



Oxford Policy Management

# RSSP<sub>2</sub> PERFORMANCE INDICATORS UPDATE AND IMPACT ASSESSMENT

## Volume 1 - Performance Indicators Update

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## Executive summary

The Rural Sector Support Project 2 (RSSP2) is the second phase of a 15 year Adaptable Program Loan (APL) funded by the World Bank and the Republic of Rwanda which started in 2001. RSSP2 has been running since 2008 and was due to close in 2012, but has been closed early because of high levels of implementation and some modification of planned work due to increased infrastructure costs.

Each phase of RSSP has a results framework which identifies indicators and targets for intermediate and project outcomes, as well as overall indicators for the programme. Impact is measured through an impact assessment survey. A set of triggers is agreed which measures the progress of the project which, if achieved, trigger the next phase of the APL. This volume is part of the Performance Indicators Update (PIU) and Impact Assessment (IA) Study of Phase 2 of the RSSP.

RSSP2 has two technical components: Marshlands and Hillside Rehabilitation and Development, and Strengthening Commodity Chains. The first component focused on marshland rehabilitation and development and promotion of cost-effective soil and water technologies in the hillsides, whereas the second had four subcomponents: strengthening farmer organisations and cooperatives; improving production technologies; rural investment for economic infrastructure and knowledge generation and dissemination. Intermediate outcome indicators were developed for each of these components. The project outcome indicators measured increases in yields, the adoption of sustainable technologies for both hillside and marshlands, and increasing revenues from sales by cooperatives. Each indicator was updated and assessed against its target. All the indicators showed that the target set had been achieved.

Six indicators were chosen as trigger indicators for Phase 3 of the RSSP. The indicators, their target, baseline and current value are shown in the table below.

Phase 3 Triggers	Baseline	Sources	Indicator Value	Target Reached
1. By the end of Phase 2, the area of rehabilitated or developed marshlands has increased by 3,300 ha relative to the end-of-Phase-1 baseline. (IO1-1)	3,110	Primary source: RSSP data Validation: Field visit	3,324 Ha	100.7% of target reached
2. By the end of Phase 2, the area of rehabilitated hillsides has increased by 9,900 ha relative to the end-of-Phase-1 baseline. (IO1-3)	14,485	Primary source; RSSP data Validation: Field visit	10,096 Ha	102% of target reached
3. By the end of Phase 2, average crop yields on farmed marshlands and hillsides developed under the Project are 100 percent higher relative to the beginning-of-Phase-1 baseline.	Rice: 3 t/ha Potato: 8.6 t/ha Maize: 0.8 t/ha (Presumed from crop assessment surveys)	Primary source: RSSP database. Validation: IA survey	Rice: 6.4 t/ha, Potato 19.65 t/ha, Maize 4.05 t/ha, both for season 2011 B	Rice 113%. Potato 128% higher. Maize 406% higher. Target achieved
4. By the end of Phase 2, crop-derived incomes of farmers assisted by CETSEs are 50 percent higher relative to the end-of-Phase-1 baseline.	RwF 46,207 (from 2008 IA survey) <sup>1</sup>	Primary source: IA Survey Validation: focus group discussions	RwF 157,121	Yes, target achieved
5. By the end of Phase 2, at least 75 percent of farmers in irrigated marshlands rehabilitated or developed by the Project during Phases 1 and 2 are paying water charges through water users associations. (IO1-2)	No baseline required	Primary source: RSSP data Validation: coop discussions, focus group discussions	79% of farmers paying water charges through WUA	105% of target reached
6. By the end of Phase 2, at least 20 cooperatives with business plans and supported by RSSP2 have increased their revenues from sales by 50% relative to the baseline.(PO3)	Baseline revenue available for 81 cooperatives	Primary source: RSSP data Validation: from interviews with coops	67 out of 81 coops have increased revenue over a combination of season A and season B of 2011 over the baseline by more than 50%. Source: RSSP data	Yes, by good margin

Based on this evidence, RSSP2 has achieved all the trigger indicators for RSSP3.

Overall RSSP2 has achieved all the targets at each level included in the Results Framework. Each Performance Indicator has reached and in many cases surpassed the targets set, a notable achievement given the challenges faced in completing the basic infrastructure works a year earlier than planned.

<sup>1</sup> This has been revised down from the original figure of 48,840 RwF to ensure comparability

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## Abbreviations

APL	Adaptable Program Loan
CETSE	Commercial Enterprise and Technical Support Enterprise
CIP	Crop Intensification Programme
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Enquête Intégrale sur les Conditions de Vie des ménages (Integrated Household Living Conditions Survey)
IA	Impact Assessment
IOI	Intermediate Outcome Indicator
IPM	Integrated Pest Management
LDF	Local Development Fund
M&E	monitoring and evaluation
MTR	Mid-term Review
OPM	Oxford Policy Management
PDO	Project Development Objective
PIU	Performance Indicator Update
POI	Project Outcome Indicator
PSTA	Strategic Plan for Transformation of Agriculture
RSSP	Rural Sector Support Project
RwF	Rwandan Franc
WB	World Bank
WUA	Water Users Association

# 1 RSSP2 – Introduction and Background

## 1.1 Description of RSSP2 and activities

The Rural Sector Support Project (RSSP) is designed as a 15 year Adaptable Program Loan (APL) funded by the World Bank to be implemented nationally in three phases. It aims to revitalise the rural economy and reduce poverty through providing resources for sustainable rural agriculture.

The first phase of the RSSP started in 2001 and focused on building capacity for sustainable intensification of marshlands and hillside agriculture, as well as development of post-harvest value-adding activities<sup>2</sup>. Disbursement was slower than planned in the first years of the project in part because local implementation capacity was more limited than anticipated. The project was restructured in 2005 and focused on rehabilitation and development of irrigated marshland, development and/or protection of surrounding hillsides and strengthening capacity among the users of marshlands and hillsides production systems.

Each phase of RSSP has a set of triggers agreed which measure the progress of the project and, if achieved, trigger the next phase of the APL. At the beginning of 2008 a Performance Indicator Update (PIU) was carried out. On the basis of this, most of the fourteen Phase 2 triggers were achieved, except for two where a baseline had not been carried out and two on export crop production which had been de-emphasised in the project as a result of other donor-funded projects beginning to work intensively in the coffee and tea sectors. Phase 2 of the RSSP was designed and started in 2008. The original time frame was from October 2008 to October 2012, but because of high levels of implementation, Phase 2 was closed early in December 2011. This volume is part of the Performance Indicators Update and Impact Assessment Study of Phase 2 of the RSSP.

RSSP2 has two technical components and one implementation support component. The PIU relates to the two technical components: Marshlands and Hillsides Rehabilitation and Development, and Strengthening Commodity Chains.

The first component, Marshlands and Hillsides Rehabilitation and Development was designed on a sub-watershed development approach to rehabilitate and develop irrigation infrastructure on at least 3,300 ha of marshland and to promote adoption of sustainable agricultural intensification practices on at least 9,900 ha of associated hillsides. It has two sub-components. The first focused on marshlands development and rehabilitation, with most of the funding going towards infrastructure such as dams and irrigation schemes. Emphasis was also placed on the development and capacity building of water user associations (WUAs). The second subcomponent focused on the sustainable development of hillsides, by promoting cost-effective soil and water conservation technologies as well as sustainable cropping practices. It was anticipated that these activities would be implemented by local communities with technical assistance provided by either public agencies, NGOs or private consultants.

The second component of RSSP2, Strengthening Commodity Chains, had four subcomponents: strengthening farmer organisations and cooperatives; improving production technologies; rural investment for economic infrastructure and knowledge generation and dissemination. The first of these subcomponents was intended to support capacity building activities, including organisational support for farmer organisations, associations of lead farmers and national commodity organisations, as well as business planning and enterprise management for cooperatives. The second subcomponent, improving production technologies, included support for demonstration

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<sup>2</sup> World Bank, Project Appraisal Document, Rwanda Second Rural Support Project, June 2008

plots, soil fertility enhancement, including soil fertility testing and improving access to fertiliser, promotion of improved seed and planting materials including establishment of certified seed producers and promoting Integrated Pest Management (IPM). Under subcomponent three, rural investment for economic infrastructure, RSSP2 would provide funding for strategic investment in public goods such as drying and storage facilities and rural roads. Subcomponent four would fund a limited number of diagnostic studies and market surveys.

Table 1.1 below shows the original budget for RSSP2, divided by subcomponents. According to the Implementation Completion and Results report of December 2011, there will be some underspend in all categories other than marshland infrastructure development and rehabilitation and rural investments at the project end. In practice however, changes in the exchange rate have led to an effective reduction of slightly over \$2 million in the budget so the project will use close to all of the planned resources. The government contribution will be more than double the original budget.

**Table 1.1 RSSP2 Budget**

<b>Component</b>	<b>Sub component</b>	<b>Budget</b>
<b>Marshlands and hillsides Rehabilitation and Development</b>	<b>Subtotal</b>	<b>23,228,800</b>
	Marshlands Rehabilitation and Development	20,606,400
	Sustainable Hillsides Development	2,622,400
<b>Strengthening Commodity Chains</b>	<b>Subtotal</b>	<b>5,576,000</b>
	Strengthening Farmer Organisations and Cooperatives	3,129,000
	Improving Production Technologies	890,000
	Rural Investments for Economic Development	1,040,000
	Knowledge Generation and Dissemination	517,000
<b>Project Support and Coordination</b>	<b>Subtotal</b>	<b>5,611,000</b>
<b>RSSP2 Preparation Fund</b>	<b>Subtotal</b>	<b>584,200</b>
<b>Total</b>		<b>35,000,000</b>
<b>Government Contribution</b>		<b>2,000,000</b>

Source: Implementation Completion and Results report, December 2011

RSSP2 has faced a number of issues in implementation.<sup>3</sup> It has learned to focus on small groups of farmers in capacity building to ensure full participation. Local contractors have sometimes lacked the capacity to complete rehabilitation works on time, some tenders have gone unanswered, and so the project has started to involve MINAGRI and the World Bank to address these issues. The Marshland rehabilitation work costs have proven to be considerably more per ha than was originally budgeted, partly because of increased materials and fuel costs, and partly because of excess demand in the local construction industry. Therefore the project had to reallocate some plans for marshland development to match the budget. This option was proposed by the MTR, and it still allows RSSP2 to meet its infrastructure targets. The MTR recommended that because of the funding gap identified, but also the early completion of activities, that the start-up of RSSP3 be moved up, a recommendation that has been accepted by the Government of Rwanda and the World Bank.

<sup>3</sup> RSSP2 Mid-term Review Report, September 2010

At the end of phase 2, RSSP supported in total 34,603 members of rice cooperatives and 47,016 members of cooperatives supporting other crops (mainly maize, wheat and Irish potatoes).<sup>4</sup> Of the combined total, 43% were women and 57% were men.<sup>5</sup>

## 1.2 RSSP2 in the context of agricultural policy in Rwanda

RSSP2 is one of a number of donor-funded projects in the agriculture sector, a sector which is seen as the backbone of Rwanda's economy. Vision 2020, which sets out the long-term objectives for the Rwandan economy, identifies the modernisation of agriculture as one of its six pillars, enabling Rwanda to move away from subsistence production to commercial farming. The Economic Development and Poverty Reduction Strategy (EDPRS) is the Vision 2020 strategy for 2006-2012, recognises agriculture as one of four priority sectors, and seeks to raise agricultural productivity and ensure food security.

The current framework guiding investment and activities in the agricultural sector is the Strategic Plan for Transformation of Agriculture (PSTA) phase 2, which covers the period 2009-2012. It has four programmes:

1. *Intensification and development of sustainable production systems*, including sustainable management, marshland development and irrigation systems
2. *Support to the professionalization of producers*
3. *Promotion of commodity chains and agribusiness development*
4. *Institutional development*

The guiding principles of PSTA are that agriculture has a key role to play in reducing poverty, and it will achieve this through increasing productivity and competitiveness in a market-driven context. This will have to be achieved in an environmentally sustainable manner with local ownership of and participation in activities. Institutions created must be sustainable, and the strategy must be responsive to feedback from the local level. The approach must be sensitive to issues of gender, youth and AIDS. As the high level indicators and log frame for the PSTA make clear, the emphasis is on achieving growth and increasing incomes in agriculture to reduce poverty levels.

RSSP2 is both consistent with the objectives set out by the Government for the agriculture sector, but also an important element in achieving them. The overall budget set out in PSTA 2 for marshland development is US\$51.2 million, which compares to the US\$ 20.6 million in RSSP2. Two of the performance indicators under component 1 of RSSP2 are also indicators for PSTA II and the EDPRS. RSSP2 has been an important element in MINAGRI achieving its annual targets under PSTA II<sup>6</sup>.

<sup>4</sup> It should however be noted that this total number of beneficiaries in non-rice cooperatives (as recorded in RSSP's M&E database) includes all members of UNICOOPAGI, which is a cooperative union with a total membership of more than 12,000. The RSSP subproject proposal covered only 300 of these, so the remaining members will not have benefited from support to the same degree.

<sup>5</sup> RSSP2 Implementation Completion and Results Report, 2011

<sup>6</sup> Sector Evaluation Report for the Joint Sector Review, September 2011. 3000 ha of a total of 5000 ha of marshland developed are attributed to RSSP2.

## 2 Methodology for Performance Indicators Update

### 2.1 Description of PIUs

The RSSP2 has a results framework which contains a number of indicators. These fall into three categories: three Project Outcome Indicators (POI); six Intermediate Outcome Indicators (IOI); and three overall programme Indicators. In addition, there are six APL Phase 3 triggers, of which four are POIs or IOIs and two are new indicators.

The RSSP2 performance indicators differ from those of RSSP1 in number and definition. There were no Overall Performance Indicators identified in Phase 1 of RSSP, and from the documentation it appears that the POIs and the IOIs for RSSP1 were taken as trigger indicators for RSSP2. There were 11 IOIs. The changes reflect to some extent changes in the emphasis of the programme as it entered its second phase but also a greater emphasis on measurability.

Table 2.1 to Table 2.5 show the indicators from the results framework and, where relevant, the baseline values.

**Table 2.1 Project Outcome Indicators**

<b>PDO/POI Indicators</b>	<b>Baseline</b>
By the end of the Project, production of rice in marshlands rehabilitated or developed under RSSP2 has increased by at least 100 percent relative to the baseline	5597t, comprising 5048t in season A and 549t in season B, 2008 figures. Source: RSSP data
By the end of the Project, at least 50 percent of farmers in marshland and hillside areas developed or rehabilitated by the RSSP1 and RSSP2 have adopted sustainable marshland or hillside intensification technologies <sup>7</sup>	This will be calculated from the IA survey. There is no requirement for a baseline
By the end of the Project, at least 20 cooperatives with business plans and supported by RSSP2 have increased their revenues from sales by 50% relative to the baseline	Baseline data on revenue of coops available for 81 coops, as of 2008

**Table 2.2 Intermediate Outcome Indicators, Component 1**

<b>Intermediate Outcome Indicators for Component 1</b>	<b>Baseline</b>
By the end of the Project, at least 3,300 additional ha of irrigated marshlands have been rehabilitated or developed by the Project (EDPRS/PSTA indicator)	3,110 ha rehabilitated or developed under RSSP1.
By the end of the Project, at least 75 percent of the farmers in irrigated marshlands rehabilitated or developed by the Project (RSSP1 and RSSP2) are paying water charges through WUAs	No baseline required WUAs not set up in 2008
By the end of the Project, at least 9,900 additional ha of hillsides have been sustainably developed by the Project (EDPRS/PSTA indicator)	14,485 ha sustainably developed under RSSP1.

<sup>7</sup> Adoption of sustainable technology is defined as adoption of at least two of the following: soil fertility management, IPM, conservation tillage, contour bunding, construction of erosion control structures including terraces, vegetative strips, and agroforestry practices.

**Table 2.3 Intermediate Outcome indicators, Component 2**

Intermediate Outcome Indicators for Component 2	Baseline
By the end of the Project, at least 80 cooperatives supported by the Project have quality business plans under implementation	0
By the end of the Project, at least 5 additional cooperatives supported by RSSP2 are marketing certified maize and potato seed	4 cooperatives marketing certified maize and potato seed under RSSP1
By the end of the Project, with at least 75 percent of the rural infrastructure sub-projects funded through the LDF, the majority of users are satisfied one year after the sub-project was completed	No baseline. Indicator is to be calculated in IA survey

**Table 2.4 Overall Programme Indicators**

Overall Programme Indicators	Baseline
Change in the average level of household incomes among Programme direct beneficiary households	RwF 48,840
Change in the percentage of Programme direct beneficiary households under the poverty line	65.66%
Change in the average level of rice yields per hectare in districts having marshlands rehabilitated or developed by the Programme	2.7 ha

**Table 2.5 APL Phase 3 Triggers**

Phase 3 Triggers	Baseline
By the end of Phase 2, the area of rehabilitated or developed marshlands has increased by 3,300 ha relative to the end-of-Phase-1 baseline. (IO1-1)	3,110
By the end of Phase 2, the area of rehabilitated hillsides has increased by 9,900 ha relative to the end-of-Phase-1 baseline. (IO1-3)	14,485
By the end of Phase 2, average crop yields on farmed marshlands and hillsides developed under the Project are 100 percent higher relative to the beginning-of-Phase-1 baseline.	Rice: 3 t/ha, Maize: 0.8 t/ha, Potato: 8.6 t/ha (Presumed from crop assessment surveys)
By the end of Phase 2, crop-derived incomes of farmers assisted by CETSEs are 50 percent higher relative to the end-of-Phase-1 baseline.	48,840 RwF (from 2008 IA survey)
By the end of Phase 2, at least 75 percent of farmers in irrigated marshlands rehabilitated or developed by the Project during Phases 1 and 2 are paying water charges through water users associations. (IO1-2)	No baseline required
By the end of Phase 2, at least 20 cooperatives with business plans and supported by RSSP2 have increased their revenues from sales by 50% relative to the baseline.(PO3)	0 coops

## 2.2 M&E for RSSP2

An important source for updating the performance indicators has been the M&E system of the RSSP. The M&E department has two staff at central level with an M&E assistant in each province. Data are collected from the field. Lead farmers collect information on area and fertiliser purchases, and on production at the end of the season. These are aggregated by the cooperative, and twice a season, or four times a year these are sent back to the central M&E unit. Each province also has an agronomist who validates the information.

The M&E unit produces a monthly dashboard which reports on financial disbursements, key on-going activities and issues which have to be resolved. A project annual report is produced which is sent by MINAGRI to MINECOFIN, which reports actual activities against planned activities. The project commissioned a MTR in 2010 and a completion report in December 2011.

The data collected through the M&E system are saved in cleaned form on the M&E unit computer in a database.

## 2.3 Information sources for PIU

The information sources used for the PIU will be discussed in more detail in the next sections, under each sub-section of indicators. However, there are five main sources of data used.

- The RSSP's own database, described above. Data has been extracted from this by the M&E unit at the request of the consultants. In addition, qualitative information, for example on WUAs, was obtained in interviews with the M&E unit and other RSSP staff.
- The Impact Assessment survey carried out by the consultants
- MINAGRI crop assessment surveys
- The Household Living Conditions Survey 2010/11 conducted by the National Institute of Statistics of Rwanda (EICV3)
- A special analysis of cooperative business plans and seed production activity conducted by the consultants.

In addition, considerable effort was made to triangulate the information, both from RSSP and from MINAGRI through the quantitative and qualitative work carried out as part of the IA survey.

### 3 Project Outcome Indicators

There are three project outcome indicators, high level indicators which measure progress towards the objective of increasing agriculture and marketing in the project area in an environmentally sustainable manner. Table 3.1 shows the baseline value, the data sources and the indicator value as of December 2011, as well as whether the target has been reached.

**Table 3.1 Project Outcome Indicators**

PDO/POI Indicators	Baseline	Sources	Indicator Value	Target reached
1. By the end of the Project, production of rice in marshlands rehabilitated or developed under RSSP2 has increased by at least 100 percent relative to the baseline	5,597t, comprising 5,048t in season A and 549t in season B, 2008 figures. Source: RSSP data	Primary source: Information from RSSP M&E. Validation: from interviews with coops From focus group discussions From IA survey	11,206t, comprising 1,358t in season A and 9,874t in season B. Source: RSSP data	Yes
2. By the end of the Project, at least 50 percent of farmers in marshland and hillside areas developed or rehabilitated by the RSSP1 and RSSP2 have adopted sustainable marshland or hillside intensification technologies <sup>8</sup>	This will be calculated from the IA survey. There is no requirement for a baseline.	Primary source: IA survey. Validation: coop interviews, focus group discussions	98% of supported households have adopted sustainable marshland or hillside intensification technologies	Yes, by good margin
3. By the end of the Project, at least 20 cooperatives with business plans and supported by RSSP2 have increased their revenues from sales by 50% relative to the baseline	Baseline data on revenue of coops available for 81 coops, as of 2008	Primary source: RSSP data Validation: from interviews with coops	67 out of 81 coops have increased revenue over a combination of season A and season B of 2011 over the baseline by more than 50%. Source: RSSP data	Yes, by good margin

**The first indicator**, the production levels of rice in marshlands rehabilitated or developed under RSSP2, with a target of at least doubling relative to the baseline, was estimated based on RSSP data. The target was achieved by a small margin. However, when the figures are broken down by cooperative, it becomes clear that of the eight cooperatives operating on reclaimed or rehabilitated marshland under RSSP2, two, in Gisaya and Muvumba V, did not report any production until season B 2011. Three of the remaining six only started production in Season A 2011, and the other three had breaks in production for rehabilitation during the period of the RSSP2, starting up again in season B 2010 or season A 2011. For almost all six cooperatives, yields in 2011 season B were

<sup>8</sup> Adoption of sustainable technology is defined as adoption of at least two of the following: soil fertility management, IPM, conservation tillage, contour bunding, construction of erosion control structures including terraces, vegetative strips, and agroforestry practices.

significantly higher than in 2011 season A which bodes well for the future. It would be reasonable to speculate that if the project had continued until 2012, this target would have been significantly surpassed.

**Indicator 2**, the adoption of sustainable technologies by farmers has been measured directly from the IA survey. Of the techniques included in the survey, soil fertility management, IPM, conservation tillage, contour bunding, construction of erosion control structures including terraces, vegetative strips, and agroforestry practices, over 75% of farmers, on both marshlands and hillside farms were using soil fertility management techniques, IPM, vegetative strips and agroforestry. Radical terracing was the least popular, no doubt reflecting the cost of the technique, and only a third of farmers had adopted conservation tillage (see also table 6.3 in volume 2 of this report)

**Indicator 3** was updated using RSSP data. The data on the revenues cooperatives have made from sales show substantial rises for almost all of the 81 cooperatives, and in 18 cases this rose by more than 1000%. Increases in revenues were also confirmed by our qualitative research. The ability of cooperatives to crop and sell over two seasons for many crops was a major factor in the increase in revenues. Almost all the cooperatives that did not reach the target did not have revenue in season B. However many cooperatives that produced crops in only season A increased revenues by well over 50%, so this was not the only factor.

There appear to be two main characteristics of cooperatives which failed to increase their revenue by 50%. One was the crop produced; there was a higher proportion of cooperatives producing horticultural crops, such as pineapple and mushrooms, amongst the cooperatives which did less well. The other factor was the period of time after infrastructure works had been completed. Three of the cooperatives that failed to meet the target were rice-producing cooperatives where production has only just started after the completion of the development of infrastructure.

It should be noted that the baseline for this indicator has to be interpreted carefully. For rice cooperatives it represents the first full season (rather than full year) where rice cooperatives were able to produce a full crop after the conclusion of works. However in many cases this might be rather a limited production season, which will bias the baseline estimate downwards. However there does not appear to be any reason to doubt that the target has been reached. Rice cooperatives only comprise 21 of the 81 cooperatives reporting revenues, and of these only 8 had production affected by infrastructure activity during RSSP2.

## 4 Intermediate Outcome Indicators

The intermediate outcome indicators (IOIs) are divided by component and are addressed separately below.

Component one indicators focus on marshland irrigation and sustainable development of hillsides. In addition there is an indicator which reflects the importance of ensuring finances are available to maintain irrigation systems once developed. Although water usage charges have been paid to cooperatives in the past, there had been instances where the funds had been used for other priorities by the cooperative, resulting in poor irrigation maintenance.

**Table 4.1 Component One, Marshland Rehabilitation and Development, Outcome Indicators**

Intermediate Outcome Indicators for Component 1	Baseline	Sources	Indicator Value	Target Reached
1. By the end of the Project, at least 3,300 additional ha of irrigated marshlands have been rehabilitated or developed by the Project (EDPRS/PSTA indicator)	3,110 ha Rehabilitated or developed under RSSP1.	Primary source: RSSP data Validation: field visits	3,324 additional ha under RSSP2	Yes, 100.7% of target reached
2. By the end of the Project, at least 75 percent of the farmers in irrigated marshlands rehabilitated or developed by the Project (RSSP1 and RSSP2) are paying water charges through WUAs	No baseline required WUAs not set up in 2008	Primary source: RSSP data Validation: coop discussions, focus group discussions	79% of farmers paying water charges through WUA	Yes
3. By the end of the Project, at least 9,900 additional ha of hillsides have been sustainably developed by the Project (EDPRS/PSTA indicator)	14,485 ha sustainably developed under RSSP1.	Primary source: RSSP data Validation: field visits	10,096 additional ha under RSSP2	Yes, 102% of target reached

Nine sites were rehabilitated or dams built under RSSP2. Eight dams were actually built and on the other sites rehabilitation took place. As mentioned earlier, some planned work was rescheduled to RSSP3 because of increased costs relative to the budget. Nonetheless, by December 2011 3,324 ha of marshland had been brought into production, achieving the target for **Indicator 1**. It should be pointed out that 1,800 ha were only brought into operation in the last six months of the project. It is all the more remarkable that the project has achieved its production targets (POI 1 above) despite this.

**Indicator 2** addresses the establishment of water users associations. The process of setting up WUAs has been protracted because of the need to have the appropriate legislative structures in place. A study was commissioned in 2009 and on the basis of this a policy paper was submitted to Cabinet. Farmers were sensitised to the need for WUAs in 2010. However the policy was not approved until September 2011, and finally gazetted in December 2011. Until this happened, WUAs could not become legal entities at national level. However the WUAs had been registered at district level, and RSSP data indicate that WUA committees had been set up and were functioning in all marshland areas supported by the project. Members of the relevant cooperatives are automatically members of the WUAs, and 79% of them paid water charges in 2011B.

During the qualitative impact assessment, farmers in rehabilitated marshlands were asked about WUAs. They indicated that they were paying fees through the WUA and also that they were

positive about the change, feeling that this could reduce existing conflicts over water use and distribution (see section 3 of volume 2 of this study).

**Indicator 3** assesses progress in sustainable development of hillsides. RSSP2 data indicate that slightly over 10,000 ha, owned by approximately 20,000 households have been protected against soil erosion using different techniques, including radical terracing, during the second phase of RSSP. 8,356 ha were protected during the 2009 and 2010 season, and the remaining 1,740 ha were completed in 2011.

The overall objective of component two is to strengthen commodity chains by supporting the commercialisation of smallholder agriculture in targeted marshland and hillside areas. This is being addressed by capacity building particularly for cooperatives in business and by promoting value added. The chosen indicators reflect this: development of business plans, marketing certified seed and providing rural infrastructure to the satisfaction of users.

**Table 4.2 Component 2, Strengthening Commodity Chains, Outcome Indicators**

Intermediate Outcome Indicators for Component 2	Baseline	Sources	Indicator Value	Target Reached
1. By the end of the Project, at least 80 cooperatives supported by the Project have quality business plans under implementation	0	Primary source: RSSP data Validation: Examination of business plans , coop interviews	81	Yes
2. By the end of the Project, at least 5 additional cooperatives supported by RSSP2 are marketing certified maize and potato seed	4 cooperatives marketing certified maize and potato seed under RSSP1	Primary source: RSSP data Validation: Coop interviews	15 cooperatives marketing certified maize and potato seed, 7 for potatoes and 8 for maize	Yes, 220% of target reached
3. By the end of the Project, with at least 75 percent of the rural infrastructure sub-projects funded through the LDF, the majority of users are satisfied one year after the sub-project was completed	No baseline. Indicator is to be calculated in IA survey	Primary Source: IA survey Validation: focus group discussions, coop interviews	98% of all h/h are very or quite satisfied with infrastructure	Yes, 130% of target reached

Of the 83 cooperatives supported by RSSP, 81 had been assisted by their local service provider to develop business plans. These in turn were validated as of good quality by the RSSP project staff and were in the process of implementation. The consultants conducted a small study to examine these plans, the full report of which can be found in Annex A. Seventeen of the business plans were chosen at random and assessed against the presence or absence and quality of items expected to be included in a business plan. The average rating was very good. However, market analysis was a common weakness of the selected business plans. The study also found that in some cases the cooperative members receiving the business plan training still considered this a very complex and difficult task and suggested further follow-up would be required. This gives some indication of areas which could benefit from further support in the future. However it does indicate that the target for **indicator 1** of component 2 has been reached.

**Indicator 2**, the number of additional cooperatives producing certified seeds for maize and potato, has been measured based on RSSP data. Eleven additional cooperatives were producing certified seeds by the end of RSSP2, so the target was met. In addition seven cooperatives were producing certified rice seeds and three were producing certified wheat seeds. Additional analysis (see Annex A) shows that there is a good profit margin on seed production. This is confirmed by the qualitative impact assessment, where there was general agreement that seed production was a profitable venture and that farmers generally try to become seed producers if they can (see volume 2 of this study for further detail). There is an overall shortage of certified seeds in Rwanda.

**Indicator 3** measures the satisfaction of users with the infrastructure funded by RSSP through the LDF one year after the sub-project was completed. This was measured as part of the Impact Assessment survey. RSSP provided 30 drying bays around rice production marshlands, five storage centres for rice, eight storage centres for other commodities and two collection centres for vegetables. Table 4.3 below shows the results of the survey on user satisfaction.

**Table 4.3 User Satisfaction with infrastructure sub-projects**

	Marshlands	Hillsides
<b>Irrigation canals</b>		
User satisfaction: Very satisfied	63.6	-
User satisfaction: Quite satisfied	35.1	-
User satisfaction: A little dissatisfied	0.5	-
User satisfaction: Very dissatisfied	0.8	-
Total	100.0	-
<b>Drying facilities<sup>9</sup></b>		
User satisfaction (where provided by RSSP-supported coop): Very satisfied	65.4	-
User satisfaction (where provided by RSSP-supported coop): Quite satisfied	33.0	-
User satisfaction (where provided by RSSP-supported coop): A little dissatisfied	1.6	-
User satisfaction (where provided by RSSP-supported coop): Very dissatisfied	0.0	-
Total	100.0	-
<b>Crop storage facilities</b>		
User satisfaction (where provided by RSSP-supported coop): Very satisfied	69.2	72.5
User satisfaction (where provided by RSSP-supported coop): Quite satisfied	30.4	27.4
User satisfaction (where provided by RSSP-supported coop): A little dissatisfied	0.4	0.1
User satisfaction (where provided by RSSP-supported coop): Very dissatisfied	0.0	0.0
Total	100.0	100.0

Source: RSSP2 IA survey

As can be seen, over 63% of users are very satisfied with the facilities provided and over 98% are either very or quite satisfied. More detail on user satisfaction, including satisfaction with training courses, can be found in Volume 2 of this report. There is no baseline against which to compare these results, but the indicator target has been reached.

<sup>9</sup> No drying facilities were provided by RSSP in hillside cooperatives.

## 5 Overall Programme Indicators

The overall programme indicators are intended to measure the progress against the overall programme objective, i.e. to increase total incomes and reduce poverty by raising productivity and expanding employment of land and labour in rural areas. These are valid for all three phases of RSSP. In Phase 1 the indicators were not defined precisely and were not tracked. A baseline was determined at the end of Phase 1, based on the IA survey undertaken at that point. The indicators have also been defined more precisely.

**Table 5.1 Overall Programme Indicators**

Overall Programme Indicators	Baseline	Sources	Indicator Value	Target Reached
1. Change in the average level of household incomes among Programme direct beneficiary households	48,840 Rwf	Primary source: EICV3	232,000 Rwf	No target
2. Change in the percentage of Programme direct beneficiary households under the poverty line	65.66%	Primary source: EICV3	39.3%	No target
3. Change in the average level of rice yields per hectare in districts having marshlands rehabilitated or developed by the Programme	2.7 t/ha	Primary source: Crop Assessment surveys Validation: RSSP data, focus group discussions	5.34 t/ha in season A 5.84 t/ha in season B	No target, 97% increase in season A

The baseline of **Indicator 1** comes from the IA assessment at the end of RSSP1 and measures income from sales in beneficiary households. However the clear intent from the documentation is that this indicator should refer to a more comprehensive measure of household income, and is therefore updated using EICV3 data.<sup>10</sup> The team decided to use the estimate of consumption expenditure from the EICV3, rather than the estimate for income. It is widely accepted that income and expenditure are strongly correlated, and there are strong theoretical reasons for preferring expenditure. Consumption data are generally accepted as smoother and less subject to fluctuation than income data; and consumption is in general considered more reliable and easier to measure than the equivalent income figures.<sup>11</sup> The figure used, 232,000 Rwf, is the mean annual consumption expenditure per adult equivalent.

Because there is limited comparability between the baseline and the current estimate for indicator 1, it is difficult to say anything more than that the figure has clearly increased. Both figures are calculated in prices of the respective year and have not been deflated. It is, however, possible to compare the figure for RSSP beneficiaries in the EICV3 sample with a comparator figure from the same EICV3 dataset. The comparator figure is for all rural households outside Kigali (not benefiting from RSSP) where at least one household member has a main job on the family farm and is

<sup>10</sup> It should be noted that the EICV3 data does not allow differentiating between households that are currently benefiting from RSSP support and those that previously did but no longer do. The estimates on consumption expenditure and poverty levels presented in this report are therefore based on all households that ever benefited from RSSP support.

<sup>11</sup> A. Deaton, Guidelines for Constructing Consumption Aggregates for Welfare Analysis, LSMS Working Paper No 135, World Bank, 2002.

214,964 RwF. So we can say that RSSP beneficiaries have experienced improvements in their absolute consumption figures and have higher consumption levels than their peers in Rwanda.

The baseline for **indicator 2** is also taken from the IA assessment of RSSP1. The equivalent figure for 2010/11 from EICV3 data is 39.3%,<sup>12</sup> a significant reduction in the proportion of beneficiary households below the poverty line. The equivalent figure for the comparator group within the EICV3 data (i.e. non-beneficiary rural farming households) is 45.3%, so again we can say that RSSP beneficiaries are better off. However as we do not have an equivalent comparator figure for the baseline, we cannot technically say that RSSP beneficiaries have benefited from a reduction in poverty at a faster rate than the comparator group, though it seems likely that this is the case.

**Indicator 3** is measured from MINAGRI crop assessment surveys. The districts in which RSSP had rehabilitated or developed marshlands were identified and the average crop yield calculated by simply dividing total production in those districts by area. It should be noted that the districts in which RSSP has operated for rice production correspond to 90% of all area under rice in season A and 92% in season B. The average rice yield is 5.34 t/ha compared to 5.2t/ha for Rwanda as a whole in season A and 5.84t/ha for season B as opposed to 5.75t/ha for Rwanda as a whole.<sup>13</sup>

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<sup>12</sup> National statistics usually report poverty at the individual level, i.e. proportion of individuals under the poverty line rather than proportion of households, as indicated in the RSSP Overall Programme Indicators. The corresponding figure from EICV3 is 43.7% of individuals in RSSP beneficiary households are below the poverty line (and 50% for the comparator group).

<sup>13</sup> These figures are lower than the figures reported under the Phase 3 triggers, because they reflect yields for all farmers in these districts, not just those who benefited from the project. Figures for actual beneficiaries are 6.35 t/ha, according to RSSP M&E data.

## 6 APL Phase 3 Triggers

The APL phase 3 triggers are of great significance as if RSSP2 does not reach the trigger indicator value then there will be a question over the progress on to RSSP3, and on the design and implementation of RSSP2. Table 6.1 show the indicators and their values as of December 2011, the end of RSSP2.

**Table 6.1 APL Phase 3 triggers**

Phase 3 Triggers	Baseline	Sources	Indicator Value	Target Reached
1. By the end of Phase 2, the area of rehabilitated or developed marshlands has increased by 3,300 ha relative to the end-of-Phase-1 baseline. (IO1-1)	3,110	Primary source: RSSP data Validation: Field visit	3,324 Ha	100.7% of target reached
2. By the end of Phase 2, the area of rehabilitated hillsides has increased by 9,900 ha relative to the end-of-Phase-1 baseline. (IO1-3)	14,485	Primary source; RSSP data Validation: Field visit	10,096 Ha	102% of target reached
3. By the end of Phase 2, average crop yields on farmed marshlands and hillsides developed under the Project are 100 percent higher relative to the beginning-of-Phase-1 baseline.	Rice: 3 t/ha Maize: 0.8 t/ha Potato: 8.6 t/ha (Presumed from crop assessment surveys)	Primary source: RSSP database. Validation: IA survey	Rice: 6.4 t/ha, Potato 19.65 t/ha, Maize 4.05 t/ha, both for season 2011 B	Rice 113% higher. Potato 128% higher. Maize 406% higher. Target achieved
4. By the end of Phase 2, crop-derived incomes of farmers assisted by CETSEs are 50 percent higher relative to the end-of-Phase-1 baseline.	RwF 46,207 (from 2008 IA survey) <sup>14</sup>	Primary source: IA Survey Validation: focus group discussions	RwF 157,121	Yes, target achieved
5. By the end of Phase 2, at least 75 percent of farmers in irrigated marshlands rehabilitated or developed by the Project during Phases 1 and 2 are paying water charges through water users associations. (IO1-2)	No baseline required	Primary source: RSSP data Validation: coop discussions, focus group discussions	79% of farmers paying water charges through WUA	105% of target reached
6. By the end of Phase 2, at least 20 cooperatives with business plans and supported by RSSP2 have increased their revenues from sales by 50% relative to the baseline.(PO3)	Baseline revenue available for 81 cooperatives	Primary source: RSSP data Validation: from interviews with coops	67 out of 81 coops have increased revenue over a combination of season A and season B of 2011 over the baseline by more than 50%.  Source: RSSP data	Yes, by good margin

<sup>14</sup> This has been revised down from the original figure of 48,840 RwF to ensure comparability

There are six APL triggers, and four of these are either intermediate outcome indicators or project objective indicators, discussed earlier in this report. In this section the discussion will focus on APL 3, crop yields for rice, potato and maize, and APL 4, crop derived income for farmers who are in cooperatives that have benefited from RSSP2.

**Trigger 3**, as discussed earlier, is derived from RSSP M&E data and shows considerably higher yields for all three crops over the period, and more than the double the baseline, which was the target for the period. The baseline figures are national average yields in 2001 as reported by MINAGRI<sup>15</sup>. As the RSSP had not started at this point, it is reasonable to assume that the yields achieved by farmers who started to benefit from support from 2001 onwards would not differ significantly from the national average.

By comparison, the crop assessment reports show that national yields for the three crops concerned in season A 2011 are for rice 5.21 t/ha, for maize 2.27 t/ha and for Irish potato 12.1 t/ha. In season 2011 B the yields for rice are 5.75 t/ha, for maize 2.28 t/ha and for Irish potato 11.19 t/ha.

This shows that in cooperatives assisted by RSSP the yield for rice is 15% higher than the national average in season B, for maize is 78% higher than the national average and for Irish potato is 76% higher. As discussed earlier, a much higher percentage of rice farmers are affected by the RSSP than for other crops<sup>16</sup> so it makes sense that there is less difference between their yields and the national average than for other crops.

**Table 6.2 Crop yield figures (t/ha)**

Crop and season	RSSP data	IA survey <sup>17</sup>	Crop Assessment Survey
Rice 2011 A	6.1	5.15	5.21
Rice 2011 B	6.6	5.11	5.75
Maize 2011A		3.65	2.27
Maize 2011B	4.05	3.09	2.28
Irish potato 2011 A			12.1
Irish Potato 2011 B	19.65		11.19

Sources: RSSP2 M&E database, RSSP2 IA survey, MINAGRI crop assessments

A further point of comparison can be made with the figures collected in the 2011 IA survey. The sample size of this survey was only large enough to get estimates for rice and maize among farmers in RSSP-supported rice and maize cooperatives, respectively, but these were 5.15 t/ha for rice for season A and 3.65 t/ha for maize for season A.

<sup>15</sup> This baseline was decided after RSSP1 in order to show progression throughout the full period of the RSSP.

<sup>16</sup> Total production of rice for RSSP farmers in 2011 B was 35,431.02 t, as opposed to the national estimate of 49,405 t.

<sup>17</sup> It is important to note that the RSSP M&E collects data from the cooperatives on area and production and calculates yields by cooperative. The average yield is calculated by aggregating production and area, i.e. it is weighted by area. The IA survey is a household survey, and yields have been collected for households. In order to account for this, average yields have been calculated on a per-household basis from the IA survey. Therefore in this estimate the yields of a household with a small area of land have equal weight to those from a household with a large area of land.

The increase in production of rice has largely been the result of the marshland rehabilitation undertaken by RSSP. The increase in yield may be a result of improved water availability and control as well as increased use of fertiliser, training and the use of certified seed.

Fertiliser and certified seed are also factors in increasing the yield for Maize. However, care must be taken in attributing this increase solely to the activities of RSSP, as the Crop Intensification Programme (CIP) has also been providing heavily subsidised fertiliser and free seeds to some of the farmers supported by RSSP. This is not the case for Irish potato, and the increase in yield can be more closely attributed to the provision of training and infrastructure by RSSP.

**Trigger 4** is defined as:

*“By the end of Phase 2, crop-derived incomes of farmers assisted by CETSEs are 50 percent higher relative to the end-of-Phase-1 baseline”*

When the consultants were measuring this trigger, a problem arose over the baseline calculation, and the choice of an appropriate comparator.

The baseline estimate used by RSSP is RwF 48,840 (measured in 2008 prices).<sup>18</sup> This is based on the 2008 RSSP1 Impact Assessment Survey, which asked respondents about the amount made from sold products during the past 12 months, for eight selected products. The 2008 Impact Assessment Report (page 23) further details that this amount was calculated as follows:

**Table 6.3 Crop-derived income, baseline estimate**

Crops	Income
Banana	13,418
Rice	17,871
Wheat	1,177
Cassava	4,040
Maize	9,701
Maracuja	1
Moringa	890
Milk	1,742
<b>Total</b>	<b>48,840</b>

Source: RSSP1 IA survey, 2008

This shows that – contrary to the indicator definition – non-crop sales were included in the baseline estimate. The table above allowed for an easy correction for this inclusion, and the baseline estimate used for comparison above is hence lower at RwF 46,207.

The 2011 IA survey contains rich information on crop production and sales. It allows the estimation of the income derived from crop sales for a much larger variety of crops than used for the baseline estimate. In order to make the update comparable, however, the team have only used the crops which were also used for the baseline estimate: Banana, Rice, Wheat, Cassava and Maize.<sup>19</sup>

Based on these five crops, the mean income derived from crop sales over the past 12 months at the end of RSSP2 is estimated as RwF 157,121. The increase in sales at the household level is

<sup>18</sup> As stated e.g. in the RSSP2 results framework.

<sup>19</sup> Volume 2 section 6 of this report will provide an estimate for income derived from crop sales based on a larger variety of crops for comparison purposes.

consistent with the increase in sales at the cooperative level discussed above under Project Outcome Indicator 3.

It should be noted that the baseline and end-of-RSSP2 estimates are not price-deflated, so inflation in crop prices between 2008 and 2011 will contribute to the observed increase in sales values. Furthermore, the 2008 survey questionnaire was somewhat imprecise in defining/asking about income derived from crop sales, which may have biased the baseline estimate downwards. However, even after accounting for inflation and questionnaire bias, it is highly likely that the general finding outlined here holds.

It therefore seems that the RSSP project has succeeded in achieving Trigger 4.

Based on the evidence given above, RSSP2 has achieved all the trigger indicators for RSSP3.

## 7 Conclusion

The Results Framework developed for RSSP2 has indicators and targets set at intermediate outcome, project outcome and overall programme level. The areas covered include infrastructure development, adoption of sustainable technologies, production of business plans by cooperatives, increases in yield and increases in revenue at household and cooperative level.

Overall RSSP2 has achieved all the targets at each level included in the Results Framework. Each Performance Indicator has reached and in many cases surpassed the targets set, a notable achievement given the challenges faced in completing the basic infrastructure works a year earlier than planned.

Perhaps most importantly, the six Phase 3 triggers have all been achieved, allowing RSSP to proceed to the next phase.

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## Annex A Business Plan Quality and Seed Sector Sustainability<sup>20</sup>

### A.1 Background and approach

For its comprehensive Poverty Reduction Programme the Government of Rwanda has received a grant from the International Development Association towards the implementation of RSSP under the Ministry of Agriculture and Animal Resources. The Project aims at revitalizing the rural economy and improving the quality of life of the rural poor through increased transfer of technical and financial resources for sustainable rural development.

The Rural Sector Support Project was designed as a 15 year Adaptable Program, to be implemented nationally over three phases. Phase 1 of the Project was officially launched on October 24th 2001, with focus on building capacity for sustainable intensification of marshlands and hillsides agriculture, as well as development of post-harvest value-adding activities. Phase 2 runs from October 22, 2008 to October 31, 2012, with emphasis on broadening and deepening the support provided to accelerate the pace of intensification and commercialization of agricultural production.

The RSSP2 consists of three components: (1) Marshlands and hillsides rehabilitation and development, to accelerate the pace of agricultural intensification (2) Strengthening commodity chains by intensifying production, promoting agricultural value addition, and expanding access to markets and (3) Project coordination and support. The two technical components include capacity building and institutional development activities and are fully aligned with the Strategic Plan for Agricultural Transformation (PSTA)

For the Component 2, the Intermediate Outcome Indicators assert that:

- By the end of the Project, at least 80 cooperatives supported by the Project have quality business plans under implementation
- By the end of the Project, at least 10 cooperatives supported by RSSP2 are marketing certified maize and potato seed

This study is carried out to assess the level of achievement of these two intermediate objectives of the RSSP2: the viability of the business plans of RSSP-supported cooperatives and the viability of seed production activity carried out under RSSP2 (RSSP2 MTR, 2010).

This study reviews recent documents relating to the objectives and activities of RSSP. It has reviewed RSSP's recent documentation on the strengthening of capacities. It has also reviewed business plans of selected cooperatives supported by RSSP; furthermore, it has analysed the market for certified seeds. It complemented the literature and documentation review with consultations with the concerned RSSP staff and persons in charge of RSSP-supported cooperatives.

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<sup>20</sup> Author: Kalisa Mbanda, January 2012

## A.2 Business plan quality

In order to achieve the objectives of its Component 2 (strengthening commodity chains by intensifying production, promoting agricultural value added, and expanding access to markets), RSSP has chosen to act mainly through farmers' organizations and cooperatives. This strategy, in accordance with national policy, is justified by the fact that in Rwanda farmers are smallholders, exploiting small areas. The grouping of these small farmers allows the emergence of viable production units, supervised by the lead farmers, trained and endowed with proven experience. These units are then able to access finance as well as local and national markets.

Producers involved in the main value chains supported by RSSP are organized in small groups of farmers that are organized into cooperatives. Cooperatives were technically supported by RSSP, they received infrastructure and equipment and were trained in cooperative organization, small enterprise management, in business planning and crop intensification techniques.

RSSP hired Ernst&Young to provide training to 3 Trainers from each of 20 Local Service Providers (LSPs). The training focused on Small Enterprise Management and Business planning. In addition, cooperative organization and crop intensification through production technologies were implemented by the Rwanda Cooperative Agency (RCA) and by the Rwanda Agriculture Development Authority (RADA), respectively.

Finally, a training process was put in place by which LSP-trained representatives trained the lead farmers of the supported cooperatives in different topics; those lead farmers were then responsible for training the other farmers within their group of origin. About 82,000 members of 83 cooperatives, 13,423 lead farmers within 2,289 small groups were trained in different topics according to this training system (Table 7.1).

**Table 7.1 Cooperatives supported by the Project**

Provinces	Number of cooperatives	Total number of members	Number of small groups	Lead farmers trained in different topics
West	20	14,466	222	2,269
South	25	37,144	1,185	5,076
North	13	4,830	127	1735
East	25	25,232	755	4343
Total	83	81,672	2,289	13,423

Source: Adapted from RSSP, 2010: End of Training Evaluation and Supervision Report

In particular, 2,021 members (cooperative management and lead farmers) of supported cooperatives were trained in business planning (see Table 7.2 below). These members then developed the plan in collaboration with the LSP. This is a process that takes several months, with repeated training and validation sessions between the LSP and the selected members. Finally, the business plan is presented to the full membership of the cooperative and discussed in a General Assembly. After the General Assembly the business plan is submitted to RSSP.

The consultations with selected cooperative management staff revealed that despite the training received some felt that the development of business plans was still a complex and difficult issue that they could not fully master themselves without the support of the LSP. This finding is also corroborated in the Service Providers and Cooperatives Performance Evaluation (RSSP, 2010). It is reported that the training was too short in time; that training was assured to some people lacking

prerequisites, that the learning support materials were insufficient and that there was more need of mentoring and coaching. Further follow-up in this area therefore seems necessary.

**Table 7.2 Participants to Training on Business Plans**

Province	# Cooperatives	Participants		
		Business Plan	Small Enterprise Management	Total
Southern	24	644	587	1,231
Eastern	26	659	599	1,258
Northern	13	305	305	610
Western	21	413	418	831
<b>Total</b>	<b>84</b>	<b>2,021</b>	<b>1,909</b>	<b>3,930</b>

Source: RSSP, 2010: End of Training Evaluation and Supervision Report

From all the business plans received by RSSP, 17 were randomly chosen for an evaluation by this study. Table 7.3 represents a business plan framework structure and shows the results of the evaluation of the content of the 17 documents reviewed for this study. The grading was carried out on the basis of the presence/absence and quality of all items normally developed in a complete business plan.

The evaluation structure used in Table 7.3 below reflects the framework used by RSSP to evaluate the quality of cooperative business plans. A discussion of the quality of the framework itself follows after the table.

The evaluation was graded by using a scale of marks between 5 and 1. The presence and the quality of each item in the table were rated as follow:

- 5: excellent
- 4: very good
- 3: good
- 2: medium
- 1: poor presence or quality

Items were rated as ‘1 - poor presence or quality’ if they were absent from the document or present but weakly and insufficiently developed in the document. Items were rated as ‘5 – excellent’ if they were present in the business plan, with all necessary information completely and clearly developed and documented.

The overall evaluation result is very good, meaning that overall, the selected business plans are sufficiently good and useful, especially in the context of organizations that were not used to developing and implementing business plans before. This means that progress has been made and that organizations are becoming able to improve the second generation of their business plans.

The best-marked items are (1) Technical analysis, (2) Investment, and (3) Expected profits, revenues and expenses, all of which are well developed in all 17 analysed documents.

The lowest ratings were given for: (1) Market analysis, (2) Project outline, mainly elaboration of the objective and the justification for expected success, and (3) Conclusion.

The market analysis is a common weakness of business plans generated with the support of RSSP. This weakness is probably associated with the novelty of the exercise of development of business plans by trainers and cooperatives, but also with the quality and context of training provided to cooperatives.

It appears that currently business plans are focusing mainly on technical and financial aspects which alone do not ensure the viability of the projects.

**Table 7.3 Evaluation results for 17 randomly selected business plans**

Item	Presence & Quality
<b>Global Appreciation</b>	<b>4</b>
<b>1 Project Summary</b>	<b>4</b>
<b>2 Details of project owner</b>	<b>3</b>
<b>3 Project outline</b>	<b>3.5</b>
Background of the project	4
Objective	3
Research carried out	4
Justification for expected success	2
Definition of progress indicators	4
Steps of project implementation	5
<b>4 Information on the product/service</b>	<b>4</b>
<b>5 Market analysis</b>	<b>2</b>
Market situation	2
Market size	2
Market share / competition	2
Market policy	2
<b>6 Technical analysis</b>	<b>4.5</b>
Technology	5
Location of project	4
Project equipment	5
Amortisation	5
Project inputs/materials	5
Staff	3
Production plan	5
<b>7 Investment</b>	<b>5</b>
Investment plan	5
Financing plan	5
<b>8 Expected profits, revenues and expenses</b>	<b>4.5</b>
Loan repayment plan	5
Profits and losses	5
Balance sheet	4
Cash flow statement	4
<b>9 Financial analysis</b>	<b>4</b>
<b>10 Project impact analysis</b>	<b>4</b>
<b>11 Conclusion</b>	<b>3</b>
<b>12 Appendixes</b>	<b>3</b>

Source: Author's own evaluation of 17 randomly selected business plans

The above table evaluates selected business plans according to the framework used by RSSP. However, it is also important to evaluate the quality of the framework itself. Suggestions for improvement of this framework include a more refined approach to assessing the project overall, as well as including capacity building needs in the framework.

A common weakness of the business plans selected for evaluation was the overall assessment of the project (“project outline”). This could be improved by encouraging a SWOT analysis in the framework in that section. By assessing the strengths, weaknesses, opportunities and threats of the project, most shortcomings found in this study could have been avoided. This would also have automatically inspired an analysis of the risks a project is facing, which was not well-developed in almost all of the business plans reviewed. Risk assessment and risk management plans are therefore a remaining weakness of supported cooperative business plans as well as the framework above that should be addressed in the future.

The technical analysis section of the framework could also be further improved by including an assessment of management capacity. Cooperative management staff may not be well prepared to handle the increasing revenues resulting from planned business activity. Assessing this risk as well as possible requirements for capacity building would further improve the business plans.

### A.3 Certified seed industry sustainability

RSSP has supported the most successful cooperatives to become seed producers, mainly for maize, rice, Irish potato and wheat seeds. The supported cooperatives received facilitation for acquisition of infrastructure and equipment, training and technical guidance, access to finance, and study tours, through agreements with RSSP and its partners.

Currently, there are 25 beneficiary cooperatives with activity in the seed sector (Table 7.4).

**Table 7.4 Supported cooperatives by crop and by province**

Crop	South	West	North	East	Total/crop
Irish potato	1	5	1	-	7
Maize	4	-	-	4	8
Rice	5	-	-	2	7
Wheat	3	-	-	-	3
Total/Province	13	5	1	6	25

The RSSP initiative to support the seed industry is very commendable in the context of Rwanda, due to a scarcity of seeds for the main staple production. Total seed consumption increases each year but the gap in availability of seeds is still high and the country imports thousands of tons from neighbouring countries every year (Table 7.5 and Table 7.6).

**Table 7.5 Total seed consumption (tons) in Rwanda, 1997-2009**

Year	Crop				
	Maize	Wheat	Rice	Beans	Irish Potato
1997	2,294	628	23	16,697	105,000
2000	2,672	1,004	30	23,324	272,458
2005	3,282	2,416	97	21,911	339,005
2009	4,433	4,294	142	24,293	316,130

Source: CIP, 2010

It therefore appears that domestic demand is strong and stable. Table 7.6 shows that the strong national demand for seeds is in no way matched by domestic production.

**Table 7.6 Coverage rate (%) of national seed needs**

Crops	CIP 2011 A national needs (T)	Local net production (T)	Need coverage rate (%)
Maize	4,095	867	21%
Wheat	7,542	11	0.14%
Bean	13,851	36	0.25%
Potato	203,399	743	0,36%
Rice	53	40	76%

Source: CIP, 2010

In consequence of the scarcity and high demand, the seed sector provides a good margin of profit to those who work in the seed industry, as confirmed by all reviewed documentation on seed production. Table 7.7 shows that the potential gains from selling seeds far outweigh the production costs. The gross margin on producing seeds is thereby considerable. In addition, the prices achieved for selling seeds are significantly higher than the prices for selling food grains directly for consumption. Furthermore, the process of producing certified seeds is currently not connected with higher production costs as compared to production of regular grains for consumption. This is due to the fact that taxes and certification process costs are supported by the National Seed Services, at least for the four coming years as planned by the Crop Intensification Programme.

**Table 7.7 Seed production cost and gross margin**

Crop	Yield T/ha	Production Cost Rwf/kg	Seed price Rwf/kg	Seed Gross margin		Food price Rwf/kg	Need coverage rate (%)
				Rwf/kg	Rwf/ha		
Rice	6.0	140	350	210	1,260,000	270	76.0
Irish Potato	20,0	85	400	315	6,300,000	100	0.4
Maize	3.5	80	400	320	1,120,000	150	21
Wheat	3.0	250	580	330	990,000	350	0.1

Sources: CIP 2010, RSSP, 2011, Cooperatives, 2011

The seed business is therefore promising. The seed market appears stable and ensures reliable profits in each of the two seasons every year. High demand for seeds for most crops can be expected to continue in the coming years. It is more profitable to produce seeds than food staples, due to high market prices for seeds and no additional costs associated with seed production as compared to regular food grain production.