project will cover no salaries for district or regional staff.

Expenditure of the available financial resources will be governed by annual budgets (FY under MTEF) approved by the JLPC. A summary of the planned budget for activity implementation (specific means) and project coordination and management (general means) is given in Table 7. A detailed budget per result area is attached as Annex 8.2.

5 TOTAL PLANTS PER YEAR IMPLEMENTATION MODALITIES

5.1 Management modalities

The project will be administered according to the principles of partnership and joint implementation and embedded in the framework of local implementation of the Agricultural Sector Development Programme (ASDP).

The project will be implemented through two modalities:

- **co-management** for all the field activities of the project;
- **direct management** by the Belgian Technical Cooperation for budget lines corresponding to the recruitment of project staff, international expertise, backstopping and audits.

5.2 The Legal framework

The Specific Agreement (SA) will determine the legal framework of the project
Administrative, Financial and Technical responsibilities

5.2.1 Administrative coordination

Institutions that bear responsibility for the administrative coordination of the project are:

- Ministry of Finance & Economic Affairs (MFEA): Authorizing Officer
- Prime Minister's Office – Regional Administration and Local Government (PMO-RALG).
- Ministry of Agriculture, Food security and Cooperatives (MAFSC)
- Directorate General for Development Cooperation (DGDC)
- Belgian Technical Cooperation (BTC): co-Authorizing Officer

The MFEA has the responsibility to supervise the financial aspects of the Specific Agreement (SA) on behalf of the Tanzanian Party. It will authorize the financial flow to the project. The PMO-RALG and the MAFSC has the responsibility to supervise the technical arrangements of the SA on behalf of the Tanzanian Party.

The DGDC has the responsibility to monitor policy issues and respect for the SA on behalf of the Belgian Party. The DGDC shall exercise this role through the Attaché for International Cooperation at the Belgian Embassy in Dar Es Salaam.

As agency charged by the Belgian Party to perform its commitments in the facilitation of formulation, implementation and follow-up of the project, BTC will be responsible for monitoring all expenditures made under the Belgian budget and provide technical backstopping to the implementation of the project in the field. BTC shall exercise this role through its Resident Representative in Dar Es Salaam, as co-authorizing officer of the project.

5.2.2 Technical responsibilities

Institutions that bear responsibility for the technical coordination of project implementation are:

- Kagera Regional Secretariat and Kigoma Regional Administrative Secretariat (RAS) with technical support from the Ministry of Agriculture, Food Security and Cooperatives (MAFSC)
- District Councils of target districts (DCs)
- Maruku Agricultural Research and Development Institute (ARDI-Maruku)
- Belgian Technical Cooperation (BTC)

The District Councils will be responsible for the facilitation, coordination and supervision of implementation of all activities of the project within their respective territories. The District Executive Directors will be responsible for the implementation of the project in accordance with the existing Local Government Authorities (LGA) financial and other regulations and rules.

The DEDs will delegate day-to-day responsibility of management, facilitation and backstopping to the District Agricultural and Livestock Officer (DALDO) and the District Agricultural Team. All activities implemented at district level and funded under the project will be embedded in the District Agricultural Development Plans (DADPs) formulated by the LGA. The DALDO will delegate technical issues to a Crop Specialist trained in banana production who will act as Focal Person for the project. The focal person will coordinate field activities.

In accordance with ASDP, the DEDs will be encouraged to outsource specific services to public and private service providers through corresponding contracts. ARDI-Maruku will be a specific public provider for which two levels of activities are planned: field activities under contract with the DCs, and core activities to be funded through the MAFSC, in alignment with ASDP procedures.

The Kagera and Kigoma Regional Administrative Secretariats, who on behalf of the Prime Minister's Office Regional Administration & Local Government (PMO-RALG) coordinate all development intervention, will carry overall responsibility for the coordination and supervision of the project implementation in both regions. They will assist LGAs on matters of preparation, collection and monitoring of DADPs, quarterly reports and participate in annual assessments. The MAFSC will play its consultative and advisory role through the Regional Secretariat as per standing procedures.

The Village-level institutions (Village Development Committees) will be responsible for the planning of village-level activities to be incorporated in the District Agricultural Development Plans.

5.3 Project Coordination structures

5.3.1 Joint Local Partner Committee (JLPC)

The Project **Joint Local Partner Committee** (JLPC) is the main control structure to ensure proper orientation and follow-up. The Regional Administrative Secretary will chair it. In order

to perform its duties the JLPC will meet at least twice a year. The venue will alternate between the selected project districts. Extra ordinary meetings can be called on demand of one of the JLPC members. All decisions are taken in consensus and all ordinary members of the JLPC sign the minutes, made-up by the secretariat.

The JLPC consists of the following members:

- Regional Administrative Secretary for Kagera region (Chairperson);
- Regional Administrative Secretary for Kigoma region;
- A representative of the MFEA (Authorizing officer);
- A representative of the PMO;
- A representative of the MAFSC;
- BTC Resident Representative (Co-authorizing officer);
- 8 District Executive Directors;
- 2 Representatives of farmer organizations (1 from Kibondo district);
- 2 Representative of Private and Public sector operators.

Its core duties are to:

- Supervise on the approval of the TFF.
- Supervise on the execution of contributions of both parties.
- Appraise progress of the project and the achievement of its Specific Objective
- Approve annual work plans and budgets (consolidated for Districts and ARDI Maruku).
- Approve any necessary changes in the intermediated results, respecting the Specific Objective and the total budget of the project.
- Formulate recommendations on necessary modifications in project design.
- Approve final Project Report and closure of the project.
- Agree on transfer of property at the end of the project.

5.3.2 Project Technical Committee

The **Project Technical Committee** will be responsible for ordinary technical coordination of the project between the different partners at local level. It will meet quarterly and be chaired alternatively by the Regional Agricultural Advisors of both regions.

The TC consists of the following members:

- Regional Agricultural Advisors from Kagera and Kigoma regions;
- DALDOS from 8 participating DCs;
- The Project National Technical Coordinator as acting secretary (BTC's employee);
- 2 Representatives of farmer organizations (1 from Kibondo district);
- 2 representatives from ARDI-Maruku;
- 1 Representative of Private sector operators.

Its core duties are to:

- Advise and review the planning of project activities in each DADPs.
- Advise and review on the planning of core activities by ARDI Maruku.

- Advise on the implementation and coordinate activities.
- Appraise progress of the project and its impacts.
- Advise and review the reporting from each district.
- Review any technical issue related to project implementation.
- Formulate recommendations to the JLPC on project design.

5.3.3 Project Facilitation Team

The **Project Facilitation Team** (PFT) will be responsible for the day-to-day implementation of project activities in the 8 districts. It will be under the leadership of the National Technical Coordinator of the Project and will consist of the following persons:

- The National Project Coordinator (NPC);
- The ARDI-Maruku Research specialist assigned to the project activities;
- The 8 crop specialists assigned as Focal persons by the DALDO of each district;
- The Administrative and Financial Officer (AFO)

Its main duties and responsibilities will be:

- Plan, coordinate and facilitate day to day project activities;
- Supervise / monitor implementation of activities by LGA extensionists, PFGs and private service suppliers;
- Collect and compile information on project activities for quarterly reporting;
- Draft activity budgets and work plans to be incorporated in DADPs;
- Monitor progress and impact of activities.

The main responsibilities of the National Project Coordinator are as follows:

- Supervise and coordinate the implementation of the project to ensure that the activities are executed in accordance with the TFF, approved annual work plans and budgets.
- Liaise with ASDP process and guarantee the link between operational work at districts level and feedback to policy-making and -adapting process.
- Give guidance and support to the DALDOs and crop specialists in charge of leading the project activities at District level.
- Monitor together with the Administrative and Financial Officer, the expenditures and reporting of Districts, ARDI-Maruku and private service providers and ensure that financial and activity reports are duly communicated to BTC.
- Coordinate with ARDI-Maruku all the technical support and training activities
- Provide adequate and up-to-date information about the project's progress to the members of the Joint Local Partner Committee (JLPC).
- Coordinate the intervention with other projects.
- Ensure that annual and semi-annual consolidated work plans and reports are produced and submitted in time to the JLPC, GoT (PMO, MAFSC, MFEA, RAS and LGA) and BTC-Resident Representative.

Recruited in direct management he is under the hierarchical responsibility of the BTC Resident Representative.

The main responsibilities of the Administrative and financial officers are as follows:

- Ensure proper financial management of the project.
- Ensure the respect of the BTC internal rules of Financial Management of Projects
- Coordinate accountancy.
- Be responsible for the financial reporting.
- Ensure the efficient and effective financial management of BTC funds by the Districts and ARDI-Maruku.
- Assist through the regional office in coordinating the administration and the finance management of the Belgian Partner contribution at District level and ARDI Maruku.
- Provide support and backstopping to Districts and ARDI-Maruku in their financial and administrative management.
- Check the justification of the Districts and ARDI-Maruku funds replenishments.
- Verify the bookkeeping of the Districts and ARDI-Maruku and check the conformity of the request for replenishment to the authorizing and co-authorizing officer.
- Make sure that the Districts and ARDI-Maruku receive required and validated financial means.
- Consolidate the financial information at project level.

Recruited in direct management and under supervision of the National Project Coordinator, he is under the hierarchical responsibility of the BTC Resident Representative.

5.4 Financial procedures

5.4.1 Tanzanian partner contribution

Contributions of the Central Government will be disbursed through the MFEA straight to the DCs. The use of the funds will be administered and reported through the existing financial system of the Districts. The contributions of the Districts will be disbursed and administered as per standing financial procedures. The accounting system of the target Districts (EPICOR) will be used to administer the financial transactions.

5.4.2 Belgian partner contribution

The Belgian budget will be managed in two different modes indicated as:

i) Co-management and
ii) Direct management.

A break-down of the Belgian contribution is attached as Annex 8.2.

According to the Joint Assistance Strategy of Tanzania, and in order to facilitate effective budget planning, execution and accounting, all external resources to the Government should be integrated into the Government budget and Exchequer system in accordance with the Constitution of the United Republic of Tanzania, Chapter 7, Articles 135 and 136.

5.4.2.1 BANK ACCOUNTS AND AUTHORIZATIONS

The funds under Co-management will be disbursed via BTC-Brussels to the main account in EURO at the Commercial Bank of Tanzania. The signatories of this account will be the Tanzanian authorizing officer for the project appointed by the Ministry of Finance & Economic Affairs (MFEA) and the BTC Resident Representative in Dar Es Salaam as Co-authorizing officer, or their delegates.

The NPC and AFO will also open a separate bank account in Bukoba for expenses related to the management of the project (PFT)

This account will be replenished every three months, following the BTC procedures, at the demand of the authorizing and co-authorizing officer .

This main account will be used for the transfers to the Districts/ARDI-Maruku bank accounts and for the expenses related to the management of the project (NPC et AFO).

In each target District the District Executive Director will open a **special, separate operational project account** at the National Micro-Finance Bank to facilitate the further disbursement of the Belgian Co-managed contribution. Authorization of further disbursement to the accounts of outsourced service providers or farmer organizations will be done by the District Executive Director with the DALDO as co-signatory. The signatories will be appointed by the JLPC meeting.

The funds for ARDI-Maruku core activities will be disbursed to a **special, separate project account** to facilitate the further disbursement of the Belgian Co-managed contribution. ARDI Maruku Officer in Charge and accountant will do authorizations under this account.

There will be a ceiling equivalent to € 10,000 on disbursements to Districts and ARDI-Maruku accounts.

The funds that fall under direct management are managed directly through a BTC account.

5.4.2.2 REQUEST FOR FUNDS

For the project

From the moment an implementation agreement is signed between the Belgian State and BTC, a first request for funds can be done by Authorising & co-authorising officers. The requested amount should correspond to the financial needs of the first three months and will follow the BTC internal procedures.

To receive the following requests, the NPC and AFO must introduce to the BTC Representative in Tanzania a cash call at the beginning of the month before the next quarter. This cash call must be signed by NPC and also by Authorising & co-authorising officers.

The amount of the cash call is equal to the needs estimated in treasury for the following quarter with a cash buffer. The transfer of funds by the BTC is done at the beginning of the quarter.

BTC can also propose a special financing scheme.

The transfer of the funds is done only if:

- The accounting for the previous quarter must have been closed.
- An updated financial planning of the current quarter was transmitted to and validated by BTC Representative.
- The amount of the call for cash is not higher than budget balance.

It is also possible to submit an urgent cash call with a written explanation of the unforeseen circumstances.

For the Districts

The DC's has to send a request of funds.

First transfers to the Districts will correspond to the financial needs of the first three months. DCs have to send a request of funds justified by a Financial Planning following the budget structure, signed by the District Executive Director (DED) and the DALDO. The Project Coordinator (NPC) and AFO will validate and transfer the requests to the Authorising & co-authorising officers.

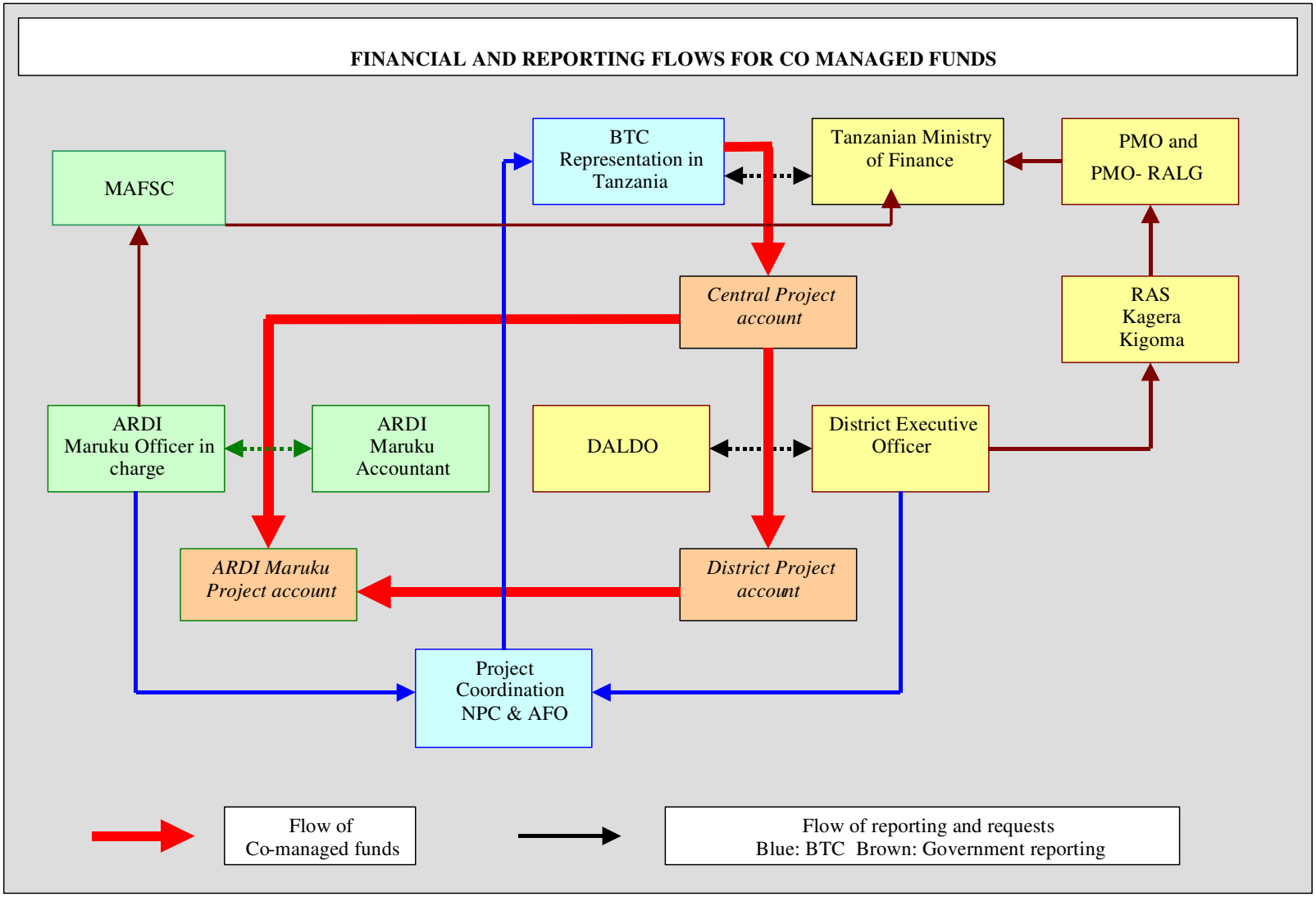
In order to receive the following transfers of funds, the DCs have to send a request of funds signed by the District Executive Director (DED) and the DALDO. The Project Coordinator (NPC) and AFO will validate and transfer the requests to the Authorising & co-authorising officers.
. The amount of the request of funds is equal to the estimation of the financial needs for one month, increased with a cash buffer justified by an updated financial planning

The transfer of funds to Districts will only be done if:

- The replenishment of a District account will only be done against adequate financial reports for the previous transfer (budget monitoring report).
- The complete bookkeeping of the month m-3 and all supporting documents (originals) (those will be sent back after control) preceding the submission of the request of funds have been transmitted to the Project Coordinator (NPC) and Administrative and Financial Officer (AFO) for check and validation.
- An updated financial planning was transmitted to the Project Coordinator (NPC) Financial Officer (AFO).
- The amount of the requested funds does not exceed the budgetary balance.
- Ineligible expenses, which are not in conformity with the TFF, will be charged to the Districts.
- In case of an emergency, the project can submit an anticipated request for funds, justifying the need.

In order to receive funds for its core activities, ARDI-Maruku will follow the same procedures.

The financial flow for co-managed funds is shown in the following figure.


FINANCIAL AND REPORTING FLOWS FOR CO MANAGED FUNDS
MAFSC
BTC Representation in Tanzania
Tanzanian Ministry of Finance
PMO and PMO- RALG
Central Project account
RAS Kagera Kigoma
ARDI Maruku Officer in charge
ARDI Maruku Accountant
DALDO
District Executive Officer
ARDI Maruku Project account
District Project account
Project Coordination NPC & AFO
Flow of Co-managed funds
Flow of reporting and requests
Blue: BTC Brown: Government reporting

5.4.2.3 FINANCIAL REPORTS

The BTC AFO will consolidate the financial information of the eight Districts and ARDI Maruku in the BTC financial management tool.

Budget follow up reports

For the Project:
The Project will follow the BTC internal procedure.

For the Districts:

The District Accounting Officer and ARDI Maruku Accountant will prepare, in the Tanzanian financial system, monthly financial reports corresponding to project funds, signed by the District Executive Director and the DALDO to be submitted to the NCP and AFO. The report will be accompanied with the receipts, invoices, and other relevant document.

Financial Planning

For the Project:
Every quarter, the AFO and NPC will prepare a financial planning for the current quarter and upcoming quarters of the current year and the future years.
The financial planning must be done in accordance with the BTC internal procedures and must be sent to the BTC Representation of Tanzania.

For the Districts:
Every month, the District Executive Director and the DALDO will also prepare a financial planning for funds for the next month, which will be consolidated by the accountant. The accountant will send the consolidated financial to the NPC and AFO. Ardi-Makuru will follow the same rules.

Accounting

For the Project:
The accounting of the project must be elaborated and approved following the BTC internal procedures. The accounting must be signed by the NPC and AFO and send to the BTC Representative of Tanzania.

The following must be forwarded by the project to the BTC Representative of Tanzania.

- Electronic account files.
- Bank statements and signed cash statements.
- All supporting documents (originals).
- Justifications (complete files) of the registered replenishment of the districts bank accounts.

For the Districts:
The Districts and ARDI Makuru have to keep monthly accounts in their financial system.
Every quarter, the AFO will visit the Districts and ARDI Makuru for support.

Other financial reports

At the JLPC meetings, the NPC and AFO will present the following financial information's:

- Budget monitoring reports
- Updated financial planning's
- List of the main engagements
- Bank accounts statements
- List of the received funds
- Budget change proposal if needed
- Action plan related to audit requirements

The BTC Representative in Tanzania or the NPC and AFO can also ask other financial reports to the partners.

5.4.2.4 PROCUREMENT

The Joint Assistance Strategy of Tanzania stipulates that Government procurement systems will be used to manage procurements in accordance with the Public Procurement Act No. 21 of 2004 (URT), the Procurement and Disposal of Public Assets Act No. 9 of 2005 (RGoZ) and their regulations and procedures.

Tanzania Public procurement Act of 2004 and 2005, will govern the procurement of supplies, services and works from the funds under the Co-management budget. The thresholds and guidelines on how to procure goods, services, works, non consultancy services, method of selection and how to dispose off public assets by tender will be according to the Tanzanian Public Procurement Act No 21 of 2004.

The **Council Tender Board** (CTB) will execute tendering at District Level. The CTB will be composed according to the recent instruction of the Government on the composition of members.

The Belgian rules and regulations will govern the procurement of external backstopping services and M&E activities from Direct Management budget.

The respect of the budget constraints and the effectively and efficiency use of the financial resource will be verified by (amongst other things) the budget monitoring reports asked and checked with the validation of the District's requests of funds.

5.4.2.5 BUDGET MANAGEMENT

The total budget amount cannot be exceeded. If a budgetary increase is necessary, a justified request for increase must be introduced by the Tanzanian part at the Belgian State after having received the agreement of the JLPC. If Belgium accepts the request, the two parts must sign an exchange of letters.

The budget of the project gives the budgetary constraints in which the project must be carried out. Each change of budget must be approved by the JLPC on the basis of proposal worked out by the NPC and AFO. The possible budgetary changes are:

- Change of the budget structure
- Transfer of resources between existing budget lines
- Use of the reserve (the budgetary reserve can only be used for activities of project and after agreement of the JLPC. Its use must always be accompanied by a change of the budget.)

The management of a budget change must be made according to BTC procedures.

A annual budget by District and for ARDI Mukaru will be drawn up and validated at the beginning of the project.

5.5 Monitoring and evaluation

5.5.1 Base-line database

A baseline data will be established during the initial phase of the project with contributions from ARDI-Maruku and District agricultural staffs. This database will be drawn from the information collected during the following initial activities:

A0101 Assessment of training needs of extensionists (DC and NGOs)
A0201 Assessment of demand for improved varieties in each District
A0203 Farmer and site selection
A0301 Selection of innovative farmers (along with A0102)
A0302 Participatory assessment of training needs of farmers
A0402 Inventory of marketing and processing initiatives
A0403 Assessment of entrepreneurial training needs of farmers/processors
A0406 Training needs assessment of traders (women)

These assessments will provide a database on a representative sample of farmers and on District, ward and village-level extensionists and the indicators to be monitored in accordance with the indicators of the logical framework.

ARDI-Maruku socio-economic specialists will compose and monitor the baseline in the context of their research on adoption of innovations in banana cropping, with support and supervision from the National Project Coordinator.

5.5.2 Planning, monitoring and implementation reports.

The project planning and reporting system has to be embedded in the GoT and ASDP reporting system.

All District-level activities should be incorporated in each District Agricultural Development Plan (DADP) that is using the GoT fiscal year starting in June. It is therefore necessary that project's activities are duly planned before the DC planning deadlines. It is expected that some difficulties may be encountered in the first year depending on the starting date of the project, but that the planning cycle may be completely adjusted from year 2 on.

The project annual working plans will be compiled from stakeholders planning with the eight participating Districts and ARDI-Maruku. The Project Facilitation Team will be responsible for the coordination of the planning between all partners and the National Project Coordinator will compile the project working plan for due presentation to the JLPC.

The monitoring of activities will be done at three levels:

- District level: under responsibility of the DALDO
- Regional level: to be compiled by the Project Facilitation Team under the supervision of the Regional Agricultural Advisers
- Specific technical issues under the responsibility of ARDI-Maruku team will be monitored under their responsibility following MAFSC procedures.

The supervision and backstopping to monitoring of activities will be a responsibility of the National Project Coordinator.

The Project Facilitation Team will compile the information for the six-monthly implementation reports, which will be compiled by the National Project Coordinator and presented to the JLPC.

5.5.3 Mid-term review

An external mid-term review (MTR) will be executed during project's second year. The terms of reference for this mission will be prepared by the National Project Coordinator and forwarded to JLPC for approval. The main objective of the mid-term review is to assess the progress of the project's activities against planning (efficiency) and the extent the results and specific objective are going to be achieved during the course of the intervention (effectiveness). The review will also examine the financial, institutional and managerial setting of the intervention.

Its findings and recommendations will be presented to the JLPC. The mission's report will be used for a reorientation during the course of the project if necessary.

5.5.4 International scientific support and technical backstopping

The project will be received two kinds of external support and backstopping during the intervention:

- International Scientific Support will be provided by the KUL ((Katholieke Universiteit Leuven) Laboratory of Tropical Crop Improvement, as member of the Banana program of the Bioversity network. It is planned as both field missions (yearly) and distance support from Leuven. The specialist, Prof. R. Swennen, has been the principal scientific advisor to KCDP so that its participation in the project comes as a necessity and a

matter of fact. His support will go to the dissemination component and the technical aspects of banana development and protection.

- International consultants on demand for other specific aspects of the project like support to the monitoring system or institutional mechanisms, extension methodologies and settings etc will provide technical backstopping.

5.5.5 BTC backstopping

Provision is made for periodical backstopping from BTC headquarters upon demand from the BTC Representation in Dar Es Salaam.

5.5.6 Audits

BTC Audit

Each year auditors audits the accounts of the CTB. Within this framework, they may also carry out audits of projects in Tanzania.

Partner Audit

The Joint Assistance Strategy of Tanzania stipulates that Development Partners will increasingly use Government accounting and auditing procedures and systems in line with the Public Finance Act No. 6 of 2001 (URT) and the Public Finance Act No. 12 of 2005 (RGoZ).

The project will support the internal auditing at District level and within ARDI-Maruku, and the auditing by Central Government (National Audit Service) with some of the auditors expenses (allowances). National audit reports will be reviewed by the JLPC.

Project Audit

External monitoring missions will be organised annualy. A qualified financial expert who is to be selected jointly by both parties and contracted by BTC will execute the external auditing.
The JLPC asks the BTC Representative in Tanzania to define the terms of reference and to select the firm of audit, including:

- Evaluation of the existence and the respect of procedures
- Evaluation if the accounts of the project reflect reality

Reports of the auditor and the monitoring mission will be forwarded to the JLPC. The financial auditing will be based on books of accounts kept by the project administration and the Districts and all other paying stations involved in the accounting of the project's financial transactions.

The JLPC can require additional audits if necessary.

5.6 Coordination with other Belgian-funded projects

There are important opportunities for synergy with other Belgian-funded projects operating in the same area and sector of activity:

- "Improvement of food security and livelihoods in Bukoba, Karagwe and Biharamulo districts of Kagera region, Tanzania" (now also including Missenyi and Chato)- TAN 06 022 01, financed by the Belgium Survival Fund (BSF)
- "Development and Improvement of Processing, Packaging and Marketing of Honey, Beeswax and Other Bee Products in Tanzania"- TAN 04 013 11, partly operating in Kibondo.
- Income generation project "TAN0501601 Support to Income Generating Activities in Coast & Kigoma Regions" partly operating also in Kibondo.
- And in some extend, the support to "Local Government Development Grant System – LGCDS" – TAN 05 018 11.

The synergy between these projects is particularly important because they operate in the same institutional setting, through the LGAs and DALDOs in particular. It is therefore necessary to harmonize their operations so as to maximize the opportunities and minimize unnecessary administrative burdens on local institutional partners.

The synergy will be particularly important with the food security project. Both projects will share the same Project Facilitation Team and in particular, the National Project Coordinator and project accountant. The same procedures will be applied to both projects while separate planning, reporting and accounting systems will be maintained.

For the other projects operating in Kibundo District, possible synergies will have to be further explored. The presence of permanent TA in Kigoma region will be used to support some of the banana activities in Kibondo and in particular, to mainstream all relations with the regional level in Kigoma.

Regular meetings will be held under the coordination of the BTC representative in Dar Es Salaam to ensure the good coordination and harmonization between the three projects.

5.7 Closure of the operation

During the last phase of the project all parties will ensure that the following actions are taken:

- A follow-up plan is in place in all target Districts;
- An end-of-project report has been presented to JLPC;
- Destination of remaining assets and budget is agreed upon;
- Preparations for the closure of accounts have been made.

The follow-up plan will outlines strategies and define further activities to be included in each district DADP and establish the sources of funding. A medium-term plan will also be produced by ARDI-Maruku for the pursuit of its banana research and development programme. The JLPC will make recommendations on how to implement the follow-up plans.

For each District and ARDI-Maruku a final report, including a financial balance, will be elaborated 6 month before the end of the project . The District Executive Director and the DALDO of each District will elaborate this report. The National Project Coordinator (with AFO) and BTC-Tanzania shall compile and prepare a general end-of-project report that can be presented and discussed at JLPC before the project comes officially to a close. Its final version will include the minutes of this JLPC meeting including the remarks made about content and conclusions of the end-of-project report. The end-of project-report shall give a full account of the expenditures of both the Tanzanian and the Belgian contributions. It must include a list of all equipment to be handed-over together with an estimate of its actual value as it is and an assessment of costs of operation and maintenance to keep each item in use.

Only equipment that still is in good shape and for which an operational budget is available will be earmarked for handing over. In case the equipment is written off or costs of operation and maintenance are not covered by regular budgets, both parties shall agree on how best the equipment can be disposed off.

The money received from equipment sold will be added to any remaining funds and its utilisation will be decided by the JLPC. The JLPC will approve the plan for handing over the equipment bought from the Belgian contribution and make final decisions on the procedures for the disposal-off of equipment.

Amounts managed with BTC-responsibility and not used at the end of the project, and the balance of the financial contribution not send on project bank accounts will fall in cancellation at the end of the project.

The balance of the project bank accounts will be allocated by mutual agreement.

After the remaining budget has been transferred according to the decision of JLPC, both authorizing officers of the project will take all necessary steps described by law and banking procedures, to close all project accounts. Documents confirming the closure of the accounts shall be copied to the BTC Brussels and MFEA.
After the end of the Specific Agreement, no expenditure will be authorized except if they are related to commitments entered into before the end of Specific Agreement and who are acts in the statement of JLPC.

6 CROSS-CUTTING ISSUES

6.1 Environment and climate change

Environmental degradation in Kagera region and Kibondo district includes deforestation, overgrazing and soil fertility decline and soil erosion. Increasing population pressure is linked to several impacts:

- overstocking and overgrazing of pastures and rangelands, excess bush burning due to the reduction of available common grazing lands;
- continuous cropping, with reductions in fallow and rotations, reduced crop diversity, and soil nutrient mining;
- encroachment of cropping into more fragile, drier areas, previously used/reserved for pasture and grazing, also into the wetlands;
- over-exploitation of remaining forests and woodland, especially loss of riverside forest, and unsustainable harvesting (timber, fuel wood, charcoal, brick making, etc.);
- overexploitation of communal areas, such as forested highland and riverside areas, grazing lands, riverbanks and cultivated steep slopes.

Accelerated deforestation is often blamed on the influx of refugees from Rwanda and Burundi that was accompanied by massive depletion of forest cover in areas within reach of refugee camps mainly in Ngara, Karagwe and Kibondo districts.

Declining soil fertility has a direct influence on increasing incidence of crop pests and diseases in banana based system, affecting banana but also coffee and cassava.

Increasing climatic variability and lack of knowledge of farmers to cope with unreliable rains are also exacerbating the situation; farmers in the Kagera basin are affected by delays in onset and early cessation of rains as an extended drought has been felt during the period 2000 – 2005. The inner parts of Tanzania are predicted to experience higher temperature increases than coastal areas especially in dry seasons. Rainfall might decrease by up to 20 percent average in the inner parts, with dry seasons becoming longer and drier. Warming will shorten the growing season and, together with reduced rainfall, reduce water availability. Maize yields are expected to fall by 17 % in the Tanzanian part of the Lake Victoria basin. The impact on banana production has not been documented but increasing drought, flooding and rising temperatures might well result in increasing incidence of pests and diseases in the most sensible areas around the lake shore.

Agroforestry is an important component of the banana-based system in the lake zone, providing an important part of the demand for fuel wood and timber with the intercropping of useful tree species (e.g. *Maesopsis eminii*, *Ficus spp*, *Markhamia platicalyx*).

The banana-based intensive systems present the best indigenous alternative for sustainable land use under high population pressure. Therefore, any intervention directed at strengthening the sustainability of these systems should have a positive impact on the ecological balance of the region in general. The introduction of new improved varieties and management practices aims

at improving the sustainability of the traditional banana-based farming system. The system relies on several principles of sustainable agriculture:

- Internal transfer and recycling of nutrients: the soil fertility depends on the recycling of organic matter through mulching and manuring of the banana groves.
- Association of crops: the system takes advantage of associating banana, the main crop, with several layers of food and cash crops: beans, maize, yams, coffee, fruit and timber species etc. The use of nitrogen-fixing legumes helps maintain soil N fertility levels.
- Minimization of soil erosion: the density of plantation and the systematic mulching avoids rainfall impact and runoff reducing erosion to minimum.
- No use of external inorganic inputs: the banana farmers do not use either chemical fertilizer nor pesticides; beyond economic reasons, there is a widespread belief that chemicals hurt soil fertility and banana productivity, so that there is no impact on runoff and underground water contamination.

The intervention will actually improve the sustainability of the system, counteracting the current trend towards replacement of banana by annual crops in some areas.

The only doubtful outcome is the possible reduction of agro biodiversity of the system by the generalization of the most popular introduced varieties. This is not a medium term risk in the highland areas, where traditional EAHB are still thriving, but is already taking place in the worst pest-affected areas on the lake shore. It is therefore important that the project supports the diversification of the varieties package; already one traditional EAHB variety from Uganda is being promoted in ARDI Maruku along with the introduced varieties. An indirect positive effect of the project may well be increasing the capacity of farmers of selecting the best performing plants within their pool of EAHB varieties, thus increasing the quality of the resource base. Synergy with efforts to improve and diversify agroforestry practices in the banana-based system is another important element.

6.2 Social Economics

The project will contribute to the objectives of the Government of Tanzania community development policy and social economy principles by:

- Encouraging and supporting the articulation of existing community groups to economic development;
- Supporting the empowerment process of community groups within the bottom-up approach of Agricultural Development by strengthening their capacities to articulate their own development objectives.
- Helping self-help groups developing their entrepreneurial skills to be able to access existing channels of micro-finance.

6.3 Gender

Prevalent social practices still keep women on an unequal footing with men in Kagera Region and Kibondo District. It is estimated that about 80% of the rural women are involved in agricultural activities. The management of the perennial crops, including banana, is basically the responsibility of men. Women handle all the production process of annual crops, including within the kibanja, as their major role is in weeding, harvesting, transportation, storage,

threshing and processing including banana brewing. Gender division of labour regarding marketing of agriculture produce tends to the sale to traders mostly done by men, while women may control small-scale processing by brewing and selling within the villages and other local markets. In some areas women have organised themselves into processing and trading groups and some were formed around credit activities.

With the increase in marketing value of bananas, it is probable that gender roles are also being modified accordingly, with men increasingly controlling the marketing and women more concentrated on food security issues; at the same time, processing remains an opportunity for women.

The country adopted in 2000 a National Gender Policy, superseding the former Woman in Development Policy. The Women and Gender Development Policy gives direction to stakeholders in advancing gender issues socially, culturally economically and politically. The dominant strategy is Gender Mainstreaming in all socio-economic, policies, programs/projects and in the budgetary process. The focus of the policy is on:

- Gender mainstreaming;
- Women's ownership of property;
- Participation in decision making;
- Accessing business and credit facilities and technology.

In the banana sub-sector, the intervention may act on three of these policy objectives (access to land property is outside the scope of the intervention). The gender approach of the intervention will be three-fold:

- Gender mainstreaming and access to decision-making: the project will strongly encourage gender balance in Participatory Farmer Groups (component 2) and sensitize beneficiaries and district staff alike: there is already an on-going policy in the agricultural sector of pushing for gender-balanced representation in farmer groups.
- Accessing facilities: the project will target specifically female-headed households with the voucher system (component 1 and 2);
- Accessing business: the project will target specifically women-based processing and trading groups (component 3 with specific activities targeting women).

6.4 HIV-AIDS

The first three HIV/AIDS cases in Tanzania were diagnosed in Kagera (1983), since then the region has had the fastest rate of HIV/AIDS spread in the country. The influx of refugees in the 1990's exacerbated an already serious situation.

Three population samples in 1987 found contrasting exposure in Kagera, from 24,2% in urban Bukoba district to 4.5% in Karagwe district, falling down in 1996 to 13.3% and 2.6% respectively. While some authors estimated that the epidemic might have been arrested early without necessarily peaking to saturation levels, the rapid decline in prevalence was only possible due to large mortality in this period. A survey of 2,611 households made between 1991 and 2004 found 961 individuals interviewed in 1991 had died before 2004 at an age between 20 and 55, and that those deaths affected 644 households or more than 25%.

In 2000, there were 128,442 orphans in Kagera, of a total population of 1,8 million, made up of 70,710 boys and 57,732, girls. These were concentrated in the four districts of Bukoba Rural and Urban district, Muleba and Karagwe, which accounted for 97% of all such children.

The potential of improved banana varieties and good management to ensure food security and incomes even with reduced land base cannot be realized if the initial constraints for access to planting material, capacity-building and marketing are not overcome. The project must include specific interventions to ensure that vulnerable, HIV-AIDS affected households may access the benefits provided.

The national policy on HIV/AIDS provides for a framework for leadership and coordination of the National Multisectoral response to the HIV/AIDS epidemic. This policy as well as several aspects of the Policy paper "The Belgian contribution to the fight against HIV/AIDS worldwide" may be put in practice in the context of the intervention:

- Focus on the poorest and the weakest, in particular AIDS orphans: the vulnerable groups will be specifically targeted especially with the voucher system for access to planting material;
- Fight discrimination and stigmatisation: project activities will be used as support for sensitisation;
- AIDS and gender mainstreaming integrating AIDS prevention and approaches in agricultural development: the project will support local actors to empower women, adolescents and children affected by the epidemic to get adequate income, through capacity-building in production and marketing, through the provision of adapted means of production and low-cost production methods, to enable the worse affected people to carry on agriculture;
- Mainstream HIV-AIDS approach in the support to community organisations, Participatory Farmer Groups and agricultural extension workers;
- Promoting nutritional education to respond to the increased food requirements.

6.5 Rights of the child

Tanzania has developed a Child Development Policy; its objectives have been defined as:

- To define a child in the Tanzanian context.
- To educate the community on the basic rights of a child.
- To provide direction and guidance on child survival, protection and development.
- To provide direction on the upbringing of children in difficult circumstances.
- To enable the community to understand the source of problems facing children.
- To give a proper direction to children so that they may become good citizens.
- To clarify the role and responsibilities of children, parents, guardians, community, institutions and the government in planning, coordinating and implementing plan for children.
- To emphasise the joint responsibilities of both parents (men and women) in caring for and bringing up their children.
- To educate the community in order to ensure that children inherit good traditions and customs.
- To ensure that there are laws which can be used to deal with child abuse.

7 ANNEXES

7.1 Implementation planning

SUSTAINABLE IMPROVEMENT OF THE BANANA CROPPING SYSTEM IN KAGERA REGION AND KIBONDO DISTRICT IN KIGOMA REGION				Year 1				Year 2				Year 3				Year 4			
				T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Recruiting the core team																			
Activities																			
A	01		**Institutional strengthening component**																
A	01	01	*Assessment of training needs of extensionists (DC and NGOs)*																
A	01	02	*Planning and implementation of training of district level specialists*																
A	01	03	*Planning and implementation of training to extensionists*																
A	01	04	*Support to district level management for banana development*																
A	01	05	*Support to village level planning for banana development*																
A	01	06	*Upgrading of ARDI ARDI-Maruku capacities*																
A	01	07	*Support to banana protection, monitoring and policy building*																
A	01	08	*International scientific support and backstopping*																
A	02		**Farmer-based dissemination of new banana varieties**																
A	02	01	*Assessment of demand for improved varieties in each district*																
A	02	02	*Planning of selection criteria and standards for banana multipliers*																
A	02	03	*Farmer and site selection*																
A	02	04	*Farmer training in multiplication techniques*																
A	02	05	*Production of clean nursery material through macro-propagation*																
A	02	06	*Distribution and establishment of multiplication plots at farm level*																
A	02	07	*Planning of voucher system for vulnerable households*																
A	02	08	*Implementation of voucher system*																
A	02	09	*Monitoring, supervision and certification of banana multipliers*																
A	02	10	*On farm and palatability trials in new areas (Kibondo district)*																
A	02	11	*Application for official certification of improved varieties*																
A	02	12	*International scientific support and backstopping*																
A	03		**Farmer capacity-building component**																
A	*03*	*01*	*Selection of innovative farmers (along with A0102)*																
A	*03*	*02*	*Participatory assessment of training needs of farmers*																
A	*03*	*03*	*Formation of Farmer Participatory Groups*																
A	*03*	*04*	*On farm training*																
A	*03*	*05*	*Organization of exchange visits*																
A	*03*	*06*	*Demonstration of innovative practices*																
A	*03*	*07*	*Production of extension support material*																
A	*03*	*08*	*Monitoring of spread of innovation*																
A	*03*	*09*	*International backstopping*																
A	*04*		**Entrepreneurial innovation component**																
A	*04*	*01*	*Presentation of value chain analysis and market studies*																
A	*04*	*02*	*Inventory of marketing and processing initiatives*																
A	*04*	*03*	*Assessment of entrepreneurial training needs of farmers/processors*																
A	*04*	*04*	*Training of farmers in post harvest and marketing*																
A	*04*	*05*	*Support to market empowerment (group sales, market information)*																
A	04	06	*Training needs assessment of traders (women)*																
A	04	07	*Business support to processors groups and traders (business plans)*																
A	04	08	*Micro projects in value adding*																
A	04	08	*International technical backstopping*																
Project closure																			

7.2 Logical framework

NAME OF THE PROJECT	SUSTAINABLE IMPROVEMENT OF THE BANANA CROPPING SYSTEM IN KAGERA REGION AND KIBONDO DISTRICT IN KIGOMA REGION		
OVERALL OBJECTIVE: INCOMES and food security in Kagera Region and Kibondo District increased.			
SPECIFIC OBJECTIVE	**OBJECTIVELY VERIFIABLE INDICATORS**	**MEANS OF VERIFICATION**	**ASSUMPTIONS**
Strengthened institutional capacities and public-private partnerships ensuring the sustained spread of farmer-led innovation in banana production in Kagera region and Kibondo district	• *% of increase in banana production in Kagera region and Kibondo district* • *% of banana farmers adopting innovation practices (improved varieties and cropping system management)* • *number of districts with operating broad-based institutional partnership for banana innovation (farmer and processors organization-district agricultural staff-private and public service providers with in-built capacities and networking)*	*Monitoring of spread of innovation (Extrapolation from farmers sample compared to baseline)* *Monitoring of capacity-building and networking results in each district*	*Improvements in productivity scaled-up among all categories of banana farmers* *GoT and donors commitment to ASDP and decentralization maintained and strengthened*
EXPECTED RESULTS	**OBJECTIVELY VERIFIABLE INDICATORS**	**MEANS OF VERIFICATION**	**ASSUMPTIONS**
A01 Institutional capacities and farmer empowerment consolidated allowing an enabling environment for technical and entrepreneurial innovation.	• *100 DC and NGO specialists and extensionists trained on banana development and protection* • *8 DC planning banana development activities in DADP* • *300 villages planning banana development activities* • *Durable partnerships between ARDI, DC and NGOs*	• Reports from training and capacity building events and programmes • Memoranda and contracts between DC and service providers	• DC and RAS hierarchies supportive of Project Facilitation Team • NGOs willing to participate constructively in ASDP framework • ARDI-Maruku focus maintained

A02 A sustainable supply of improved banana varieties planting material ensured through public-private partnerships and a farmer-based dissemination system.	• *At least 250 farmer banana multipliers in the 8 districts by year 2* • *1,500 vulnerable households benefited* • *700,000 improved suckers yearly available from year 3* • *At least 200 banana multipliers certified by year 3*	• Monitoring and supervision reports of banana multipliers networks • List of certified banana multipliers	• Demand for new banana varieties to be strengthened by market conditions and increasing evidence of good performance for both income and food security
A03 Dissemination of best available banana cropping and management practices ensured through participatory experimentation and farmer-to farmer extension.	• *300 Participatory Farmer Groups trained in banana development and protection by year 4* • *200 demonstration and on farm trial sites ensuring spread of innovation in 8 districts by year 3* • *Specific capacity-building for vulnerable households*	• Monitoring and supervision reports of farmers training programmes	• Existing network of community groups and former banana reference farmers of KCDP covering most target wards
A04 Spread of innovations increased and sustained by improved post-harvest, processing and marketing skills.	• *At least 25 farmers groups trained for group marketing of bananas improving incomes from sale of bananas* • *At least 50 women groups and enterprises trained for entrepreneurial skills, improving incomes from processing and trade activities*	• Monitoring and supervision reports of farmers and women's groups training programmes	• Possibility of short-term improvement in access to market and efficiency of value chain

MAIN ACTIVITIES	INPUTS	COSTS
A0101 Assessment of training needs of extensionists (DC and NGOs) *A0102 Planning and implementation of training to extensionists* *A01403 Planning and implementation of training of district level specialists* *A0104 Support to district level planning for banana development* *A0105 Support to village level planning for banana development* *A0106 Upgrading of ARDI Maruku capacities* *A0107Support to banana protection, monitoring and statistics* *A0108 International scientific support and backstopping*	• ARDI specialists days 132 • District staff days 896 • Field days 220 • Consultant days 28 • Workshop days 94 • Materials equipments etc	• 217.990 € activities • 120,688 € general means
A0201 Assessment of demand for improved varieties in each district *A0202 Planning of selection criteria and standards for banana multipliers* *A0203 Farmer and site selection* *A0204 Farmer training in multiplication techniques* *A0205 Production of clean nursery material through macro-propagation* *A0206 Distribution and establishment of multiplication plots at farm level* *A0207 Planning of voucher system for vulnerable households* *A0208 Implementation of voucher system* *A0209 Monitoring, supervision and certification of banana multipliers* *A0210 On farm and palatability trials in new areas (Kibondo district)* *A0211 Release of national certification of improved varieties* *A0212 International scientific support and backstopping*	• ARDI specialists days 217 • District staff and farmers days 2198 • Field days 60 • Consultant days 30 • Workshop days 5 • NGO contracts • Materials equipments etc	• 245.334 € activities • 120,689 € general means

A0301 Selection of innovative farmers (along with A0101) *A0302 Participatory assessment of training needs of farmers* *A0303 Formation of Farmer Extension Groups* *A0304 On farm training* *A0305 Organization of exchange visits* *A0306 Demonstration of innovative practices* *A0307 Production of extension support material* *A0308 Monitoring of spread of innovation* *A0309 International backstopping*	• ARDI specialists days 154 • District staff and farmers days 5920 • Field days 516 • Consultant days 158 • Workshop days 13 • NGO contracts • Visits • Micro projects, materials equipments etc	• 388.830 € activities • 120,688 € general means
A0401 Inventory of marketing and processing initiatives *A0402 Assessment of entrepreneurial training needs (farmers/processors)* *A0403 Training of farmers in post harvest and marketing* *A0404 Support to market empowerment (group sales, market information)* *A0405 Training needs assessment of traders (women)* *A0406 Business support to processors groups and traders (business plans)* *A0407 Micro projects in value adding* *A0408 International backstopping*	• ARDI specialists days 28 • District staff days 114 • Field days 25 • Consultant days 114 • Workshop days 28 • Visits • Micro projects, materials equipments etc	• 200.893 € activities • 120,688 € general means

7.3 Detailed budget per result and activity and per management form

BUDGET CONTRIBUTION BELGE				TOTAL	Mode	YEAR 1	YEAR 2	YEAR 3	YEAR 4
A				**1,053,047**		**377,778**	**275,493**	**199,888**	**199,888**
A	*01*		**Institutional strengthening component**	*217,990*		*108,957*	*43,211*	*32,911*	*32,911*
A	01	01	Assessment of training needs of extensionists (DC and NGOs)	11290	co-mgt	11,290	0	0	0
A	01	02	Planning and implementation of training of district level specialists	3120	co-mgt	3,120	0	0	0
A	01	03	Planning and implementation of training to extensionists	22080	co-mgt	22,080	0	0	0
A	01	04	Support to district level management for banana development	48960	co-mgt	16,320	10,880	10,880	10,880
A	01	05	Support to village level planning for banana development	48900	co-mgt	16,300	10,867	10,867	10,867
A	01	06	Upgrading of ARDI ARDI-Maruku capacities	26000	co-mgt	13,000	4,333	4,333	4,333
A	01	07	Support to banana protection, monitoring and policy building	37040	co-mgt	16,547	6,831	6,831	6,831
A	01	08	International scientific support and backstopping	20600	direct	10,300	10,300	0	0
A	*02*		**Farmer-based dissemination of new banana varieties**	*245,334*		*132,764*	*37,731*	*37,419*	*37,419*
A	02	01	Assessment of demand for improved varieties in each district	2,400	co-mgt	2,400	0	0	0
A	02	02	Planning of selection criteria and standards for banana multipliers	1,062	co-mgt	1,062	0	0	0
A	02	03	Farmer and site selection	3,880	co-mgt	3,880	0	0	0
A	02	04	Farmer training in multiplication techniques	45,484	co-mgt	40,284	1,733	1,733	1,733
A	02	05	Production of clean nursery material through macro-propagation	23,340	co-mgt	8,460	4,960	4,960	4,960
A	02	06	Distribution and establishment of multiplication plots at farm level	15,700	co-mgt	7,850	7,850	0	0
A	02	07	Planning of voucher system for vulnerable households	2,702	co-mgt	2,702	0	0	0
A	02	08	Implementation of voucher system	95,700	co-mgt	54,450	13,750	13,750	13,750
A	02	09	Monitoring, supervision and certification of banana multipliers	24,504	co-mgt	6,876	5,876	5,876	5,876

A	02	10	On farm and palatability trials in new areas (Kibondo district)	7,200	co-mgt	4,800	800	800	800
A	02	11	Application for official certification of improved varieties	2,762	co-mgt	0	2,762	0	0
A	02	12	International scientific support and backstopping	20,600	direct	0	0	10,300	10,300
A	*03*		**Farmer capacity-building component**	*388,830*		*114,430*	*118,733*	*77,833*	*77,833*
A	03	01	Selection of innovative farmers (along with A0102)	1,160	co-mgt	1,160	0	0	0
A	03	02	Participatory assessment of training needs of farmers	15,440	co-mgt	15,440	0	0	0
A	03	03	Formation of Farmer Participatory Groups	84,680	co-mgt	43,780	40,900	0	0
A	03	04	On farm training	187,000	co-mgt	46,750	46,750	46,750	46,750
A	03	05	Organization of exchange visits	21,400	co-mgt	0	7,133	7,133	7,133
A	03	06	Demonstration of innovative practices	52,500	co-mgt	0	17,500	17,500	17,500
A	03	07	Production of extension support material	11,750	co-mgt	0	3,917	3,917	3,917
A	03	08	Monitoring of spread of innovation	7,600	co-mgt	0	2,533	2,533	2,533
A	03	09	International backstopping	7,300	direct	7,300	0	0	0
A	*04*		**Entrepreneurial innovation component**	*200,893*		*21,628*	*75,818*	*51,724*	*51,724*
A	04	01	Presentation of value chain analysis and market studies	2500	co-mgt	2,500	0	0	0
A	04	02	Inventory of marketing and processing initiatives	2120	co-mgt	2,120	0	0	0
A	04	03	Assessment of entrepreneurial training needs of farmers/processors	9200	co-mgt	9,200	0	0	0
A	04	04	Training of farmers in post harvest and marketing	31230	co-mgt	7,808	7,808	7,808	7,808
A	04	05	Support to market empowerment (group sales, market information)	31750	co-mgt	0	10,583	10,583	10,583
A	04	06	Training needs assessment of traders (women)	1600	co-mgt	0	1,600	0	0
A	04	07	Business support to processors groups and traders (business plans)	15193.4	co-mgt	0	15,193	0	0
A	04	08	Micro projects in value adding	100000	co-mgt	0	33,333	33,333	33,333
A	04	08	International technical backstopping	7300	0	0	7,300	0	0

Y			**Budget reserve (max 5% * total activities)**	**22,000**		**0**	**7,333**	**7,333**	**7,334**
Y	*01*		Budget reserve	*22,000*		*0*	*7,333*	*7,333*	*7,334*
Y	01	01	Budget reserve Co-Management	20,000	co-mgt	0	6,667	6,667	6,666
Y	01	02	Budget reserve direct management	2,000	direct	0	667	667	667
Z			**General means**	**424,953**		**143,515**	**87,915**	**105,608**	**87,915**
Z	*01*		Staff	*195,400*		*49,600*	*48,600*	*48,600*	*48,600*
Z	01	01	Local BTC staff	195,400	direct	49,600	48,600	48,600	48,600
Z	*02*		Equipements and investments project staff	*58,200*		*55,500*	*900*	*900*	*900*
Z	02	01	Vehicles	48,000	direct	48,000	0	0	0
Z	02	02	Office material	4,800	direct	2,100	900	900	900
Z	02	03	IT equipment	5,400	direct	5,400	0	0	0
Z	*03*		Operational costs	*75,260*		*18,815*	*18,815*	*18,815*	*18,815*
Z	03	01	Contribution to office maintenance	7,200	direct	1,800	1,800	1,800	1,800
Z	03	02	Fuel, spares and maintenance vehicle	47,500	direct	11,875	11,875	11,875	11,875
Z	03	03	Air tickets	6,000	direct	1,500	1,500	1,500	1,500
Z	03	04	Communication	5,760	direct	1,440	1,440	1,440	1,440
Z	03	05	Stationery	4,800	direct	1,200	1,200	1,200	1,200
Z	03	06	Other operation costs	4,000	direct	1,000	1,000	1,000	1,000
Z	*04*		BTC Monitoring	*20,000*		*5,000*	*5,000*	*5,000*	*5,000*
Z	04	02	Field visits BTC-HQ staff (10 days)	20,000	direct	5,000	5,000	5,000	5,000
Z	05		Auditing	58,400	0	14,600	14,600	14,600	14,600
Z	05	01	Support to internal audit	2,400	direct	600	600	600	600
Z	05	02	External audit	56,000	direct	14,000	14,000	14,000	14,000
Z	06		Evaluation	17,693	0	0	0	17,693	0

Z	06	01	Mid Term Review	17,693	direct	0	0	17,693	0
TOTAL BELGIAN CONTRIBUTION				**1,500,000**		**521,293**	**370,742**	**312,829**	**295,136**
TOTAL DIRECT MANAGEMENT				***482,753***		***161,115***	***106,182***	***116,575***	***98,882***
TOTAL CO MANAGEMENT				***1,017,247***		***360,178***	***264,560***	***196,255***	***196,255***

7.4 Job description for long-term personnel

7.4.1 National Project Coordinator

Basic functions

The National Project Coordinator will be charged with the coordination of the Project Facilitation Team that will implement the intervention.

Main duties and responsibilities

- Supervise and coordinate the implementation of the project to ensure that the activities are executed in accordance with the TFF, approved annual work plans and budgets.
- Liaise with ASDP process and guarantee the link between operational work at districts level and feedback to policy-making and -adapting process.
- Give guidance and support to the DALDOs and crop specialists in charge of leading the project activities at District level.
- Support the Districts in developing and implementing capacity building plans and strategies for the full integration of the project in the District Administration. (planning, financial accounting, internal audit, procurement system, etc.);
- Ensure projects activities and finances are captured in the Districts annual plans and complementary to other donor actions and funds;
- Align the follow up, monitoring and evaluation mechanism of the project with that of the Districts;
- Promote the linkage of key players/actors in project area in the implementation of project activities;
- Liaise with other relevant (non-state) stakeholders in the area on developing a coherent approach and synergy in activities related to the main objective of the project;
- Assist in developing a system of communication with all stakeholders to ensure flow of information is guaranteed and the wider public is well informed through publication and media of the results of the project; and
- Participate in all reporting (inception, quarterly, annual and final) in line with Government system
- Monitor together with the AFO, the expenditures and reporting of Districts, ARDI-Maruku and private service providers and ensure that financial and activity reports are duly communicated to BTC
- Coordinate with ARDI-Maruku all the technical support and training activities
- Provide adequate and up-to-date information about the project's progress to the members of the Joint Local Partner Committee (JLPC).
- Coordinate the intervention with other projects.
- Ensure that annual and semi-annual consolidated work plans and reports are produced and submitted in time to the JLPC, GoT (PMO-RALG, MAFSC, RAS, LGA, MFEA) and BTC-Resident Representative.

Other duties

- Liaise with MAFSC-PMO other relevant national institutions;

- Supervise the work of the accountant and support staff;
- Any other function related to the project that may arise.

Qualifications and experience

- MSc in Agriculture or Rural Development, or related discipline;
- A minimum of 10 years professional experience, preferably in a management role in multi-disciplinary donor funded programmes;
- Thorough knowledge of the local government system and the decentralisation process;
- Previous experience in community development and participatory planning techniques;
- Good knowledge of new tendencies in development cooperation;
- Excellent oral and written communication skills in Kiswahili and English;
- Must be computer literate, with knowledge of MS Windows, Word and Excel; and
- Willing and able to travel extensively with extended stays in remote and rural locations.

Recruitment

The National Project Coordinator will be recruited by public announcement by BTC. The selected candidate will be approved by JLPC.

7.4.2 Administrative and Financial Officer (AFO)

Basic functions

The Administrative and Financial Officer will be charged with accountancy of the project and the support, monitoring and supervision of accountants at district level and ARDI-Maruku to ensure the adequate management and financial reports of the project funds.

Main duties and responsibilities

- Assist the stakeholders in the preparation of manuals, financial reports, assist the District Accounting Officer with the definition/follow up and revision of their annual and quarterly financial planning and to ensure that all data is consolidated at the head office during budget development to obtain an appropriate temporal allocation of financial resources by the head office; ensure the global financial planning of the project
- Ensure consolidation, control, reporting and analysis of financial and accounting data for Districts and ARDI Maruku staffs to provide reliable projects accounts based on an optimal budget process; Coordinate budget of project with District Treasurer;
- Train the National Project Coordinators, the Districts and ARDI Maruku officers in financial matters to make them operational for such matters as quickly as possible;
- Support the project team with personal supervision for administrative and financial matters to guarantee proper execution of the BTC's legal obligations as the local employer;
- Assist the stakeholders in the preparation of contracts for project-related services;
- Ensure the compilation of stakeholders financial reports and the preparation of project reports in accordance with GoT and BTC procedures;
- Manage with the National Project Coordinator the financial resources under direct management for the operation of the Facilitation Team
- Administer general and analytical accounting and reporting
- Administer procurement of services and goods in conformity with BTC's tendering process
- Manage project funds, including budget monitoring and changes
- Prepare financial reports with District Accountant
- Manage the project vehicles
- Manage the project's material resources
- Perform any other task as directed by Management
- Coordinate the financial and administrative closure of the project

Qualifications and experience

- University degree in Business Administration, B.Com (general management) or equivalent, emphasis being on experience
- 5 years working experience in similar jobs, at least 2 years of this should be on a project with an international organization
- Knowledge of project cycle and logical framework is an asset as well as knowledge of international cooperation or development cooperation;
- Good knowledge of Excel and Word

- Good analytical and financial skills
- Ability to build consensus and manage inter-institutional relations.
- Good command of English and Kiswahili.

Recruitment

The Administrative and Financial Officer will be recruited by public announcement by BTC and will be presented to the JLPC.