

External Impact Assessment VECO West-Africa V1.1

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Report by NewForesight Consultancy, commissioned by VECO

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Disclaimer: this publication represents the views of the authors in their independent capacity as project impact assessors. In coming to our assessment of the pilot interventions, impact on various levels, structural change agenda and lessons learned, the authors have based themselves on all information which was available at the time of writing.

In assessing impacts, and the degree to which these can be attributed to VECO's activities, we have relied on both quantitative as well as qualitative information obtained through sources such as stakeholder interviews, farmer organization representatives, community leaders, partner organizations, and policy level actors. Insights on the farmer-level situation have been derived from the farmer survey conducted by VECO in 2016. Where data is uncertain, or where lack of data has made it necessary to rely on proxy indicators to draw conclusions, we have highlighted this. Insights and conclusions have been cross-referenced with VECO West Africa.

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1. Executive summary

Based on the findings in this report, we have created an overview of the topics analyzed and evaluated. The outcome of the evaluation is shown below. We use the same color coding throughout the report to present the main findings per section.

Legend: Fully achieved Partially achieved Not achieved N/A

Burkina Faso: SCA Rice and Douna Pilot

Pilot Intervention	Effectiveness	P1: CVA rice processing technology	
		P2: Funding, technical training and agricultural entrepreneurship	
		P3: Partnerships & contractualization	
		P4: Stakeholder consultations; Group Sales	
		P5: Links with local authorities	
	Relevance of activities (farmer-level)		
Structural Change Agenda		SCA1: Establishment of steaming center with lasting contractual relationships with the wholesalers;	
		SCA2: Semi-industrial processors establish lasting contractual relations with members of the UNPRB producers union.	
		Link with pilot interventions	

Benin: SCA Rice and Glazoue Pilot

Pilot Intervention	Effectiveness	P1: Analysis of rice sector value chains	
		P2: Technical, organizational and entrepreneurial capacity-building	
		P3: Facilitating Partnerships	
		P4: Facilitate Dialogue	
		P5: Links with policymakers	
	Relevance of activities (farmer-level)		
Structural Change Agenda		SCA1: Rice wholesalers establish sustainable supply contracts with the URR members of the CCRB and URFER-C (Union of women's steamers cooperatives) in South Benin;	
		SCA2: The URR members of the CBRC and URFER-C provide rice of the right quality and quantity in accordance with the requirements of the urban market;	
		SCA3: The UCR members of UNIRIZ-C practicing rainfed rice production use an adapted and financially accessible supplementary irrigation system in developed lowlands, to increase the production of good quality paddy.	
		Link with pilot interventions	

a. DGD indicators

i. Burkina Faso

	Indicator	Target	2016
1. Number of market chains (pilot chains) in which family farmers (m/f) foresee in their livelihood in a more sustainable way (SSD – IMM)	Increasing income	Baseline: ~230,000 CFA	Increase (to 400-500k) CFA, due to higher rice production
	Strengthen position in the chain		Empowerment (women, youth) through Douna center
	Increased resilience		Less dependency on farm income (from 78% to 40%), however lack of crop diversification
	More sustainable use of natural resources		Improvements, though challenges remain in soil conservation, biodiversity, and resource management
	Improved food security		Improved through higher income, crop diversification, more decision-making power
2. The market share of smallholder farmers (m/f) in the local markets has been increased by 5% (SSD)	Rice import dependency	Target: 15% reduction versus baseline	20% reduction in rice import dependency; 52% as a rate of coverage by domestic prod.*
	Smallholder market share of rice market	Baseline: 35% Target: 35%	40%*
3. Number of companies ... [not relevant]	# of companies with an inclusive purchase practice / policy	N/A	N/A
4. Share (in %) of family farmers (m/f) that is organized in economical farmers' organizations to collectively market their (SSD – IMM)	Small-scale farmers who sell their products together through the economical farmers' organization (as fraction of the total number of small-scale farmers in these districts)	Baseline: 25% Target: 35%	50% FOs are organized for collective marketing*
5. Number of new and improved institutional environmental factors that stimulate the inclusion of family farmers (m/f) (SSD – IMM) at the level of: 1/ government: by laws and policy texts 2/ service providers: public and private service provision (BDS)	New, adapted or improved policies, laws or regulations	<ul style="list-style-type: none"> Regional: TEC increase to 35% At least 3 measures with respect to import, financing, institutional purchasing, research At least 3 events organized on sustainability / inclusive purchasing 	Rice is taxed at least at 10% vs 5% in 2013 throughout ECOWAS Presidential decision to favor rice produced locally in institutional / public purchases Signature of a delivery contract with the MENA (school canteens) of more than 9000 tons for an overall cost of more than 4 bn CFA Organization of 2 events: A regional rice exchange and a national rice exchange*
	New, adapted or improved services provided by the govt and private players	At least 5 credit measures to benefit smallholder farmers	Decision to set up an agricultural bank to finance investment and innovation of the agricultural sector*

ii. Benin

Indicator	Target	2016	
1. Number of market chains (pilot chains) in which family farmers (m/f) foresee in their livelihood in a more sustainable way (SSD – IMM)	Increasing income	228,000 CFA from rice	368,000 CFA from rice, mostly due to increased productivity
	Strengthen position in the chain	Low market access, medium commercial influence	Some progress, effects at farm-level as yet limited
	Increased resilience		Improved, more diversified income sources
	More sustainable use of natural resources		Some improvement relative to baseline; challenges remain
	Improved food security		Improved due to crop diversification
2. The market share of smallholder farmers (m/f) in the local markets has been increased by 5% (SSD)	Rice import dependency	Dependency on rice import reduced by 15%	Not tested as part of this external assessment
	Smallholder market share of rice market	Baseline: 39%. Target: 54%	42%*
3. Number of companies ... [not relevant]	# of companies with an inclusive purchase practice / policy		N/A
4. Share (in %) of family farmers (m/f) that is organized in economical farmers' organizations to collectively market their (SSD – IMM)	Small-scale farmers who sell their products together through the economical farmers' organization (as fraction of the total number of small-scale farmers in these districts)	35%	30%*
5. Number of new and improved institutional environmental factors that stimulate the inclusion of family farmers (m/f) (SSD – IMM) at the level of: 1/ government: by laws and policy texts 2/ service providers: public and private service provision (BDS)	New, adapted or improved policies, laws or regulations	<ul style="list-style-type: none"> Regional: TEC increase to 35% At least 3 measures with respect to import, financing, institutional purchasing, research At least 3 events organized on sustainability / inclusive purchasing 	Rice is taxed at 13% against 5% in 2013 5 policy measures taken*
	New, adapted or improved services provided by the government and private players	At least 5 credit measures to benefit smallholder farmers	Not tested as part of this external assessment

* Information provided directly by VECO West Africa

b. Summary of conclusions

i. Burkina Faso

Pilot Intervention:

VECO's intervention has been broadly successful in Burkina Faso. The financial support for the construction of the Douna center, and its outfitting with specialized parboiling equipment, has clearly had an impact on farmers. Demand for, and sales of parboiled rice have steadily increased, as has rice production (from 1 to 2-3 harvests per year). This has resulted in an increase both in the income of rice producers, and the (female) rice steamers. Simultaneously, costs have been reduced (and therefore profitability has improved) as a result of training in the SRI (System of Rice Intensification) methodology offered by VECO and SNV to farmers.

While survey data demonstrates a decrease in the dependency on direct income from agriculture (from 78% to 40%) in farmers, the increased market demand for paddy, combined with these increased productive capabilities, has had one unexpected side-effect: a rush on rice production. Some people have abandoned other sources of employment in order to engage in, or focus on, the production of rice. Thus, even while established farmers are typically more resilient, new producers could be highly dependent on rice production, and thus more vulnerable to shocks within the commodity market (for instance as a result of price shocks, weather events, or pests). This is of particular concern, because regional villages have in the past (in 2011 and 2013) suffered considerably from heavy droughts.

In terms of sustainability, women at the Douna site report that they all have adopted best practices in order to reduce the water use during steaming. Meanwhile, though using an experimental solar water heater to reduce the burning of wood has not proven effective, an alternative stove, designed to burn rice bales as fuel, has been effectively implemented through the financial support of VECO. This shows that there has been effective learning and adaptation in this pilot intervention.

Among farmers, VECO trainings have consistently improved sustainable practices, specifically with regards to best practices for efficient water management and climate change resilience. However, other areas of sustainability—namely biodiversity, soil conservation, and resource management—have seen limited progress, and remain challenging.

The VECO intervention has had promising results in terms of strengthening farmer organizations' technical and financial capabilities, and has helped them engage in a number of promising advocacy campaigns. This includes a new national rice forum, a government commitment to institutional purchases, and a new Burkina Faso agricultural task force, which has established a minimum price principle for rice.

VECO's intervention has also achieved a remarkably strong result on women's empowerment. The women employed in the rice steaming pilot report that this has proven a reliable source of income which helps them meet household expenses and needs, without being dependent on men. Many women also have a greater degree of financial independence and control over their own income, although it is unclear to what extent this is attributable to the VECO intervention.

Meanwhile, as a result of the VECO intervention, and the consequent reinvigoration of the rice sector and the rice farmer business case, many young people have also returned to farming the crop, and have seen

their financial position improve. It is unclear, however, whether VECO's efforts have also led to youth having greater participation in—or control over—(financial) decision-making processes.

Link between pilot and SCA:

There is a compelling link between the pilot and the SCA. The Douna model has been replicated in other centers, and the actors attest that the quality of the rice has improved. According to UNPRB, it is this improvement that has given them the courage to advocate for institutional purchases. However, the quality of rice is not an end in itself, but rather a means to access the market. It is therefore necessary that actions continue to be implemented at the level of the pilot to meet the traders' requirements.

Moreover, the mode of dissemination (replication by donor funding) could have a limited impact, or not be highly scalable. Other strategies such as the involvement of entrepreneurs in scaling and operation of improved equipment could be an option to explore.

The funding of the center on a contract basis with SONAGESS was one experiment carried out within the pilot, which was replicated at other centers. As such there was a link to the pilot, however this was rather limited in scope, and it is necessary to test other mechanisms which would allow the steamers to access individual credit (working capital and equipment).

At the level of contracting between steamers and producers, it cannot be said that there is a link between the pilot and the SCA, insofar as this action has not been successful at the pilot level. It is necessary to identify conclusive models and to test them.

In terms of contracting between semi-industrial processors and producers, there is no link between the pilot and the SCA, since this action has not even been tested at the pilot level. An analysis shows a possible cause-and-effect relationship between different aspects of this contractual basis: for example, production of the quality of rice required by traders will facilitate contracting with them. Traders can pay cash, which would allow the steamers to buy paddy on credit from the producers (thanks to the short payment period). The credit issue would thus be partly resolved. As such, efforts to improve quality must continue to aim for the standards required by the market.

ii. Benin

Pilot Intervention:

Overall, the Glazoué pilot intervention has achieved reasonable success, and has helped to improve production capacities and the quality of produce. The VECO intervention has enabled an overall increase in the processing capacity (and thereby income) of women, as well as for the demand for paddy rice— which has indirectly enabled rice farmers to benefit from increased demand. Unfortunately, productivity gains have stalled in recent years, as a result of persistent drought and parasite attacks. However, these adverse conditions have led many farmers to diversify their crops (with increases in the numbers of crops labelled 'important' by farmers in 2016 than in the baseline year), and thus their overall income generating portfolio (away from dependence on rice production towards inclusion of animal breeding, or the production and sale of other products). Despite the fact that these developments were necessitated by the difficult conditions experienced by farmers in the first place, farmers are now less dependent on rice farm income as a result, reducing their vulnerability to (further or continued) natural shocks.

There has been limited progress in the field of sustainability, with some progress being made with regards to climate change and resource management. However, soil (nutrient) conservation remains a great concern; VECO supported the training of farmers in soil conservation, yet while these trainings have been appreciated by farmers, the take-up of these practices has remained limited. This is because their implementation is dependent on the availability of specific supplementary (mineral) inputs, which are hard to acquire as a result of misaligned governmental policies (which largely favor cotton). At the same time, VECO's experiments with irrigation systems have been very successful and well-received, with many farmers hoping it may aid off-season production, reducing or eliminating the 'hunger period'.

VECO's intervention has made a reasonable contribution to FO operations across a range of business capacity indicators, with UNIRIZ-C's strengthening enabling it to sell paddy rice more easily; CCR-B's advocacy activities has also facilitated the start of institutional purchases, as well as governmental decrees prioritizing local- over imported rice—however, the impact of this on a farm level remains to be seen.

Despite the growing inclusion of women in FO boards, women continue to play only a limited role in decision-making. However, the experience of URFER-C shows that women are increasingly conscious of this situation, and aware of their power to change it. In particular, female steamers reported that the exchange visit to Burkina Faso—organized by VECO—was highly inspirational for action in this regard.

However, the situation of youth remains a concern. While young people have a reasonable degree of influence in FOs in terms of the degree to which their input is valued in discussions, they often do not take part in decision-making processes. Similarly, economic inclusion remains limited, despite the trainings supplied by the Collibri Foundation. A large part of this can be attributed to the general disengagement, and the emigration, of youth, both from the rice sector and from Benin to Nigeria as a result of continued droughts—a development obviously outside of VECO's control.

Link between pilot and SCA:

In terms of contracting with wholesalers/importers of Cotonou (SCA1), there is a link between the pilot and the sub-SCAs. Rice quality improvements enabled the establishment of contracts with certain traders, even though these are deposit-sales contracts. This was not the case before. As noted, volume still remains a challenge. It is necessary that actions continue at the level of the pilot, involving management by private actors/entrepreneurs in the strategy. The main objective is to make the optical sorter operational which can be done by integrating it, if possible, into a completed finishing center system that is open for use by a large number of processing units. In doing so, volume and quality issues will be resolved, which will strengthen the contracts with wholesalers.

Moreover, label diversity could be a handicap in terms of volume. Using the finishing center to put all the rice produced by the different units under the same label (proposed by the buyer) could be an option to resolve this.

With regards to providing rice which meets urban market requirements (SCA2), there is a link with the pilot. Indeed, the lessons learned at the unit level of UNIRIZ-C (processing, sorting, etc.) have been shared with the other units in Glazoué (PDRN, Matoko). This was confirmed during the interview with UNIRIZ-C. However, this process needs to be scaled up. A finishing center (including the optical sorter) serving all the departments could be one solution.

Finally, with regards to UCRs' use of irrigation systems (SCA3), this does not so much entail a link with the pilot, but in fact this experience derives directly from the pilot. The trials were initiated due to problems encountered as a result of persistent drought. However, they were carried out only in two sites (Savalou and Dassa), which has limited the overall impact. Nevertheless, given the enthusiasm these trials have generated at the FO level, this experience needs to be scaled up to ensure that rice quality and quantity supply requirements are met, in order to be able to sign contracts with wholesalers.

iii. Regional overarching lessons learned

Key lessons learned and recommendations:

- The Douna center in Burkina Faso is not being used to its full capacity, and its mission and management model need to be reviewed to improve its profitability and scalability.
- As producers want to sell their paddy in cash, while the women want to have it on credit, a mechanism at grassroots level that takes into account these differences is necessary.
- Although institutional purchasing has become a reality, VECO should consider how to manage the conflicts which have arisen as a result of this.
- In order for farmer trainings in soil conservation to be put to use, access to supplementary mineral inputs need to be improved.
- In Benin, the successful irrigation models trialed by VECO should be scaled up.
- In Benin, support needs to be scaled up to facilitate the operationalization of the optical sorter in order to resolve volume and quality issues, while consideration should be made of how the site can function as a finishing center used by all the units in the region.
- Given VECO's financial limitations, donor collaboration needs to be strengthened, in order to scale up successful innovations.
- Notable innovations include: in Burkina Faso, the Douna center and training in SRI methodology; in Benin, successful experiments with irrigation systems.
- The Douna model has been replicated in ten other centers, and exchange visits and trainings have been organized in the center for other unions. Reports from these other centers attest to resulting improvements in quality.
- In Benin, experiences in processing, sorting etc at the unit-level of UNIRIZ-C have been shared with the other units in Glazoué (PDRN, Matoko), which has enabled possibilities for scaling up.

Key successes include:

- Both pilots achieved success in terms of improving rice production capacities, demand, quality, and decreasing costs. This has led to improvements to the incomes of both rice producers and steamers.
- Contributed to strengthening farmer organizations' technical and financial capabilities.
- This support has facilitated FO engagement in advocacy campaigns, which has led to strengthened institutional purchasing in both pilot contexts. Additional notable results from advocacy campaigns has been the establishment of a national rice platform and minimum price for rice in Burkina Faso; and the establishment of government decrees prioritizing local over imported rice in Benin
- Both pilots have delivered promising results with regards to women's empowerment
- In some cases, VECO trainings have improved sustainable practices, specifically with regards to water management and climate change.

- In Benin, many young people have returned to rice farming and their financial position has improved.
- In Benin, adverse environmental conditions have necessitated crop diversification, which has reduced farmers' vulnerability to commodity shocks.

Key challenges include:

- The new rice-dependent farmers who have entered the market due to increased market demand are more susceptible to commodity shocks.
- Meeting production demands is a challenge in both pilots due to limited credit access and the weak technical and organizational capacities of actors.
- Despite the successes of the Douna center, credit arrangements restrict the participation of women; quality remains an issue; individual purchasing has been neglected; and the center has limited prospects for scalability.
- Contracting between the women's union and the producers has failed because producers want to be paid in cash while the steamers prefer credit.
- In Benin, productivity gains have stalled as a result of environmental shocks.
- There has been limited progress on sustainability indicators for soil conservation in Benin; and for biodiversity, soil conservation, and resource management indicators in Burkina Faso.



2. Introduction

This report by New Foresight is the external impact assessment of the VECO program in West Africa [DGD-funded, 2014-2016], and was commissioned by Vredeseilanden/VECO (hereafter named VECO). NewForesight performed this independent impact assessment from September 2016 to November 2016, looking at the rice strategies and pilots in West Africa in order to assess the regional change strategy to develop the rice-subsector in West Africa. During this period NewForesight performed similar assessments for the DRC (rice), East Africa (rice), Indonesia (cocoa), Central America (cocoa) and Andes Region (coffee) – for which separate reports are available.

The report is structured as follows: chapter 3 explains the evaluation method, chapter 4 assesses the effectiveness and relevance of the Douana pilot (Burkina Faso), chapter 5. Assesses the Structural Change Agenda for Burkina Faso. Chapter 6 assesses the effectiveness and relevance of the Glazoue pilot (Benin), and chapter 7. Assesses the Structural Change Agenda for Benin. Chapter 8 concludes and discusses the lessons learned and recommendations.



3. Evaluation method

VECO aims to unlock smallholder potential by creating change across the value chain with a critical mass. The strategy is to pilot promising interventions across the chain on a small scale (reported in the Chain Intervention Reports), which lessons learned are to be utilized to influence the institutional environment, creating lasting structural change (reported in the Structural Change Agenda Report). We therefore first evaluate the effectiveness and the relevance of the pilot interventions, followed by the evaluation of the structural change agenda, including its link with the pilot interventions. In the last chapter, conclusions, lessons and recommendations are given based on the entire West-Africa program assessed.

VECO works with the Theory of Change model (both for pilot interventions as structural change agendas), referred to as Pathways of Change (PoC), given that there are multiple pathways to achieve the desired impact. We have taken the Pathways of Change (PoC) as starting point of our analysis – evaluating each pathway separately, before drawing conclusions on the total impact.

VECO focuses its pilot interventions on supporting Farmer Organizations (FOs), rather than individual farmers. For our evaluation we look at the (direct) outcome at the FO-level in order to assess the effectiveness of VECO's interventions, followed by the (indirect) impact at the farmer-level, in order to assess the relevance of the VECO intervention.

In order to report a balanced perspective on the obtained impact, we make use of mixed methods evaluation, looking at both quantitative as well as qualitative data. As the data was primarily provided by VECO, we have triangulated the findings with key informant interviews (with FO and community leaders and policy-level partners), and focus groups discussions (with farmers), obtained through field visits in October and November 2016.

For the **pilot interventions** we used the following approach:

1. We requested VECO to define the Pathways of Change (PoCs), for those interventions where it was not yet defined

2. We extracted the FO's business capacity indicators from VECO's Chain Intervention Reports, and wrote initial hypotheses on the effectiveness of the interventions
3. We requested VECO to comment on the initial hypotheses, providing insights and pointing us towards additional explanatory data sources
4. We extracted quantitative (result indicators) and qualitative observations from the Chain Intervention Reports (CIRs), summarizing the observed evidence
5. We reformulated the hypotheses and made a list of questions for the key informant interviews and focus group discussions in order to triangulate our findings
6. We visited the pilot interventions and held the key informant interviews and focus group discussions
7. We evaluated all evidence and wrote main conclusions on the effectiveness of each pathway of the pilot intervention
8. We analyzed farmer survey data (obtained by VECO with capacity building support by NewForesight), in order to assess the relevance of VECO's interventions
9. We identify comparable data from the VECO 2013 baseline reports, where possible.
10. We evaluated all evidence (including FGD outcomes) and wrote main conclusions on the relevance of VECO's interventions
11. We reviewed the findings on effectiveness and relevance, concluding the impact assessment of the pilot

For the **Structural Chain Agendas (SCAs)** we used the following approach:

1. We requested VECO to define the Pathways of Change (PoCs), for those SCAs where it was not yet defined
2. We reviewed the relevant progress indicators in the Structural Change Agenda Reports (SCARs), defining initial hypothesis on the effectiveness of the SCA
3. We extracted the relevant qualitative information from the SCAR,
4. We extracted the relevant qualitative information from the Chain Intervention Reports (CIRs)
5. We reformulated our hypotheses on the effectiveness of the SCA and made a list of questions for key informant interviews
6. We interviewed key informants from partner organizations
7. We evaluated all evidence and wrote main conclusions on the effectiveness of the SCA activities.
8. We evaluated the link between the pilot interventions and the SCA, assessing VECO's ability to create structural change
9. We reviewed the findings on the effectiveness of the SCA and the link between the pilots and the SCA, and concluded the impact assessment of the SCA

For the **lessons learned and recommendation** we used the following approach:

1. We reviewed our evaluation of the pilot interventions and structural change agendas, drawing learnings and recommendations from NewForesight's perspective and experience
2. We asked VECO Regional Director to read through the draft assessment report and provide his/her learnings and recommendations
3. We evaluated learnings from both perspective and summarized the most relevant learnings and recommendations

A note on causality

Throughout the assessment NewForesight has continuously tried to identify to which extent the outcomes can be contributed or attributed to VECO's activities. In some cases this was clear, as for example a partnership was set-up after introduction by VECO. In these cases we explicitly mention the

outcomes and impact can be attributed to VECO’s activities. In most cases however, VECO’s activities were only one of the factors possibly causing the observed change. We have tried to assess to our best ability if the outcome could be contributed to VECO’s activities in our focus group discussions and key informant interviews. However, it is important to note that this identification strategy does not allow us to infer causality with certainty – it only provides us with a likelihood of causality. If, in the future, VECO would like to obtain more certainty on the attributable impact of its activities, it should define an identification strategy that measures outcomes of a (preferably randomized) control group.

Sources of input for the assessment:

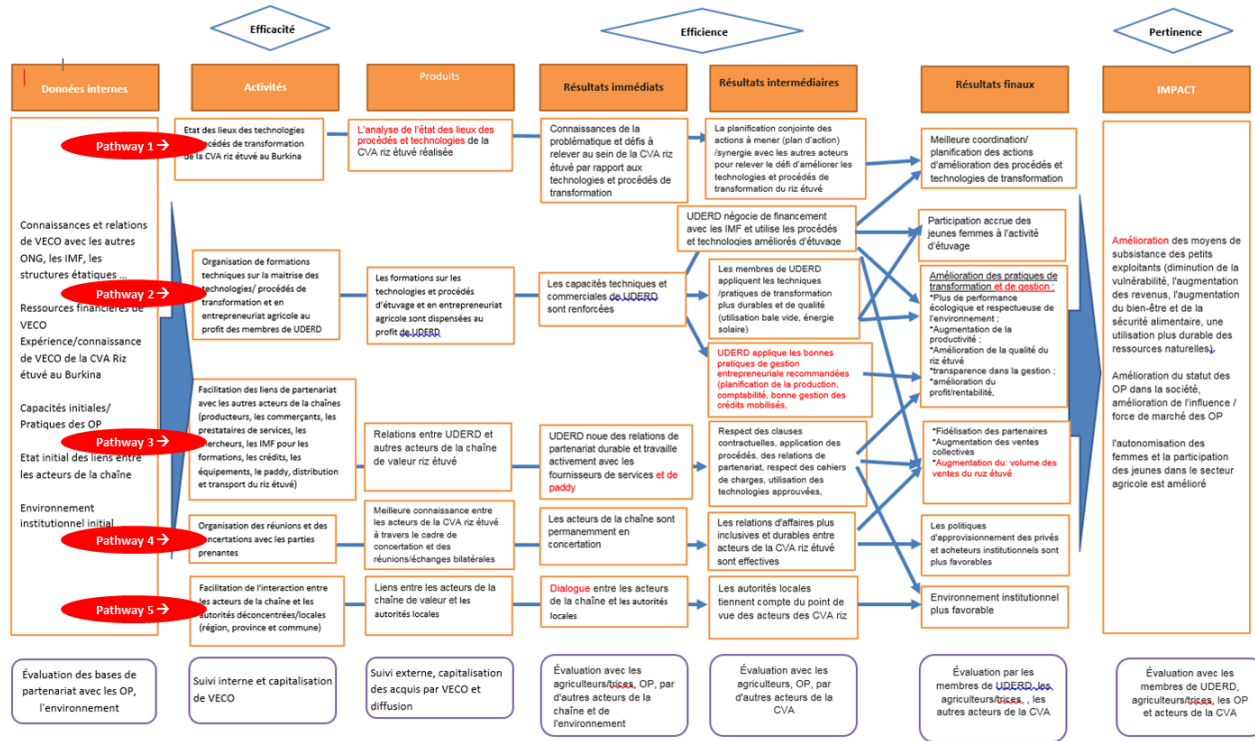
Level of analysis	Source	Date
Farmer livelihoods	Farmer Survey	October 2016
	Baseline reports	2013
	Focus Group Discussions (FGDs)	October 2016
Farmer Organizations (FOs)	Chain Intervention Framework (CIF)	2014
	Chain Intervention Report (CIR)	S1 2016
	Key informant interviews	October-November 2016
Policy level	Structural Change Agenda Framework (SCAF)	2014
	Structural Change Agenda Report (SCAR)	2016
	Chain Intervention Report (CIR)	S1 2016 2016
	Key informant interviews	October-November 2016



4. Douna Pilot

a. Pathway of change

There are 5 different ways through which the Douna pilot tries to achieve its outcomes and impact. The different pathways of change are mapped in the figure below.



We have performed an assessment of each pathway in order to determine the effectiveness of the activities, i.e. their ability to achieve the intended change.

b. Effectiveness of VECO intervention

i. Pathway 1: Improved rice quality and quantity

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
State of play of the technologies and processes for processing parboiled rice in Burkina Faso	The analysis of the state of play of processes and technologies of parboiled rice is carried out.	Knowledge of the problem and challenges to be met within the parboiled rice value chain in relation to processing technologies and processes	Joint planning of actions (action plan) / synergy with other actors to meet the challenge of improving technologies and methods for the processing of parboiled rice	Improved coordination / planning of actions to improve processing processes and technologies

Main findings

The study identified the different technologies and processes existing in the country, as well as possibilities for their improvement. The national view of the study allowed different donors (VECO, OXFAM, TRIAS) to co-finance the center in Douna (although VECO remained the main donor), and this model was then replicated in the other centers. We can say that this study was indeed a unifying element amongst donors, and therefore a success. Since it was financed by VECO through UNERIZ, this success can be attributed to VECO.

The Douna center now reliably helps improve the quality of parboiled rice. This model has been selected and applied in 10 centers with the support of other donors. Exchange visits and trainings are organized in the center for other unions.

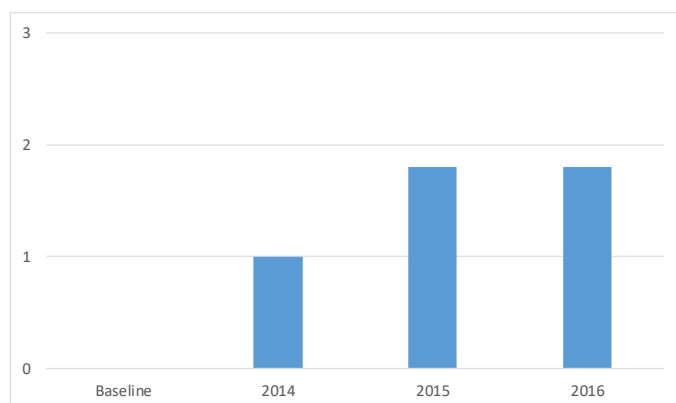
Improved quality has facilitated rice selling in markets. However, it does not fully meet the traders' requirements who could make large orders. Manual sorting does not produce large quantities, as was confirmed during the women's visit to the center. Solar energy use is still at an experimental stage. The women at Douna affirmed that the center is not used to its full capacity, which was confirmed by VECO. So the intervention is partially successful. A solution has to be found for rice sorting, especially for niche markets. Purchasing of an optical sorter should be seriously considered. To this proposal, VECO WA has responded, *This must also be well thought out because an optical sorter can help, but this sort of sorter transforms very large quantities! An optical sorter for the only Douna center will not be profitable. The idea at present is to build a finishing center that will collect the steamed rice from the various steaming centers for the finalization of the sorting work: this will allow to distribute the costs and to keep the parboiled rice competitive.*

The mission of the center and the management model need to be reviewed, in order to make it more profitable (training center, husked rice production center, place of collective sale, private management, etc.). Appropriate management, including the private management of certain functions, could be a profitable and sustainable option.

Observed evidence (source: CIR)

Evidence from business capacity indicators:

Row Labels	Baseline	2014	2015	2016
UDERD	0	1	1.8	1.8
2. To what extent has the FO acquired business management skills?	0	1	1.6666667	1.6666667
3. To what extent has the FO acquired marketing skills?	0	1	2	2



Relevant *business management skills* and *marketing skills* indicators have **improved** compared to the baseline. This indicates that the immediate and intermediate outcomes have likely improved.

Main conclusions from CIR:

- The study on processes and technologies identified that the technologies used in Douna are the model which should be promoted;
- The breakage and rice impurity rates decreased from 50% in the baseline to 10% in 2016. This is due to the fact that women mastered the parboiling process and have all the necessary equipment at their disposal;
- The Douna center has become a reference center / model;
- The percentage of processed products meeting the formal market quality standards increases from 20% (baseline) to 75% in 2016;
- The volume of processed rice has increased from 121 tons (baseline) to 420 tons in 2016 out of an expectation of 630 tons.

Triangulation (source: key informant interviews and FGDs)

The visit to Douna revealed that the center is built according to ‘frontrunner’ standards in order to respect the HACCP standard. Additionally, it is the reference center where women from other unions are trained. This has been confirmed by UNERIZ. UNERIZ stated that there are currently ten parboiling centers that operate according to the model first implemented at Douna. The quality of rice has improved remarkably. However, traders are not yet fully satisfied with the quality due to the sorting process which needs to be further improved, especially for niche markets. The use of rice bales as fuel is also a reality in the center thanks to a type of stove designed for this purpose. Women reported that they also use rice bales as fuel at home; however, this could not be verified. Due to the absence of the center manager during the field visit, we were not able to verify the production statistics.

To ensure that high quality parboiled rice is produced, VECO and UNERIZ are considering whether to purchase an optical sorter. However, funding is not yet available. The survey on processes and

technologies was carried out by UNERIZ as a result of financing from VECO, and the Douana center is co-financed by donors such as VECO, OXFAM and TRIAS, although VECO remains the main donor providing 90% of funding. As a result, quality improvements in parboiled rice is partially attributable to VECO. In addition, both women involved in the center and VECO have recognized that the center is not being used to its full capacity. The management model and the mission of the center (training or production or collective sale place, etc.) need to be reviewed in order to make it profitable.

ii. Pathway 2: Funding

Activities	Outputs	Immediate Outcome	Intermediate Outcomes	Ultimate Outcomes
Organization of technical training on the mastery of processing technologies / processes and agricultural entrepreneurship for UDERD members	Training courses on parboiling technologies and processes and agricultural entrepreneurship are given to UDERD	The technical and commercial capacities of UDERD are strengthened	UDERD negotiates financing with MFIs and uses improved baking processes and technologies UDERD members apply more sustainable and quality processing techniques / practices (empty bale use, solar energy) UDERD applies the recommended good entrepreneurial management practices (production planning, accounting, good management of loans mobilized, marketing)	Improved coordination / planning of actions to improve processing and technologies Increased participation of young women in parboiling activities Improved processing and management practices * More ecological and eco-friendly performance * Increased productivity; * Improved quality of parboiled rice * Transparency in management * Improved profit / profitability * Partner loyalty * Increase in collective sales * Increase in: sales volume of parboiled rice

Main findings

UDERD (Douana union / FO) received credit twice from Coris Bank—one loan of CFA 46 million francs and another of CFA 25 million francs. Negotiations with Coris Bank were carried out by VECO, and VECO also supported the union with developing a business plan. VECO encouraged the bank to pay a visit to the center, and VECO's support was considered by the bank as important for guaranteeing reliability and professionalism. As a result of this, the interest rate was first reduced to 10%, and then to 8%, for 9 months. The key role VECO played in supporting and nurturing these relations with Coris Bank was confirmed by UDERD.

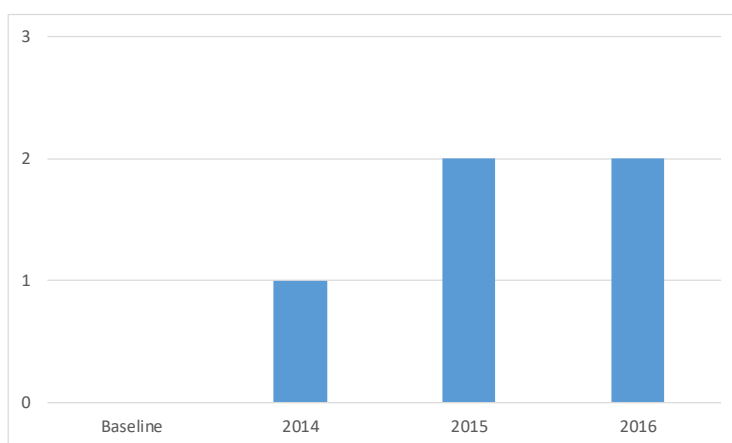
However, despite the successful obtaining of credit by the center, there is still no individual credit. The women involved in the center reported that their credit was insufficient and delayed. Furthermore, paddy purchase on credit is not accepted by producers as they want to be paid in cash. VECO has been attempting to get other banks on board, but it has not yet succeeded. In light of the above, the intervention can thus only be considered partially successful.

Entrepreneurship trainings for UDERD were organized by VECO. It is clear that these trainings are not essential factors for accessing credit, but the setting up of a mechanism or a guarantee that allows the steamers to have access to credit on time, or to be provided with paddy for processing. The Bagré "warrantage" model could be an option.

Observed evidence (source: CIR)

Evidence from business capacity indicators:

Row Labels	Baseline	2014	2015	2016
UDERD	0	1	2	2
2. To what extent has the FO acquired business management skills?	0	1	2	2
3. To what extent has the FO acquired marketing skills?	0	1	2	2
4. To what extent the FO promotes sustainable production and natural re	0	1	2	2



Relevant *business management skills, marketing skills, and the promotion of sustainable production and natural resources* indicators have **improved** compared to the baseline. This indicates that the immediate and intermediate outcomes have also probably improved.

Input from VECO:

For sustainable production, the objectives are:

- To meet national rice quality standards (or quality requirements imposed by buyers), and not to focus on GlobalGAP certification, because the produced rice is intended for local consumption.
- To teach FO members how to reduce firewood consumption, water consumption and electricity consumption, and how to upgrade the processing of waste (rice balls) in order to limit environmental pollution

Main conclusions from CIR:

Two credit agreements were signed with Coris Bank—one of 46 million CFA francs in 2014, and the other of 25 million CFA francs in 2016.

Triangulation (source: key informant interviews and FGDs)

The FO benefited from the credit received from Coris Bank. No individual credit has been received by members due to lack of personal contribution and guarantee. According to the beneficiaries, the credit

obtained thus far is insufficient. Moreover, this credit received is delayed and arrives at a time when the paddy is almost finished in the zone, which consequently forces women to travel far to other localities. This credit delay is due to both administrative burdens as well as the bank’s requirement of a rice delivery contract as a prerequisite. To overcome that difficulty, women have sought to get paddy on credit from producers. However, producers require a cash purchase for this—mainly because of the long delays encountered with respect to rice payments delivered via the union.

The FO reported that collaboration with Coris Bank was enabled thanks to VECO’s support. As a result of the strong organization of producers in certain flood plains, a "warrantage" system has been put in place to facilitate steamers’ ability to access paddy on credit. Currently, plans are underway to trial such a system in Douna with VECO’s support.

iii. Pathway 3: Contracting

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitating partnerships with other actors in the chain (producers, traders, service providers, researchers, MFIs for training, funds, equipment, paddy, distribution and parboiled rice transport)	Relations between UDERD and other actors in the parboiled rice value chain.	UDERD forges lasting partnership and works actively with paddy services and providers	Compliance with contractual clauses, implementation methods, partnerships, respect of specifications, use of approved technologies, application of management tools	Improvement of management and transformation practices to achieve: <ul style="list-style-type: none"> * More environmentally friendly and better environmental performance; * Increased productivity; * Improved quality of parboiled rice * Transparency in management; * Improvement of profit / profitability * Partner loyalty * Increased sales * Increased collective sales * Increased sales volume of parboiled rice * More favorable institutional environment

Main findings

Two contracts were signed with SONAGESS—the first of 200 tons with UDERD, and the second of 400 tons (of which 100 tons for UDERD). However, contracting between the women’s union and the producers has failed because producers want to be paid in cash while the steamers wish to buy on credit. The 200-ton contract with SONAGESS was delayed due to the fact that women in the FO are generally more interested in individual processing, rather than in group processing, as well as because of the relatively long payment period.

VECO recruited a consultant to train 35 members of the management committees on their roles and responsibilities within UDERD. VECO also supported UDERD in collective processing, as well as in setting up committees such as procurement committee, a marketing committee, and a materials committee. However, there was a low incidence of contracting between the union and SONAGESS. This is partly attributable to

VECO, who misread the social context, and sought to implement the wrong model (the option of collective processing). Nevertheless, VECO is not responsible for the failure of contracting between the steamers and the producers, which was instead due to conflict between the two groups.

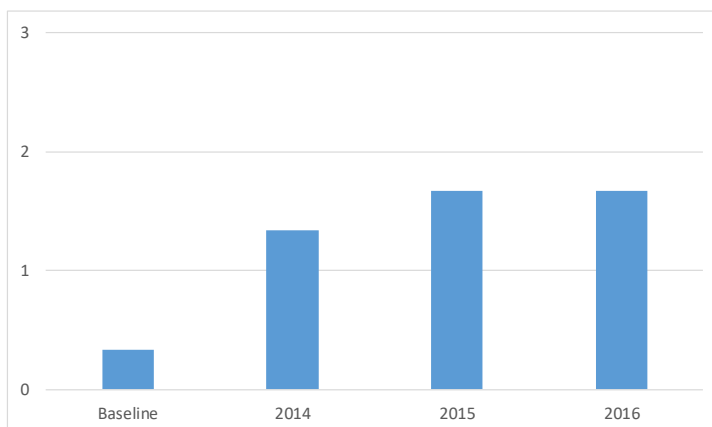
The preference for individual work was clearly defended by women at the Farmer Group Discussion (FGD). The women reported that collective work can result in earnings of about 150,000 CFA francs a year, while individual work can see incomes rise to up to 450,000 CFA francs. VECO organized stakeholder meetings to establish partnerships, which have been partially achieved. However, future actions should go beyond this by taking into account the aspirations, strengths and weaknesses of each stakeholder. The current problem with contracting decisions at the FO level is that they do not guarantee contracting, and so discussions should instead take place at the grassroots level. Overall, VECO’s intervention was considered a partial success. Future initiatives need to be adjusted based on the problems, results and learnings which have been experienced thus far.

VECO WA has clarified that *It is important to mention that reflections are under way and even projects have been formulated to encourage individual transformation. VECO is aware of the situation and is looking for solutions. We just get with UNERIZ a fund for a project on it (to experiment a sort of franchise with the women).*

Observed evidence (source: CIR)

Evidence from business capacity indicators:

Row Labels	Baseline	2014	2015	2016
UDERD	0.3333333	1.3333333	1.6666667	1.6666667
1. To what extent has the FO acquired group management skills?	1	2	2	2
2. To what extent has the FO acquired business management skills?	0.25	1.25	1.5	1.5
4. To what extent the FO promotes sustainable production and natural re	0	1	2	2



Both relevant *group management skills, business management skills, and promotion of sustainable production and natural resources* indicators have **improved** compared to the baseline. This indicates that the immediate and intermediate outcomes have likely improved.

Main conclusions from CIR:

- Rice standards specification is drawn up between UDERD and traders.

- An agreement of 200 tons of parboiled rice supply was signed between UDERD and SONAGESS in 2015.
- In 2016, a 400 ton supply contract was signed between SONAGESS and UNERIZ, of which 100 tons were attributed to UDERD.

Triangulation (source: key informant interviews and FGDs)

During the FGD, women confirmed the contracts with SONAGESS, but argued that the payment period of SONAGESS was quite long. This made it impossible for them to buy paddy on credit from producers. In addition, the FGD revealed that the women did not believe that collective processing was a priority, but they preferred to instead prioritize individual processing. This finding implies that the mission of the Douna center needs to be reviewed. Furthermore, contracting between steamers' union and traders is not yet successful because the quality of the rice does not yet fully meet their requirements.

iv. Pathway 4: Group Sales

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Organization of meetings and consultations with stakeholders	Better understanding between players in the parboiled rice value chain through the framework for consultation and through meetings / bilateral trade	The actors of the chain are continuously in contact	Inclusive and sustainable business relationships between actors in the parboiled rice value chain are effective	* Partner loyalty * Increased collective sales * Increased sales volume of parboiled rice More favorable procurement policies of private and institutional buyers

Main findings

Collective sales of parboiled rice via the Douna center has been successfully achieved, and collective sales have been made with the SONAGESS contract. To achieve this, VECO has recruited a consultant to train members of the union in negotiating skills and collective selling techniques. Technically and financially, VECO has thus supported UNERIZ in organizing meetings with SONAGESS and ANACOR-BF.

The steamers communicated the benefit of the collective sale system as lying in the fact that everyone benefits from it. As far as the SONAGESS contract is concerned, a part of the supply comes from individual producers, and the other part comes from the center's own production. The price was also slightly more competitive (330 CFA instead of 320 CFA per kg). This experience is interesting as it has allowed for the selling price to be increased. As a result of these successes, this initiative needs to be promoted, but the priority should be given to individual production and quality.

Nevertheless, two bottlenecks have to be lifted in order to develop the initiative. Firstly, the lack of credit restricts the participation of women, in the sense that the payment period is rather long, and they are thus

prevented from getting supplies of paddy on credit. The second bottleneck is the quality of the parboiled rice, which limits the number of large orders that may come from the merchants. In addition, a system enabling women to access credit in cash or paddy is necessary (e.g., a guarantee fund).

Observed evidence (source: CIR)

There are no relevant business capacity indicators identified, therefore this analysis is based on other sources.

Main conclusions from CIR:

- The percentage of rice sold through collective sale by UDERD compared to the total volume sold increased from 5% (baseline) to 80% in 2016.
- The selling price obtained by UDERD compared to the floor price rose from 5% (baseline) to 25% in 2016
- The price offered (retail) to processors for parboiled and packaged rice varies from 325 CFA francs (baseline) to 500 CFA / kg, and 1000 CFA / kg for niche markets.

Triangulation (source: key informant interviews and FGDs)

UNERIZ: VECO undertook the initial prospecting which resulted in the contract with SONAGESS. VECO organized meetings with the ANACOR-BF (National Association of Rice Traders of Burkina Faso).

UDERD: the women reported that one of the advantages they got from the center is that everyone benefits from the orders that are sent to the center. Indeed, for delivery contracts with SONAGESS, one part comes from the individual production of the members, and another consists of the center’s own production. The women appreciated the principle, even though they disliked the deadlines for payment. Collective marketing also allowed the women to receive a higher price. It is true that the price (offered) to processors for sorted and packaged parboiled rice can range from 325 CFA francs to 1,000 CFA francs in niche markets. The visit to the center revealed that the quality of this rice still needs to be improved, as it still contains impurities.

v. Pathway 5: Institutional environment

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitation of interaction between actors of the chain and decentralized / local authorities (region, province, municipality)	Links between the players in the value chain and the local authorities	Dialogue between the chain actors and local authorities	Local authorities take into account the views of rice value chain actors	More favorable institutional environment

Main findings

Institutional purchases have been substantiated with the signature of two conventions, one with SONAGESS for the delivery of 400 tons, the other of 9,000 tons of rice between the Ministry of Education and the UNPRB. A rice collecting process for the second contract is in progress.

Government commitments and institutional purchases have been realized, largely thanks to an advocacy campaign organized in 2014 by actors of the sector—notably UNPRB, CIR-B, UNERIZ, etc.—thanks to VECO’s financial and technical support. The contracting with SONAGESS has been facilitated by the help of UNERIZ in prospecting and organizing meetings, along with VECO’s financial and technical support. In addition, negotiations with Coris Bank to facilitate credit access for the contract with SONAGESS have been led by VECO.

As has also been confirmed during meetings with the FOs, many of these achievements can be fully attributable to VECO.

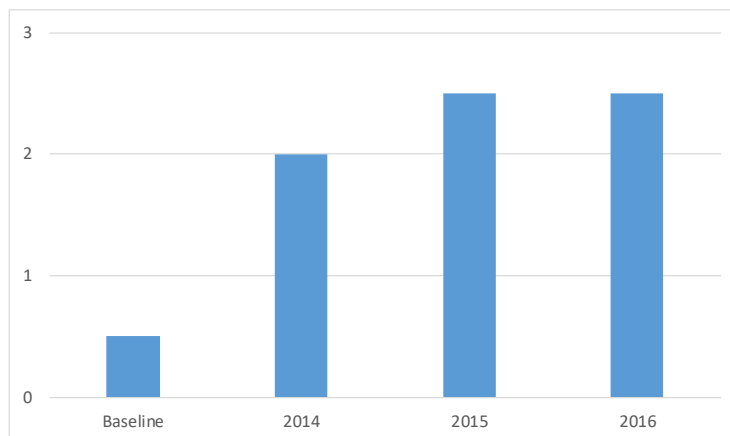
Nonetheless, the contract with the Ministry of Education has created a conflict between the UNPRB and the CIR-B, with each entity believing that it is their responsibility to manage the contract.

Even so, the intervention may be considered a success, because institutional purchases have become a reality. However, VECO and the FOs must do everything in their power to honor the contract with the Ministry. VECO must find ways to refocus each organization on its functions in order to curb and avoid conflicts. In collaboration with UDERD, it is necessary to review the mission and role which the Douana center can play in the execution of contracts so that clauses are respected.

Observed evidence (source: CIR)

Evidence from business capacity indicators:

Row Labels	Baseline	2014	2015	2016
UDERD	0.5	2	2.5	2.5
5. To what extent does the FO builds up and maintains external relations?	0.5	2	2.5	2.5



Relevant *building up and maintaining external relations* indicators have **improved** compared to the baseline. This indicates that the immediate and intermediate outcomes have probably improved.

Main conclusions from CIR:

The CIR does not provide information on interactions between the stakeholders in the value chain and local authorities. It only mentions the government's commitment to improving the institutional environment by encouraging institutional purchases, improving access to land and creating an agricultural bank:

- During Peasant National Day (JNP) in 2015, the government promised to prioritize the purchasing of local rice through governmental institutions (military camps, prisons, hospitals, university restaurants, etc.).
- At the 2016 JNP, the President promised to solve land grabbing issue by adopting new laws and creating an agricultural bank with a capital of 15 billion CFA francs.

Triangulation (source: key informant interviews and FGDs)

The FGDs made it clear that the government's commitment to encouraging institutional purchases came in the wake of an advocacy campaign in 2014 which received financial support from VECO. Thus, in 2016 an agreement was signed between the Ministry of Education and the UNPRB for the supply of 9,000 tons of white rice for an amount of more than 6.1 million euros. The price negotiated is 345 CFA francs instead of 320 to 330 CFA francs. The collecting process of this volume is underway. Thanks to meetings organized by VECO, a 400-ton contract was also signed with SONAGESS. Finally, the advocacy campaigns have also helped in establishing a good sales price.

The law on land and the agricultural bank are not yet effective, however, and this agreement has created a conflict between UNPRB and the CIR-B. Each entity claimed to be the one who must manage it, with the UNPRB prospectus mentioning that that the FO should only intervene in production and paddy selling. As such, there is a need to clarify each institution's role within the sector.

c. Relevance of VECO intervention

In this section we evaluate the relevance of VECO's interventions by looking at the farmer-level impact. We investigate whether the VECO interventions at the FO-level have also created notable differences (positive or negative) on the farmer impact level. This is done in two ways: by reviewing the results of the focus group discussions, and by comparing the farmer survey (2016) with baseline data (2013). It must be noted that comparison is difficult at times, as indicators differ significantly over time.

Main conclusion of focus group discussions (FDG) with farmers

Income:

Thanks to the construction and the equipment of Douna center with VECO's financial support, the sale of parboiled rice on the market has increased, resulting in an increase in demand. The production of paddies increase from one cultivation per year to 2-3 times. This has resulted in improvements to rice farmers' income. Thanks to the training in SRI organized by VECO and SNV for the farmers, the amount of seed use decreased, thus improving profitability. Women (steamers) reported that they can earn about 450,000 CFA francs per year for individual production.

Resilience:

The demand for rice and its relatively easy sale, as well as the increase in the number of cultivations per year, resulted in a rush towards rice production and transformation. According to the farmers surveyed, sometimes civil servants even recruit workers to produce rice. Some people abandon their original employment to engage in the production of rice. However, if not accompanied by diversification of income sources (on and off the farm), this could reduce their resilience by creating a higher dependency on rice.

Sustainable use of natural resources:

Women are trained to reduce water using during the parboiling process. They confirmed that this practice has been adopted by all of them. The use of the solar water heaters is being experimented with to replace the use of wood. A fireplace (stove) is designed for the use of rice and is being effectively used, and has been done with the financial support of VECO.

Women's Empowerment:

The financial capacity of women has improved through the production and parboiling of rice. This has been suggested by the testimonies of women, who argue that this has allowed them to purchase processing equipment, pay school fees, and satisfy their food needs. With the increase of their income, they contribute to household expenses and can satisfy their needs dependence on men. They declared they have control over their income even if they sometimes ask for advice from their husbands. With the intervention of VECO, there has been an improvement in the access to resources. However, there is no evidence with regards to whether control over their resources is attributable to VECO or not.

Youth Empowerment:

With the development of rice farming, many young people have returned to farming. Even from the age of 18, they demand and obtain their own plots and control their income. The strengthening of financial capacity of youth is attributable to VECO (improvement of parboiling which leads to the demand of paddy and encourages production).

Comparison of baseline and 2016 farmer survey

1a. Income

Baseline (2013)	2016
<ul style="list-style-type: none"> Average annual income of 326,400 CFA Average rice paddy production is 5.5t/ha per year; According to women, a living wage was 75,000-100,000 per month; in general, 64% of women said that farm incomes were not sufficient 	<ul style="list-style-type: none"> Production volumes are on average 2 MT / ha. Production costs are about CFA 27,300 / MT and sales revenues around CFA 162,000 / MT, for a simplified gross margin of ~83% Average annual income of CFA 545,000 (farmer survey) ; CFA 430,000 (CIR 2016 S1)

Discussion

- The production of paddies has increased from one cultivation per year to 2-3 times. This has resulted in improvements to rice farmers' income
- Women (steamers) reported that they can earn about 450,000 CFA francs per year for individual production

1b. Resilience (diversity of income sources)

Baseline (2013)	2016												
<ul style="list-style-type: none"> Agriculture contributes 78% to the budget, with the remaining income is supplied by small business and employment; However, 64% of women report that farm incomes are not sufficient because of high tuition costs, amongst other reasons. 57% of women argue that a lean period of 1-2 months still exists. Low ability to weather economic and weather-related shocks 	<p>The graph below provides average % dependence on different income sources for farmers in the pilot intervention.</p> <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse;"> <caption>Average % dependence on different income sources</caption> <thead> <tr> <th>Income Source</th> <th>Average % Dependence</th> </tr> </thead> <tbody> <tr> <td>Income from Own Agribusiness (e.g. processing unit)</td> <td>~40%</td> </tr> <tr> <td>Income from other sources</td> <td>~10%</td> </tr> <tr> <td>Income from Other own business (e.g. shop)</td> <td>~10%</td> </tr> <tr> <td>Income from Agri production (own farm)</td> <td>~40%</td> </tr> <tr> <td>Income from Agri employment (working on somebody else's farm)</td> <td>~10%</td> </tr> </tbody> </table>	Income Source	Average % Dependence	Income from Own Agribusiness (e.g. processing unit)	~40%	Income from other sources	~10%	Income from Other own business (e.g. shop)	~10%	Income from Agri production (own farm)	~40%	Income from Agri employment (working on somebody else's farm)	~10%
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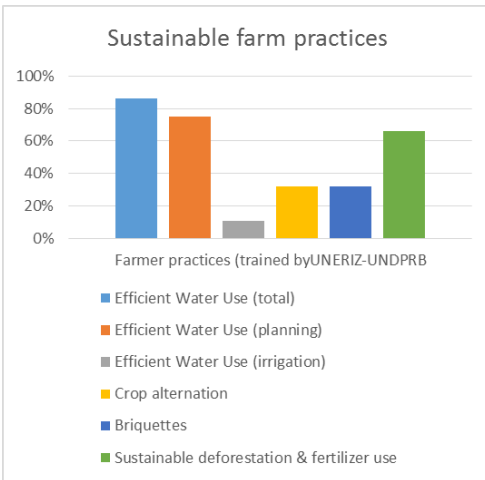
Discussion

- While data for the baseline is sparse and not very detailed, it does appear that there has been a decrease in the dependency on direct income from agriculture (from 78% to 40%), demonstrating increased resilience for farmers.
- Nonetheless, it is unclear if this decrease in dependency corresponds to an increase in income- and food security.
- It is noted that women are able to better face challenges that they/their families face

1c. More sustainable use of natural resources

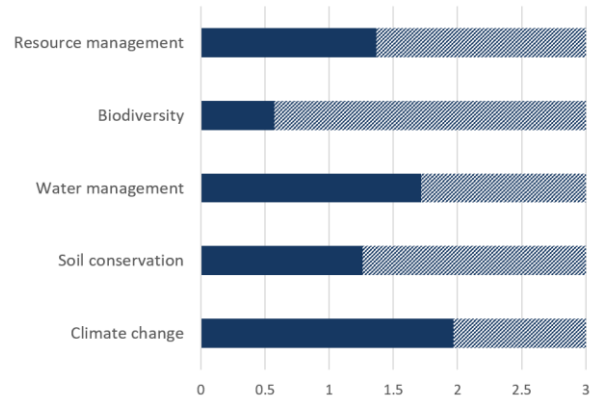
Baseline (2013)

- Farmers who were previously trained by VECO (through UNERIZ-UNDPRB) already use a greater proportion of environmentally friendly techniques (see below);
- The control group did not use any sustainable techniques;



2016

The below chart indicates results from the farmer survey on multiple sustainability indicators. For each, farmers were asked to provide a score of 0-3.



Discussion

- While direct comparison is not easy due to differences in data points, it appears as if VECO interventions and trainings have consistently managed to increase certain environmentally practices amongst farmers, particularly in the field of efficient water management and climate change resilience. Conversely, there appears to have been low progress in the field of biodiversity, soil conservation, and resource management, and these remain challenges for farmers.

1d. Diversity of crops and livestock

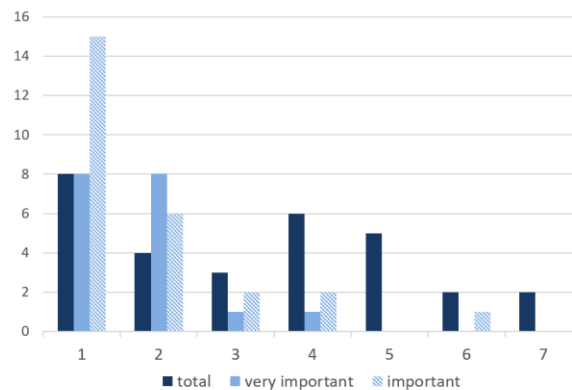
Baseline (2013)

- 94% of respondents chose rice as a priority sector and the most profitable;

2016

The chart below indicates the number of farmers surveyed in Douna who receive 1-7 different sources of on-farm income.

In the survey, farmers were given a choice of indicating the importance of each source of income. As the below chart shows, a large proportion of farmers had 6 or more crops or livestock on their farms. In addition, a high number of respondents indicated having 2 or more sources of income that were very important for farmer livelihoods.



Discussion

- Direct comparison has not been possible due to scarcity of specific baseline data; however, in the baseline and still in 2016, farmers appear to still have very concentrated sources of income. This can generally be seen as a sign of low resilience, as farmers are more susceptible to shocks within any particular commodity market (e.g., shocks to price, demand, weather, pests).
- In this way, it appears that farmers are still vulnerable to price shocks and natural disasters (such as droughts) which had a heavy impact on regional villages in 2011 and 2013.

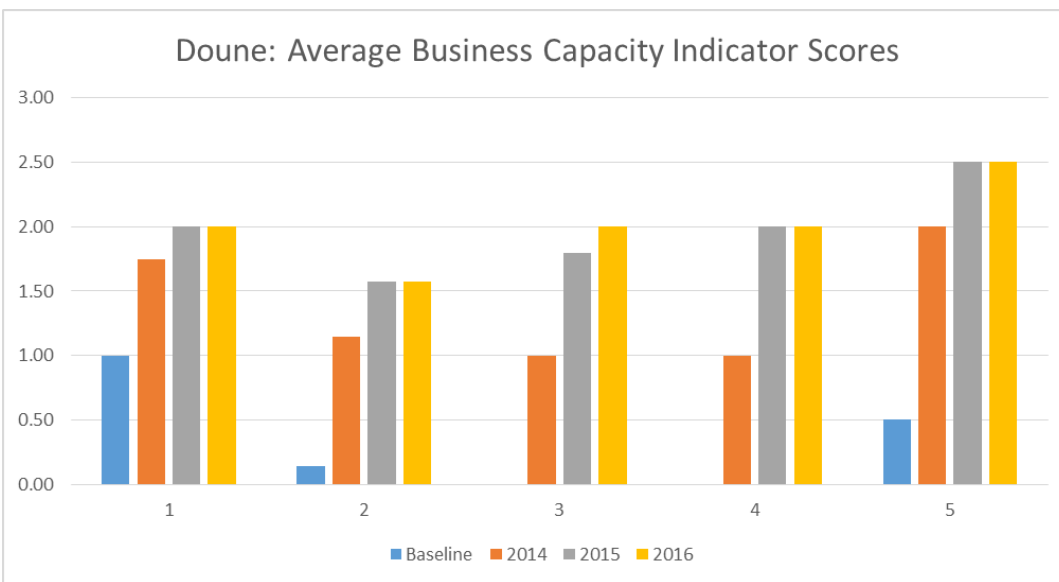
2. Increased status of FOs

Baseline (2013)

2016

Analysis of FO business capacity indicators shows varying improvement for the FOs across business capacity categories. A more detailed analysis can be found in the previous section; however, below a summary is presented. The 5 categories are:

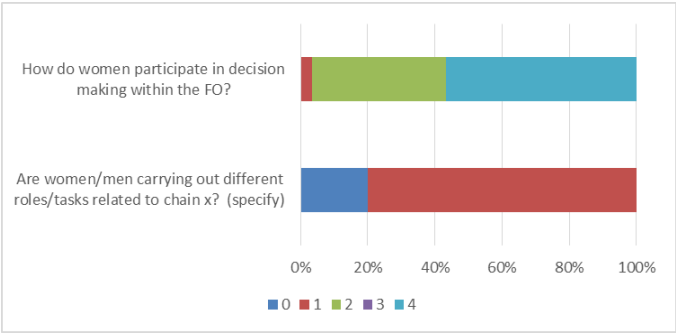
1. To what extent has the FO acquired group management skills?
2. To what extent has the FO acquired business management skills?
3. To what extent has the FO acquired marketing skills?
4. To what extent does the FO promote sustainable production and natural resource management skills to its members?
5. To what extent does the FO build up and maintain external relations?



Discussion

- A detailed analysis of impact at the FO level can be found in the previous section. In summary, it appears that reasonable improvement was achieved across all business capacity indicators.

3a. Women's status and empowerment

Baseline (2013)	2016																		
<ul style="list-style-type: none"> • Position of women is low; women's control over (financial) decision-making is very limited; 18% of women reported being consulted. • Women are also more affected by poverty, because they own smaller parcels of land, and have less access to credit (despite the presence of strong micro-finance institutions). 	<p>In the below chart, scores are shown for 3 questions.</p> <ul style="list-style-type: none"> • Question 1: increasing scale from 0-4 • Question 2: 0-no, 1-yes  <table border="1"> <caption>Chart Data (Estimated)</caption> <thead> <tr> <th>Question</th> <th>Score 0</th> <th>Score 1</th> <th>Score 2</th> <th>Score 3</th> <th>Score 4</th> </tr> </thead> <tbody> <tr> <td>How do women participate in decision making within the FO?</td> <td>0%</td> <td>~5%</td> <td>~35%</td> <td>~0%</td> <td>~60%</td> </tr> <tr> <td>Are women/men carrying out different roles/tasks related to chain x? (specify)</td> <td>~20%</td> <td>~80%</td> <td>0%</td> <td>0%</td> <td>0%</td> </tr> </tbody> </table>	Question	Score 0	Score 1	Score 2	Score 3	Score 4	How do women participate in decision making within the FO?	0%	~5%	~35%	~0%	~60%	Are women/men carrying out different roles/tasks related to chain x? (specify)	~20%	~80%	0%	0%	0%
Question	Score 0	Score 1	Score 2	Score 3	Score 4														
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Are women/men carrying out different roles/tasks related to chain x? (specify)	~20%	~80%	0%	0%	0%														

Discussion

- While direct comparison is challenging because of different data points—specifically, the baseline study has no information about women's role in FO decision-making—it appears that, with regards to the inclusion of women's opinions, there has been a remarkable rise from the baseline.
- While this may mark an important change in perceptions and social relations, there is no information available to determine if there has also been an improvement in women's access to credit, or to their role in decision-making within households.

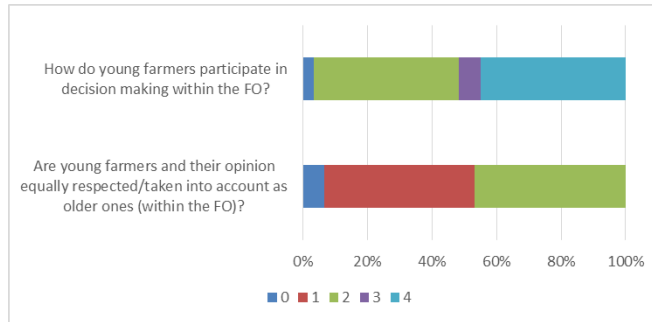
3b. Youth status and empowerment

Baseline (2013) | 2016

- No information was present in the baseline.

In the below chart, scores are shown for 3 questions.

- Question 1: increasing scale from 0-4
- Question 2: 0-weak, 1-medium, 2-strong



Discussion

- While it is not possible to compare against the baseline, respondents in 2016 indicated that youth had a reasonable degree of influence in FOs, in terms of opinions taken into account and participation in decision-making activities.

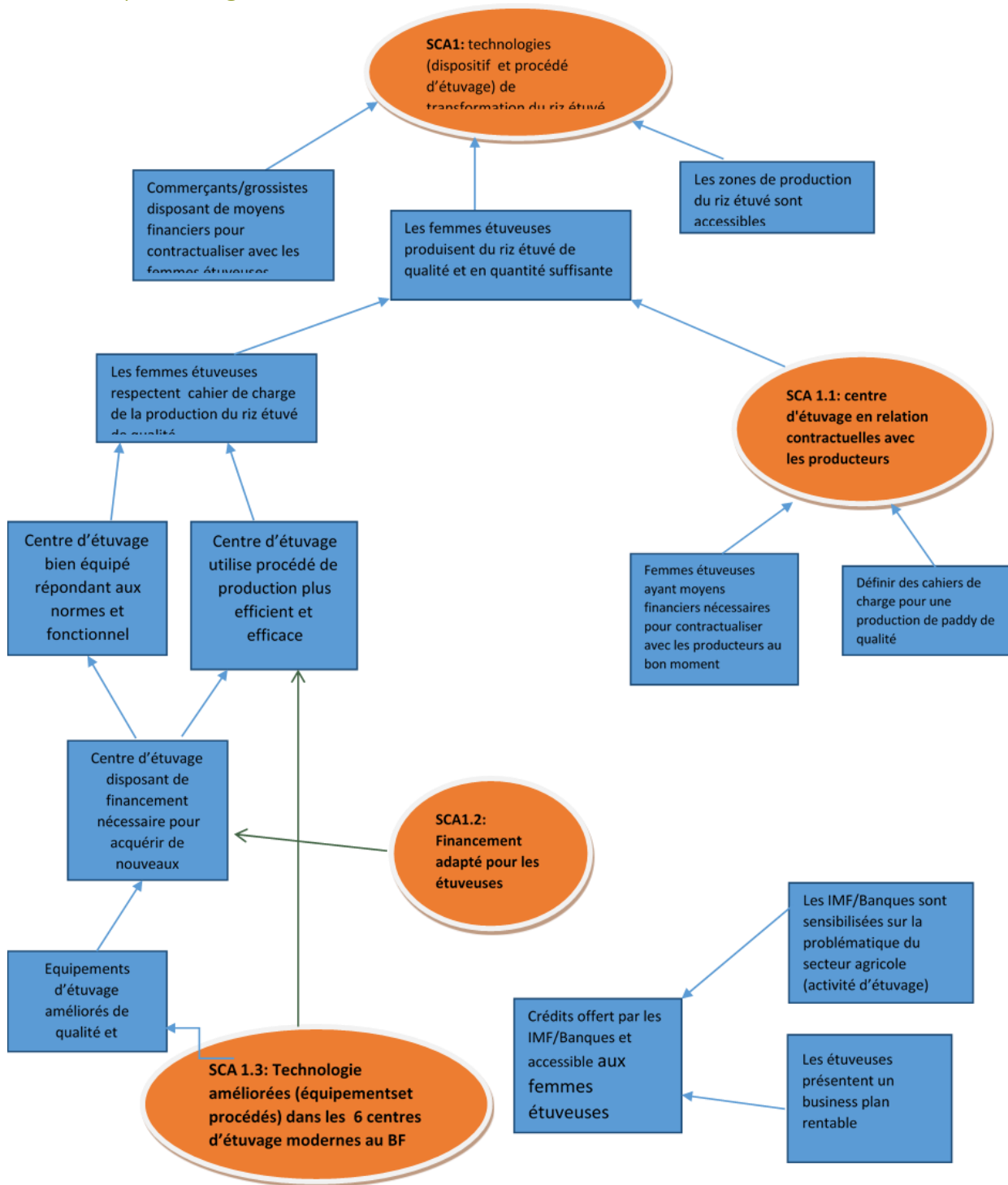
5. Structural Change Agenda Burkina Faso

a. Background

Regulations and policies	<ul style="list-style-type: none"> • Definition of quality standards in relation to imports • Obligation for importers to purchase in part local rice • Use of part of income from sales of food aid to finance research and production • In practice, these regulations are poorly respected.
Support to the sector	<ul style="list-style-type: none"> • National strategy is elaborated and envisages the cultivation of 192.000 ha by 2018 • Free seed distribution • Fertilizer subsidy • Enhanced technical support
Relations between actors	<ul style="list-style-type: none"> • Structuring of actors in the sector. FOs are still weak • Emerging business relationships between producer, steamers, consumers, traders
Demand for rice	<ul style="list-style-type: none"> • Increase in consumption: 25 to 52 kg / person / year • Strong competition between local and imported rice • Local rice has become a cash crop • Production of rice encounters difficulties related to quality, financing, etc.

For more information see the VECO SCAF Burkina Faso and VECO SCAR Burkina Faso

b. Pathway of change



The sub-SCAs are:

1. *Improved technologies (equipment and processes) are available and accessible in the 6 modern parboiling centers in Burkina Faso.*
2. *Women organizations, members of UNERIZ, have access to adequate financing (working capital and investment funds)*
3. *Women organizations have modern parboiling centers, and are sustainably provided with paddy by UNPRB members in the western region*
4. *Processors have sustainable contractual relations with the organization members of UNPRB*

c. Observed changes in outcomes at SCA level

Main conclusion SCA1: A Parboiling centre and lasting contractual relationship with wholesalers are established

Technology: The number of centers using improved parboiling equipment and processes increases from 0 in 2013 to 10 in 2016 against a forecast of 6. It can be said that this SCA is a success. This was confirmed during the interview with UNERIZ. However, the quality of rice is not yet satisfactory for importers.

The equipment and processes were put in place in the center of Douna thanks to the technical and financial contribution of VECO. The other centers then copied the model. One can therefore say that this success is partially attributable to VECO.

It has been recognized by UNERIZ and VECO that the center of Douna is not used to its full production capacity, but that it serves its learning role well. The steamers prefer more individual transformations rather than the transformation into a group. In order to ensure the sustainability of the center of Douna and other centers, it is necessary to review the mission and the management model of the centers. The models of private management, finishing center, center for collective sale, etc. could be options to explore.

Access to financing: The number of women's organizations with access to financing increased from 1 (Baseline) to 8 in 2015, against a forecast of 5. Only collective working capital is granted, and there is no individual credit or equipment credit. We can say that this is a partial success. Since negotiations with Coris Bank have been carried out by VECO, it can be said that this partial success is attributable to VECO. To enable women to have access to adequate credit, VECO will have to help the unions to put in place mechanisms that reassure the bank—such as guarantee funds, a "warrantage" model, redefinition of the parboiling center's mission (eg: financial intermediary), etc.

Contracting: The number of formal contracts between producer unions and the parboiling centers has increased from 0% (baseline) to 62.5% in 2015 against a forecast of 50%. This is a success. This success is not attributable to VECO because at the Douna (pilot) union level, contracting is not yet effective. The reason is that

producers want to be paid in cash and steamers do not have access to credit.

Overall, at the SCA level, progress has been made, but efforts have yet to be made.

Main conclusion SCA2:
Semi-industrial processors establish lasting contractual relations with producer unions of UNPRB

The number of formal contracts reached 5% in 2013. Three punctual contracts were obtained in the period 2014-2016. However, these cannot be considered successes since they were merely punctual rather than sustainable. VECO affirmed that they did not carry out any actions on this SCA, and that providing the Douna center with paddy was the priority.

Observed evidence from indicators (source: SCAR):

SCA	2013 (baseline)	2016 (target)	Comments	Result
SCA1. Parboiling center and lasting contractual relationship with wholesalers				
1.1. improved technologies (equipment and processes) are available and accessible in 6 modern parboiling centers BF	0 center with Improved technology.	10 (6)		Achieved
1.2. Steamers in women's organizations who are members of UNERIZ have access to suitable financing (the working and investment capital needs)	1	(5) 8 in 2015. Result in 2016 not available	Effective Credit for equipment not yet	Achieved
1.3. Women's organizations have a modern parboiling center and a sustainable supply of paddy from producer union members of UNPRB in the western region	0 formal contract	(50%) 62.5% in 2015		Achieved
SCA2: Semi industrial processors establish lasting contractual relationships with members of UNPRB producer unions.				
1.1. transformers with lasting contractual relationships with OP members UNPRB	Baseline: 5% semi industrial processors establish lasting contractual relationships with producer unions members of UNPRB	(75%) three one-time contracts (Bagre, UDURBA addition, Grenier Faso)		Not achieved

Support Strategies:

Note: in the SCAF, the support strategies are listed, but actions to undertake to achieve those strategies are not mentioned. Some of the strategies are formulated as actions. In the SCAR the actions achieved are listed for only a few strategies.

Support Strategy	Summary of activities
NURTURING THE DEBATE & AGENDA SETTING	
Establishment of a development research program on parboiled white rice processing technologies	<i>No actions planned in the SCAF</i> <i>Actions achieved:</i> <i>Studying the state of technologies and different steps of rice parboiling process in the parboiling centers in Burkina Faso; describing processes, existing infrastructures, bottlenecks</i> <i>. Diffusion of technologies (new parboiling equipment) to other parboiling centers</i> <i>. Experimentation of new parboiling processes (washing techniques, reduction of the soaking duration)</i>
BUILDING EVIDENCE	
-Review of the various existing technologies (equipment and processes) -Design and experimentation, and new processes and equipment; -Strengthening transformer capacity (of white rice and parboiled rice) to identify constraints, and the definition of research protocols for improving technologies (mini-mills)	<i>No actions planned in the SCAF</i> <i>No actions reported in the SCAR.</i>
-Setting up capacity building to support dissemination -Support for the acquisition of new equipment by parboiling centers (credit / grant) -Diagnosis and implementation of the technology improvement plan (mini-mills)	
Share activity reports, studies, publications, TV coverage, the results obtained from research on technology and processes etc.	<i>No actions planned in the SCAF</i> <i>. organizing workshops with all stakeholders / partners SCA to share studies results</i>
Business organization sites processing units, workshop organization (national and regional), participation in consultation meetings and sharing experiences with others etc.	<i>No actions planned in the SCAF</i>
EXPANDING AND USING OR NETWORK	
Develop / build strategic partnerships with other structures, and between players in the sector and the private sector, that share the same vision as VECO.	<i>No actions planned in the SCAF</i> <i>No actions reported in the SCAR.</i>
LEARNING & KNOWLEDGE SHARING	
Facilitate multi-stakeholder processes; finance processes and research activities; support research; participation, communication and dissemination.; monitoring distribution.	<i>No actions planned in the SCAF</i> <i>No actions reported in the SCAR.</i>
To track achievements on the ground to measure the effectiveness of actions undertaken by POs and outcomes.	
Make mid-term evaluations of the final program	
Capitalize on good practices, achievements and lessons learned	
OTHER	
Design and testing of funding model for parboiling activities Support for producer organizations and organization of steamers to access credit	<i>No actions planned in the SCAF</i> <i>No actions reported in the SCAR.</i>

Observed evidence (Source: SCAR)

Technologies have been improved in 6 large parboiling centers;

1. Improved technologies and processes are made available in 10 centers. This result is achieved through synergies of action between donors. It is noted that these centers do not operate at full capacity. This experience shows that it is important to develop improved technologies, but it is equally important to think about the appropriate mechanism for adoption by the beneficiaries.

Access to funding for steamers

2. Eight unions with parboiling centers had access to credit in 2015, and the credit obtained is for collective working capital. There is neither individual credit nor equipment credit. This credit access was facilitated by VECO, but also by the collective sale system which allows the centers to have contracts with buyers—in this case SONAGESS— which guaranteed access to credit. This experience has shown that the training of the beneficiaries is important, but the decisive factor is above all the organizational system which provides security with regard to the bank.

Contract between steamers and producers

3. The proportion of steamer organizations with parboiling centers contracted with producer unions rose from 0% in 2013 to 62.5% in 2015. This result is obtained thanks to mechanisms such as the "warrantage" model (which explains why, in the case of Douna, this contracting did not take place). Producers want to sell their paddy in cash, while the women want to have it on credit. A decision at the FO level is not sufficient to get contract signed. A mechanism at grassroots level that takes into account the aspirations of the different parties is necessary.

Contract between semi-industrial processors and producer unions

4. There were only a few punctual contracts, and VECO has not worked on this aspect (which explains why this is not mentioned in the SCAR).

Evidence from partners (Source: key informant interviews)

1. Improved Technologies in the Six Centers

UNERIZ confirmed the existence of 10 centers that have adopted new technologies. It was also affirmed that there has been an improvement in the quality of rice in these centers. These centers allow women to benefit from improved equipment, clean water, quality packaging, and so on. However, these centers are not fully used. In addition, management is partly based on trust in people rather than on secure mechanisms. This demonstrates that, in addition to the development of technology, consideration needs to be given about organizational mechanisms. In view of the above, we recommend:

- A redefinition of the center's mission with regards to how to deliver services in line with beneficiaries' needs and preferences (the preference of women for individual production and the services actually provided to the steamers; training center; service delivery center; financial intermediary; collective sales center, etc.). That means that some of the services delivered to beneficiaries could be transferred to others (the private sector for instance) or could be delivered differently.
- Continuing synergies among donors. VECO alone will not be able to carry out scalable experiments because it finances virtually no investments.

2. Access to funding for steamers

The centers have access to financing (working capital) through contracts signed with buyers, such as SONAGESS and collective sale. The steamers declared that, despite VECO training, they do not have access to credit. For this we recommend:

- Continuing / strengthening collective sales

- Improving the quality of rice (finishing) to have orders from traders who are able to buy cash.
- Exploring the possibility of transferring certain functions to other bodies. For example, the steamers' role could be limited to processing. The finishing function could be managed by another entity, preferably a private one. This private entity could buy the roughly processed rice with cash, which could help women access credit, because the repayment period would not exceed 5 days. The women said that this deadline would be accepted by producers.

3. Contract between steamers and producers

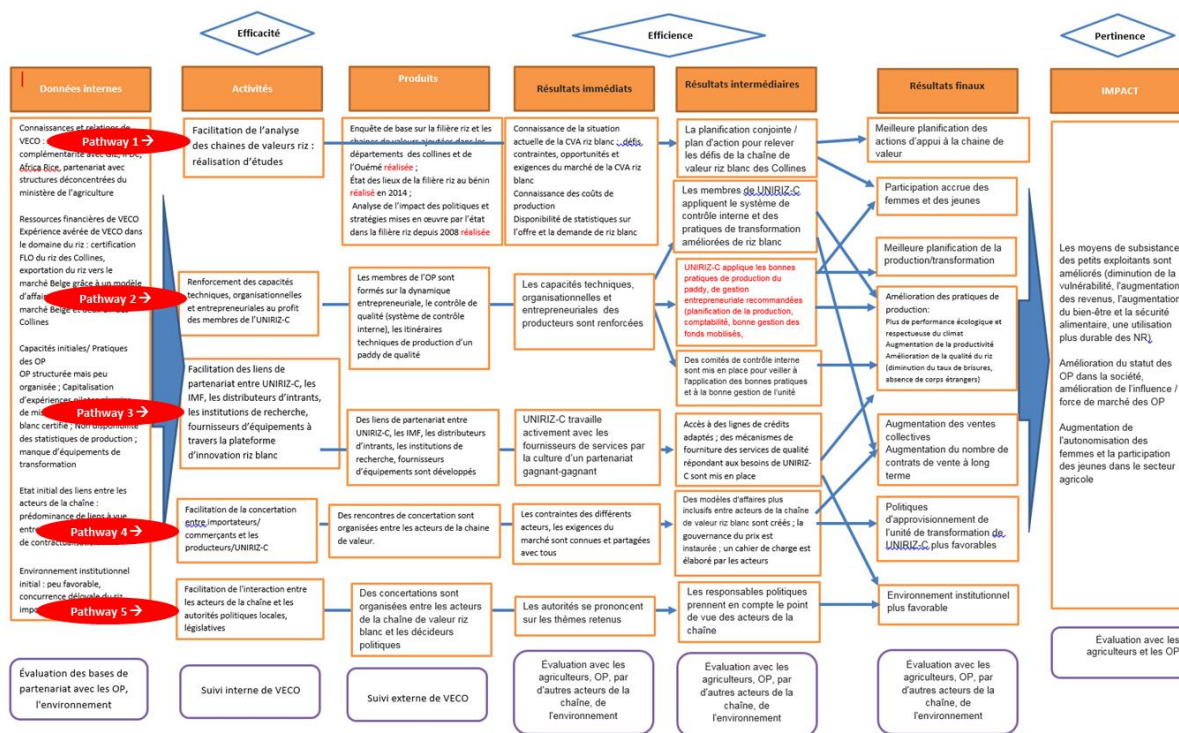
This type of contract has been implemented where mechanisms such as "warrantage" have been put in place. This mechanism could be extended to all centers.

4. Other

Institutional environment: Institutional purchases have begun but need to be consolidated, and other institutional buyers need to be targeted. Advocacy should therefore continue, in particular for other aspects such as road harassment, financing of the sector from food donations sale, etc.

6. Glazoué Pilot

a. Pathway of change



b. Effectiveness of VECO intervention

i. Pathway 1: Value Chain Analysis

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitating the analysis of rice value chains, through studies	Basic Survey on the rice sector and value added chains in the Collines departments and Ouémé; Inventory of the rice sector in Benin conducted in 2014; Analysis of the impact of policies and strategies implemented by the state in the rice sector since 2008.	Knowledge of the current situation of the CVA white rice: Challenges, constraints, opportunities and requirements of the CVA white rice market.	Joint planning / action plan to meet the challenges of the white rice value chain of the Hills	Better planning of operations in support of the value chain Increased participation of women and youth

Main findings

With VECO support, two studies were carried out at the beginning of the program, one on the state of the rice sector (in particular on aspects related to bringing the rice to market: fragment content, presence of foreign particles, calibration, moisture content, homogeneity of color, packaging, visibility, product volume,

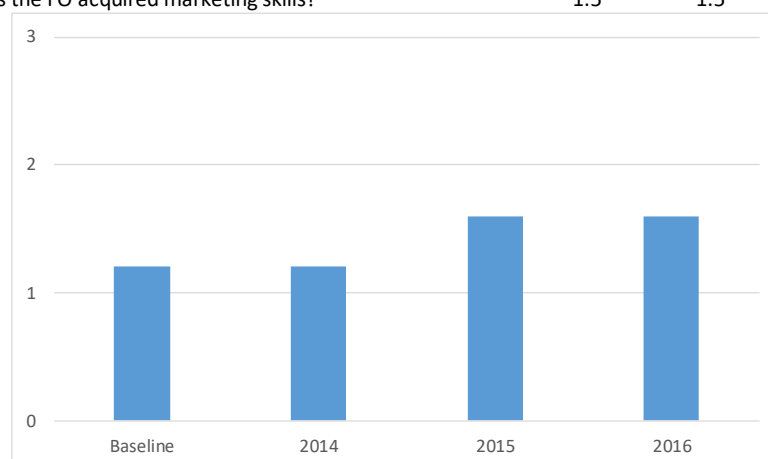
etc.); the second study assessed the impacts of public policies which have been introduced since the 2008 food crisis. The studies have resulted in a better understanding of the bottlenecks to be addressed in promoting the rice sector, as well as in planning effective interventions at value chain level and at advocacy- or governmental-level.

According to CCRB, these studies have facilitated joint planning and a division of labor and responsibilities between the actors involved—with CCR-B focusing on advocacy, and UNIRIZ-C and URFER-C focusing on marketing plans. This intervention can be described as successful: as VECO co-financed the studies with SNV, it can be concluded that this result is partially attributable to VECO.

Observed evidence (source: CIR)

Initial analysis of immediate and intermediate outcomes

Row Labels	Baseline	2014	2015	2016
UNIRIZ-C	1.2	1.2	1.6	1.6
2. To what extent has the FO acquired business management skills?	1	1	1.3333333	1.3333333
3. To what extent has the FO acquired marketing skills?	1.5	1.5	2	2



Both relevant *business management skills* and *marketing skills* indicators have **improved** compared to the baseline. This indicates that the immediate and intermediate outcomes have likely improved slightly.

Main conclusions from CIR:

- Basic study on the rice value chain in the Collines department (in collaboration with SNV) was completed.

Triangulation (source: key informant interviews and FGDs)

With the support of VECO, two studies were carried out at the beginning of the program, one on the state of the rice sector (in particular on aspects related to marketing: fragment content, presence of foreign particles, calibration, moisture content, homogeneity of color, packaging, visibility, product volume, etc.), and the other on the impacts of public policy since the food crisis of 2008. The studies resulted in a better understanding of bottlenecks to be lifted for the sector promotion and the planning of effective interventions at value chain level and governmental level (advocacy).

ii. Pathway 2: Capacity-Building

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Capacity building on technical, organizational and entrepreneurial skills of C-UNIRIZ members.	Members of the FO are trained on entrepreneurial skills, quality control (internal control system), and technical pathways to the production of quality paddy.	The technical, organizational and entrepreneurial capacities of producers are strengthened.	<p>The UNIRIZ-C members apply the internal control system and improved processing practices to white rice.</p> <p>UNIRIZ-C applies best practices in the production of paddy, as well as recommended entrepreneurial management approaches (in production planning, accounting, proper management of funds raised)</p> <p>Internal control committees are set up to ensure the implementation of best practices and good management units</p>	<p>Increased participation of women and youth;</p> <p>Better planning of production / processing</p> <p>Improved production practices: more practices are environmentally friendly and aware of climate change.</p> <p>Increased productivity, and improvement of the quality of rice (low chip rate, lack of foreign particles)</p> <p>Increase in Group Sales; Increase in long-term sales contracts</p>

Main findings

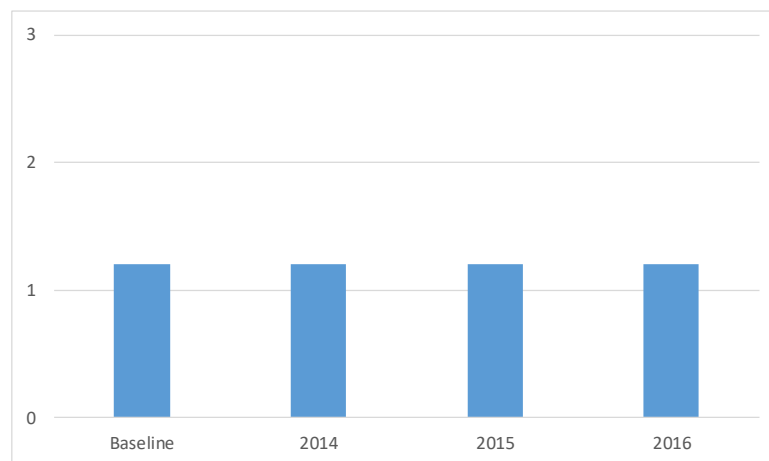
Both the quality of the rice itself as well as the quality of packaging have improved remarkably. However, meeting sufficient quantity is still a relatively limiting factor for large orders. The prototyping of the irrigation system has been completed, but efforts must still be made to enable the use of rice shells as fuel. The profitability of the unit is effective, but a more secure management system must still be identified.

The discussion with the FO has made it clear that VECO has helped improve production practices, by supporting members of UNIRIZ-C in implementing production technology, setting up internal control system, piloting Farmer Field Schools, and financing two irrigation systems. In terms of rice quality improvement, VECO has contributed by providing a calibrator and sorting tables. Other actors also contributed to these gains, including PPAO (which provided an optical sorter, not yet installed); ADF (which provided the sorting building), and GIZ (which provided manager and technician salaries). It appears that VECO has contributed to rice quality improvement, thanks to VECO’s actions in support of paddy quality and rice quality. As such, these results are partly attributable to VECO.

This intervention has therefore been a partial success. While the quality has been improved, the unit still cannot satisfy large orders. Given the importance of the quality of paddy, actions in favor of scaling production—in this case through the irrigation system—need to be extended to a larger scale. Producers have identified a ratio of one irrigation system per 5 ha as ideal. Moreover, ensuring the functionality of the optical sorter would help increase the unit’s capacity to supply sufficient rice in order to satisfy large orders.

Observed evidence (source: CIR)

Row Labels	Baseline	2014	2015	2016
UNIRIZ-C	1.2	1.2	1.2	1.2
2. To what extent has the FO acquired business management skills?	1	1	1	1
3. To what extent has the FO acquired marketing skills?	1.5	1.5	1.5	1.5
4. To what extent the FO promotes sustainable production and natural re	1	1	1	1



Initial analysis of immediate and intermediate outcomes

Both relevant *business management skills, marketing skills and promotion of sustainable production and natural resources* indicators have **remained stable** compared to the baseline.

Input from VECO:

VECO's objective, as far as the pilot is concerned, has been to improve the local rice quality in order to meet the requirements of the local market. To do this, interventions have been implemented to improve paddy quality (through training in soil fertilizer management and supplementary irrigation) and to improve the rice processed in the UNIRIZ-C unit (through a grading machine, sorting tables, and a sorting room). The management of UNIRIZ-C, as well as the sustainability of its production, has actually improved thanks to new management tools (at the level of the processing unit), and qualified technical personnel. As a result of the purchasing of a grading machine to better classify rice, the amount of white rice which women sort daily has doubled, and the work they experience is far less unpleasant. The intervention has also resulted in good sustainable production practices, including a reduction in the doses of fertilizer used.

Main conclusions from CIR:

- The quantity of paddy sold to processors increased from 300 tons in 2013 to 3,250 tons in 2015 (from 5% to 40% of the total volume). The strategy adopted by UNIRIZ-C was to pay 60% of the price to producers at delivery of the paddy, and the remaining 40% after two months – in order to allow producers to collect more volume.
- The proportion of husked rice sold which complies with market requirements increased from 30% in 2013 to 50% in 2015 at the level of the UNIRIZ-C processing unit.
- A system of internal controls was put in place that consists of checking technical routes and traceability.
- Women sensitization led to a 25% increase in the number of women using rice shell as fuel.
- Training in soil fertility management has been popularized to reduce paddy production cost and to maintain soil fertility.
- The supplementary irrigation scheme enabled beneficiaries to counter climate change effects (3.7 t / ha compared to 0.5 to 2 t / ha for non-beneficiaries).

- The implementation of management tools at the mini-rice mill level, the evaluation of delivering costs for processing operations, etc. show a cost-benefit ratio higher than 1.

Triangulation (source: key informant interviews and FGDs)

- The quantity of paddy sold to processors has increased markedly;
- The husked rice quality has also improved thanks to a number of measures, namely: an internal control system that allows product traceability and fraud detection; the use of equipment such as a winnowing machine, a grading machine, and sorting tables for manual sorting; as well as better packaging. However, while the optical sorter is available, it is not yet functioning, and thus the volume of product obtained by manual sorting remains relatively low compared to the orders.
- The complementary irrigation system was tested and performs well according to the producers. Given the demand expressed for this technology by all the actors interviewed, the performance of the device is undoubtedly critical.
- The use of rice shells as fuel is not yet common in the UNIRIZ-C unit, since this mechanism remains unexplored and undeveloped.
- The soil fertility management training has actually been adopted by many producers, but its effectiveness has been nullified by the drought.
- The introduction of a new system for managing the FO has shown a certain efficiency, since profits have increased from 600,000 CFA to 5 million CFA within the space of just one year. However, this system is still partly based on informal trust, and not on a secure mechanism.

iii. Pathway 3: Facilitating Partnerships

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitating partnerships between UNIRIZ-C, MFIs, input dealers, research institutions, and equipment suppliers through the White Rice Innovation Platform	Partnership ties between UNIRIZ-C, MFIs, input dealers, research institutions, equipment vendors have developed	UNIRIZ-C works actively with service providers within a culture emphasizing a win-win partnership	Access to adequate credit lines; providing mechanisms of quality services to meet the needs UNIRIZ-C are set up	Improving production practices to be more environmentally friendly and to improve the climate. Improving productivity Improving the quality of rice (low chip rate, lack of foreign particles) More favorable institutional environment

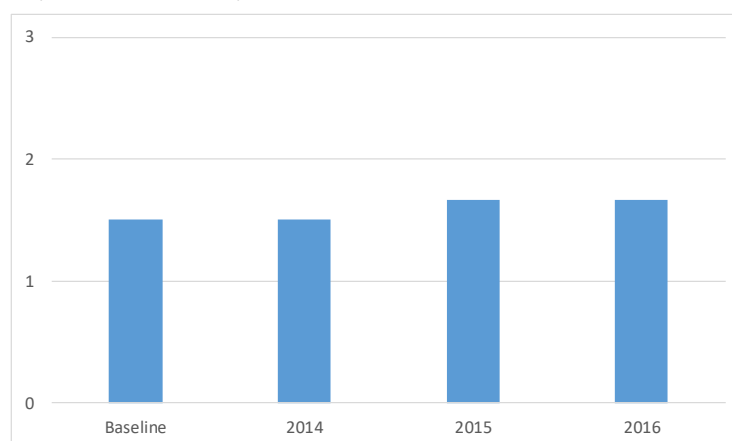
Main findings

The innovation platform exists and is partially effective, resulting in more collaboration between stakeholders. Thanks to the platform, PPAO provided an optical sorter to UNIRIZ-C unit. However, the platform needs to be reinforced because INRAB (the unit in charge of running activities) is now pursuing a new goal—to serve the doctoral students—which is different from its initial goal.

According to CCRB, the platforms are funded by Africa Rice, GIZ and PPAO. VECO takes care of its participants. While UNIRIZ-C has received an optical sorter as a result of these platform meetings, the expected collaboration between the various actors has not yet been fully realized, due to bad management from INRAB—for example, the unit has not yet received any credit. However, these problems cannot be attributed to VECO, as it is not responsible for the management of these platforms.

Observed evidence (source: CIR)

Row Labels	Baseline	2014	2015	2016
UNIRIZ-C	1.5	1.5	1.6666667	1.6666667
1. To what extent has the FO acquired group management skills?	2	2	2	2
2. To what extent has the FO acquired business management skills?	1.5	1.5	1.75	1.75
4. To what extent the FO promotes sustainable production and natural re	1	1	1	1



Both relevant *group management skills* and *promotion of sustainable production and natural* indicators have **remained stable** compared to the baseline. *Business management skills* indicator has slightly improved. This indicates that the immediate and intermediate outcomes have probably not improved.

Main conclusions from CIR:

The CIR does not mention the innovation platform. The document only points out that credit has not yet been provided for the unit, and that negotiations are ongoing with CLCAM with respect to obtaining credit to buy paddy and deliver ONASA's order (70 tons of rice). A discussion with VECO made it clear that the platforms exist but do not function properly. INRAB is mandated to run it, but is preoccupied with aims related to its PhD students. However, despite these issues, VECO pointed out that it was thanks to this platform that UNIRIZ-C unit received an optical sorter from the PPAO project.

Triangulation (source: key informant interviews and FGDs)

The optical sorter is now visible on the site, but its installation has been delayed due to the supplier's slow delivery.

iv. Pathway 4: Facilitate Dialogues

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitating dialogue between importers / traders and producers / UNIRIZ-C	Consultation meetings are held between the players in the value chain.	The constraints of the various actors and the market requirements are known and shared with all.	More inclusive business models between actors in the white rice value chain are created; the governance of prices is established; specifications are drawn up by the actors	Increase in Group Sales Increase in long-term sales contracts Procurement policies of the processing unit UNIRIZ-C are more favorable.

Main findings

Collective selling is now a common practice. Thanks to improvements in quality and UNIRIZ-C marketing actions (including participation in trade fairs, rice expositions in shops, etc.), the demand for local rice has increased. However, production capacity is still limited due to weak financial capacity to provide the unit with paddy, and due to the slow pace of manual sorting.

UNIRIZ-C has stated that VECO has facilitated contact with potential clients such as FAL, Label Benin, etc. In addition, VECO assisted UNIRIZ-C with process analyses to reduce production costs, and to make local rice more competitive. This has allowed UNIRIZ-C to sign contracts with some buyers, which has resulted in increased sales. However, for other buyers, the volume requested (example: 100 tons / month) exceeds the capacity of the center for the two reasons of slowness in sorting, and low financial capacity for paddy supply.

Compared with the situation before the project, it can be said that the intervention has been successful, and this success is attributable to VECO. However, there are limitations to its overall success because actors are not satisfied with the contracts (deposit-sale), as they do not allow them to buy paddy on credit because of payment delays.

Achieving functionality of the optical sorter could increase production capacity. Douna's example of obtaining credit on the condition of contracting first with a buyer could be an option to explore for paddy supply.

There are no relevant business capacity indicators for this pathway.

Main conclusions from CIR:

The quantity of local white rice sold by processors (UNIRIZ-C unit and others) to distributors increased from 120 tons in 2013 to 1,820 tons in 2015, compared to 300 tons expected (the data for 2016 is not yet available). Those quantities concern six processing units.

Triangulation (source: key informant interviews and FGDs)

The volume of husked rice sold increased thanks to contracts with several structures (FAL, Label Benin, Endogene, etc.). However, the producers are not totally satisfied with these contracts because they are deposit-sale contracts. With this type of contract, payment takes time. Other contract opportunities exist, but the unit neither has the financial capacity required for a large supply in paddy at this time, nor is able to regularly deliver large volumes. The establishment of these contracts has been possible thanks to the improvement in rice quality, which is attributable to the VECO intervention.

v. Pathway 5: Links with Policymakers

Activities	Outputs	Immediate Outcome	Intermediate Outcome	Ultimate Outcome
Facilitation of interaction between actors of the chain and local policies, legislative	Consultations are held between the actors of white rice value chain and policy makers	The authorities decide on the themes	Politicians take into account the views of stakeholders in the chain	More favorable institutional environment

Main findings

Thanks to CCR-B advocacy activities (supported by VECO) and the improvement of local rice quality, important decisions have been taken by the government; namely, encouraging institutional purchases, requiring importers to invest in the local rice sector, the introduction a levy on imported rice of 1 franc CFA per kg, and the requirement for importers to purchase the existing local rice stock before importing.

VECO has played a role in this. For instance, VECO financed an exchange visit to Burkina Faso, which allowed CCR-B to learn from their experience in institutional purchases, and helped in the setting up inter-professional organizations, such as CIR-B. VECO also financed workshops for stakeholders in the sector in order for them to discuss the necessity of institutional purchasing. VECO also finances the operational costs of CCR-B ("*frais de fonctionnement*").

CCR-B confirmed those statements during the interview. In addition, a copy of the government's decree has been provided. CCR-B conceded that this outcome (the government's decision) was not solely due to its own work, but also the work of other partners who influenced this decision through informal channels. In view of the above, it can be concluded that VECO contributed to the achievement of this result.

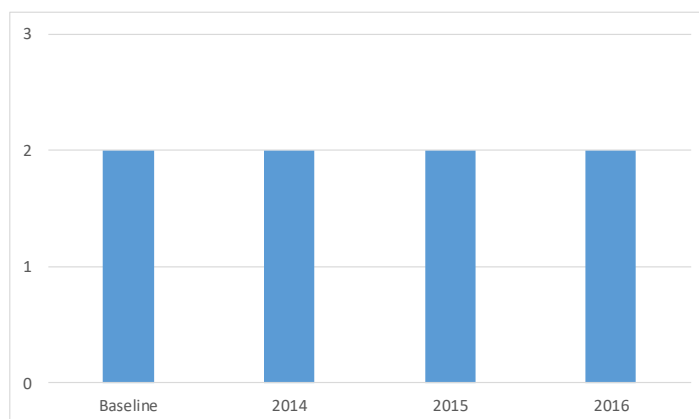
These policies and measures are beneficial to the sector, but raise a number of challenges:

- Producers and processors must increase their production to meet institutional demands;
- Local rice must continue to be competitive as far as price and quality are concerned;
- Data on stocks must be centralized, accessible and updated.

If possible, it would be valuable if VECO integrates these concerns in the design for its next program (in collaboration with other stakeholders).

Observed evidence (source: CIR)

Row Labels	Baseline	2014	2015	2016
UNIRIZ-C	2	2	2	2
5. To what extent does the FO builds up and maintains external relations:	2	2	2	2



Relevant *building up and maintaining external relations* indicators has **remained stable** compared to the baseline.

Input from VECO:

As a result of the intervention, the white rice innovation platform was set up, and the rice ‘Saveur des Collines’ (‘Flavor of the Hills’) is more visible and well-known in Benin than imported rice. UNIRIZ-C is an active and leading member of this innovation platform.

Main conclusions from CIR:

The government is favorable to institutional purchases: a contract between CCR-B and ONASA was signed and led to the purchase of 500 tons of rice.

Triangulation (source: key informant interviews and FGDs)

Two important decisions have been taken by the government in favor of the rice sector, namely:

- Institutional purchases are encouraged—with one example being the contract of 500 tons of rice between CCR-B and ONASA.
- An inter-ministerial decree has established the following decisions:
 - For a rice import license, the importer must provide, among others, evidence of a substantial investment program in the promotion of local rice;
 - A payment of 1 FCFA per kg of imported rice is to be made by rice importers to finance the control and the critical functions in the rice sector;
 - When processing units have stock, importers must buy this stock prior to the setting of import requirements

These decisions can be linked to VECO's support to CCR-B and to its contribution to rice quality improvement.

c. Relevance of VECO intervention

In this section, we evaluate the relevance of VECO's interventions by looking at the farmer-level impact. We investigate whether the VECO interventions at the FO-level have also created notable differences (positive or negative) on the farmer impact level. This is done in two ways: by reviewing the results of

the focus group discussions, and by comparing the farmer survey (2016) with baseline data (2013). It must be noted that comparison is difficult at times, as indicators differ significantly over time.

Main conclusion of focus group discussions (FDG) with farmers

The activities of VECO have been recognized and appreciated at different levels:

For steamers, steaming has developed considerably thanks to the strengthening of their production capacities. This has resulted in improved income. Study trips are also appreciated, because these have allowed them to meet and learn from other people and other environments, but also to compare what they do with that the best practices of others.

At the producer level, the management of soil fertility was appreciated, especially considering the difficulty of access to fertilizer. In fact, the difficulty is that fertilizers are sold by the government who favors almost only cotton. Thanks to the VECO training programs on soil fertilizer management techniques (planting legumes before rice cultivation), the need for fertilizer decreases because of the nitrogen these techniques provide to the soil. Unfortunately, the impact of these interventions on production yields has remained relatively limited as a result of droughts.

Although the VECO intervention at a producer level is limited, experimentation with irrigation systems has been highly appreciated. According to producers, these systems will ensure paddy production while allowing the development of off-season productions, which aids food security by alleviating the 'hunger period' (*'période de soudure'*). Moreover, insofar as this intervention increases the business case of rice farming as a viable livelihood, it may help slow down the 'exodus' of youth to Nigeria.

In addition, producers appreciated the strengthening of UNIRIZ-C processing units and the steaming capacity of women. This has enabled them to sell paddy rice more easily. However, the involvement of young people in the rice sector through the Collibri Foundation is not yet strong. The Collibri Foundation has supported some young people to be trained in order to invest in rice production or processing. However, they have encountered barriers to access due to lack of resources. Some of young people sought to make briquettes of rice balls (to be sold as fuel) as an alternate income generating activity, but the technology for this is not yet available.

Organizations have expressed their disappointment with the limited coverage of VECO's interventions, and the relatively modest level of its investments.

Comparison of baseline and 2016 farmer survey

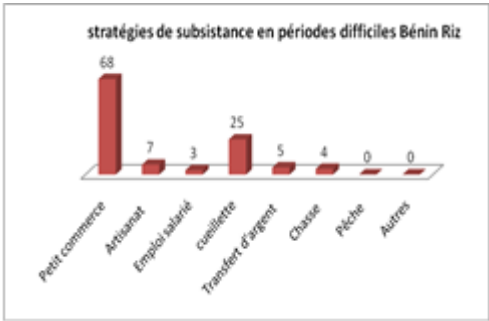
1a. Income	
Baseline (2013)	2016
<ul style="list-style-type: none"> • Gross revenue (from rice) of CFA 229,500 on farms of around 2 ha • Simplified gross margin of around 38% • Rice contributes around 20% of net income 	<ul style="list-style-type: none"> • Production volumes are on average 1.9 MT / ha (1,900 kg / ha) • Production costs are about CFA 145,000 / MT and sales revenues around CFA 187,000 / MT, for a simplified gross margin of ~22% • Income from rice of on average CFA 368,000 (around 28% of total gross income) • Average total income of CFA 1,300,000

Discussion

- VECO has increased the processing capacity of women, and has thus contributed to increasing their income. The demand for paddy rice has also increased and so producers have also benefitted from the intervention.
- Unfortunately, production has faced difficulties in recent years because of the effects of climate change (drought) and parasites attacks.

1b. Resilience (diversity of income sources)

Baseline (2013)	2016
<ul style="list-style-type: none"> • 90% of households are able to meet their needs in terms of production and farm income; diversified activities include petty trade (68% of households); collecting mango, cashew, etc. (25%), hunting (4%) 	<p>The graph below provides average % dependence on different income sources for farmers in the pilot intervention.</p>

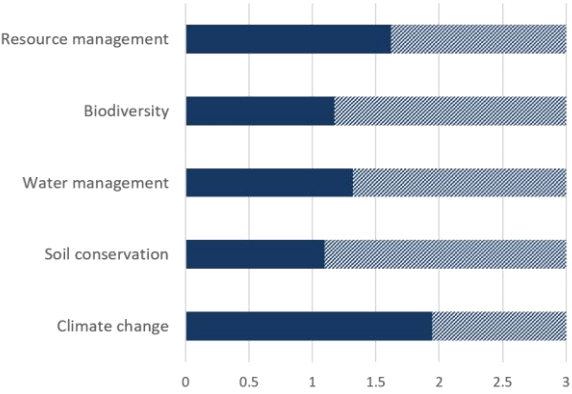


Discussion

- Direct comparison is difficult due to different in data points (baseline data provides indication of rates of activity; but does not break down income dependency). However on the whole, it appears as if direct dependency on farm income has gone marginally down, slightly increasing farmer resilience in the face of sudden natural or market shocks;
- None of the interviewees had rice production or rice processing as their sole income-generating activity. After facing droughts for several years, they turned towards other activities, such as

animal breeding, other products selling, tailoring, etc. However, for some of them, rice production was still the main income generating activity.

1c. More sustainable use of natural resources

Baseline (2013)	2016																								
<ul style="list-style-type: none"> • Deforestation and the use of wood as fuel continues to contribute to desertification; • Non-specific use of fertilizer, and relatively limited crop rotation, carries the risk of nutrient depletion in soil; 	<p>The below chart indicates results from the farmer survey on multiple sustainability indicators. For each, farmers were asked to provide a score of 0-3.</p>  <table border="1"> <caption>Estimated scores from the sustainability indicators chart</caption> <thead> <tr> <th>Indicator</th> <th>Segment 1 (Solid Blue)</th> <th>Segment 2 (Hatched Grey)</th> <th>Total Score</th> </tr> </thead> <tbody> <tr> <td>Resource management</td> <td>1.6</td> <td>1.4</td> <td>3.0</td> </tr> <tr> <td>Biodiversity</td> <td>1.2</td> <td>1.8</td> <td>3.0</td> </tr> <tr> <td>Water management</td> <td>1.4</td> <td>1.6</td> <td>3.0</td> </tr> <tr> <td>Soil conservation</td> <td>1.1</td> <td>1.9</td> <td>3.0</td> </tr> <tr> <td>Climate change</td> <td>1.9</td> <td>1.1</td> <td>3.0</td> </tr> </tbody> </table>	Indicator	Segment 1 (Solid Blue)	Segment 2 (Hatched Grey)	Total Score	Resource management	1.6	1.4	3.0	Biodiversity	1.2	1.8	3.0	Water management	1.4	1.6	3.0	Soil conservation	1.1	1.9	3.0	Climate change	1.9	1.1	3.0
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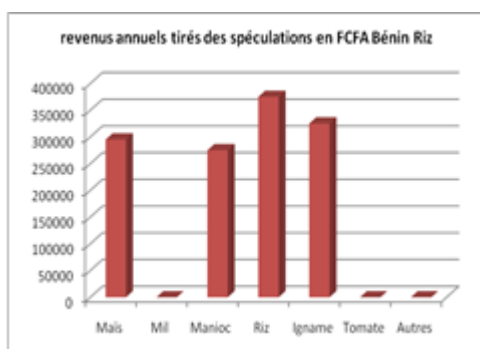
Discussion

- Scores were low in both the baseline and in 2016. There appears to have been modest progress on climate change and resource management, although soil (nutrient) conservation appears to remain a significant problem.
- VECO supported farmer training in soil fertility conservation (composting, anti-erosive system, etc). Some farmers said they adopted it, but all the techniques require supplementary mineral fertilizer use, which were difficult to access due to misaligned government policy.

1d. Diversity of crops and livestock

Baseline (2013)

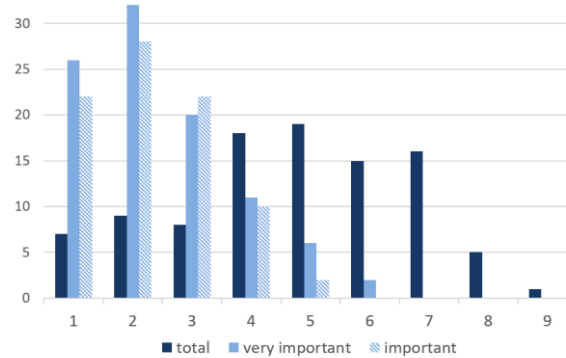
- Few producers (12.63%) hold livestock, because of the risk of disease;
- To address cash and staple crop needs, households opt for agricultural diversification, including maize, yam, cassava, cowpeas, peanuts and soybeans;
- 90% of households are able to meet their needs in terms of production and farm incomes;



2016

The chart below indicates the number of farmers surveyed in Glazoue who receive 1-9 different sources of on-farm income.

In the survey, farmers were given an option to indicate the importance of each source of income. As the below chart shows, the majority of farmers had 7 or more crops or livestock on their farms. Of these, a high number of respondents indicated having 4 or more sources of income that were very important for farmer livelihoods.



Discussion

- In both the baseline and for 2016 data, farmers appear to have a diversified source of income from different crops, with farmers identifying slightly more (5) 'important' crops for 2016 than in the baseline (4).
- It is unclear if farmer dependency on livestock has increased or decreased further.
- This can generally be seen as a sign of good resilience, as farmers are less susceptible to shocks within any particular commodity market (e.g., shocks to price, demand, weather, pests).

2. Increased status of FOs

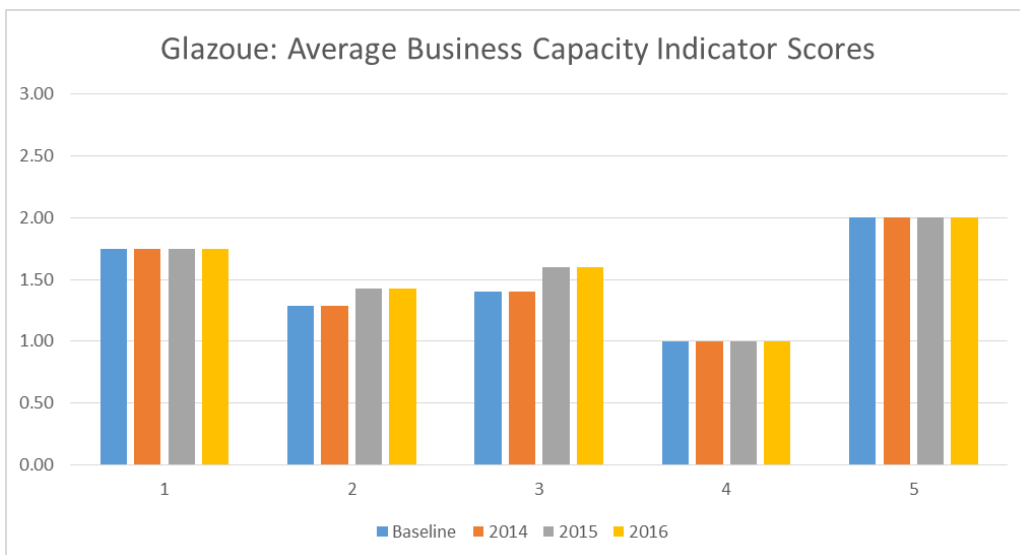
Baseline (2013)

2016

The baseline identified that organized family farmers had a 'medium' level of influence in trade relations of the chain.

Analysis of FO business capacity indicators shows varying improvement for the FOs across business capacity categories. A more detailed analysis can be found in the previous section, but a summary is presented below. The 5 categories are:

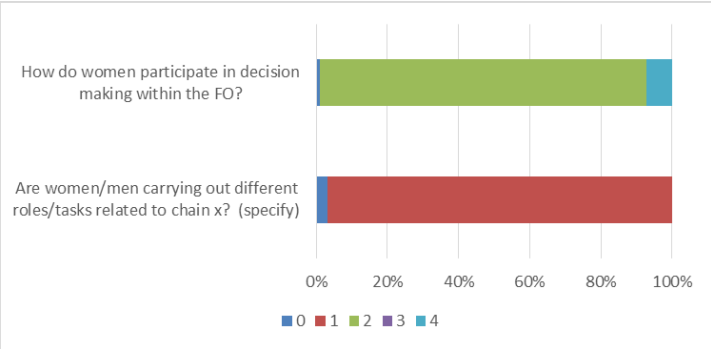
1. To what extent has the FO acquired group management skills?
2. To what extent has the FO acquired business management skills?
3. To what extent has the FO acquired marketing skills?
4. To what extent the FO promotes sustainable production and natural resource management skills to its members?
5. To what extent does the FO builds up and maintains external relations?



Discussion

- A detailed analysis of impact at the FO level can be found in the previous section. In summary, it appears that reasonable improvement was achieved across all business capacity indicators.
- Thanks to CCR-B advocacy activities, institutional purchases have started. Furthermore, a governmental decree imposed a prioritization of local rice over imported rice. The impact at farm level is not yet visible.

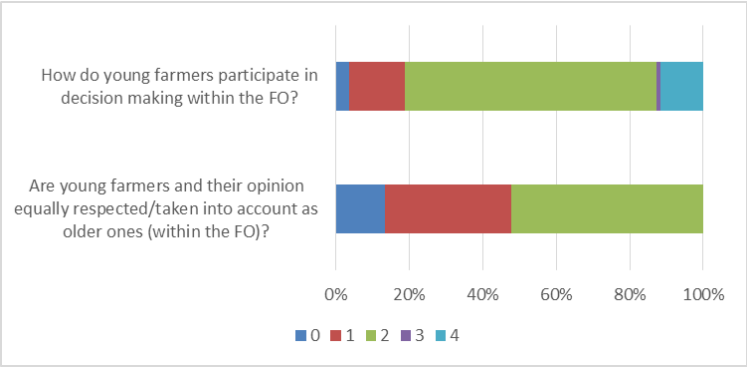
3a. Women's status and empowerment

Baseline (2013)	2016
<ul style="list-style-type: none"> • At the county level only 12-38% of land is held by women; • Women have better access to credit, as part of the Microfinance Program for the Poorest initiated by the government. However, interest rates are high and the potential is still limited (the maximum sum is 50.000 FCFA); • The CCRB (Collaborative Council of Rice Farmers of Benin) has stipulated that a third of their board positions and cash allocations must go to women; the UNIRIZ Board has 4 women out of 15 members. However, it is noted that women do not usually play a leading role; • Women make up 40% of the training participants 	<p>In the below chart, scores are shown for 3 questions.</p> <ul style="list-style-type: none"> • Question 1: increasing scale from 0-4 • Question 2: 0-no, 1-yes 

Discussion

- While direct comparison is challenging due to different data points, it appears that despite a growing inclusion of women in formal FO boards, progress over the baseline has remained relatively modest, with women having a relatively limited role in FO decision-making. This is shown by the relatively low score in the 2016 data.
- The focus group discussion with URFER-C showed that women are conscious of their situation (for them, parboiled rice is not taken into account enough by CNTR-B), which is one reason why they decided to create the national union of steamers. By doing so, they will no longer belong to CNTR-B, and so they can stand up for their own interests. One example which they cite is that the contract with ONASA (for 500 tons) would have included parboiled rice had they not been part of CNTR-B. Prior to this decision, VECO organized an exchange visit to Burkina Faso for the steamers, where they were inspired by the example of UNERIZ.

3b. Youth status and empowerment

Baseline (2013)	2016
<ul style="list-style-type: none"> No information was present in the baseline documentation on the role of youth. 	<p>In the below chart, scores are shown for 3 questions.</p> <ul style="list-style-type: none"> Question 1: increasing scale from 0-4 Question 2: 0-weak, 1-medium, 2-strong 

Discussion

- While it is not possible to compare against the baseline, respondents in 2016 indicated that youth had a reasonable degree of influence in FOs in terms of opinions taken into account in discussions—but that their participation in such decision making processes remains rather limited.
- According to FGD, it is not possible to give an opinion on youth influence since they are leaving the activity and opting for exodus. Young people are leaving the rice production sector because they are discouraged by successive droughts—which is outside of the power of VECO



7. Structural Change Agenda Benin

a. Background

The rice sector is one of the priority sectors in Benin. As such, it is envisaged to improve the supply by increasing production. A strategy plan has been developed to increase rice production from 276,291 tons to 600,000 tons in 2018. Although the strategy has not yet been implemented, steps have been taken to intensify production, to develop the processing system and to regulate the market. Measures taken to boost production include free seed supply, fertilizer subsidy, and wetland management.

As far as processing is concerned, the government has set up two large-scale rice processing units, but these are managed in an unorthodox way by SONAPRA, which is a public structure. This company unilaterally fixes the paddy purchase price, thus disturbing the market. In addition to these units, there are a multitude of modern, semi-modern and artisanal private units—among them the UNIRIZ-C unit installed in Glazoué thanks to ADF support. As far as market regulation is concerned, imported rice is only taxed at 10% from 1 January 2015 in compliance with the provisions of ECOWAS Customs Union, which constitutes a weak protection of local production against imports.

In summary, the sector is characterized by:

- **High demand:** local production covers barely half of national needs, with the remainder being covered by imports. Importers express a willingness to buy local rice, provided that the requirements are met (quality, quantity, regularity of delivery, etc.), which is currently difficult because of the weak technical and organizational capacities of the actors.
- **Insufficient market infrastructures:** most of the roads are in poor condition—especially in the rainy season—which isolates production areas. There is also a shortage of storage facilities.
- **Difficult access to financing:** appropriate credit for making investments in the sector is lacking. In addition to complexity of the process for farmers, interest rates and repayment terms are unattractive.
- **Technical support from various stakeholders:** there are a multitude of actors (government, NGOs, projects) involved in supporting the sector. However, very few are interested in market access.
- **Challenges:** the demand for local rice is undeniable. The challenge lies in creating synergies between actors (producers, processors, traders, suppliers of different services) of different sizes and capacities in order to meet market requirements.

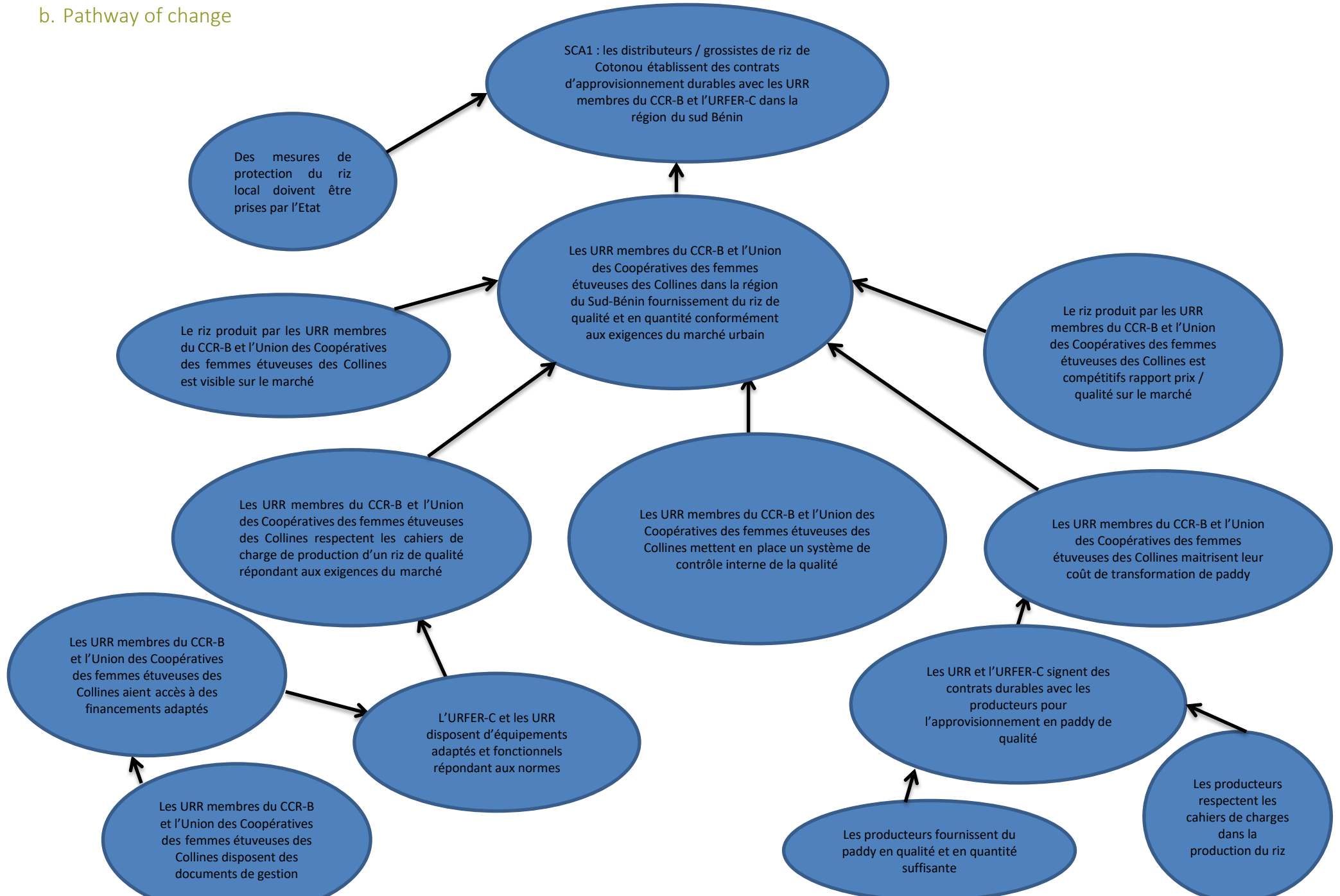
The following information provides a high-level overview of the current landscape in the rice production and trade in Benin:

Link to pilots:

- Pilot in Glazoue

For more information see the VECO SCAF Benin and VECO SCAR Benin

b. Pathway of change



The sub-SCAs are:

1. Rice wholesalers / distributors set up sustainable supply contracts with the URR members of CCRB and URFER-C in South Benin;
2. The URR members of CCRB and URFER-C in South Benin provide rice in accordance with the quality and quantity requirements of the urban market;
3. The UCR members of UNIRIZ-C practicing rain-fed rice production use an adapted and financially accessible supplementary irrigation system in developed lowlands, to increase the production of good quality paddy.

c. Observed changes in outcomes at SCA level

Main conclusion SCA1:
Rice wholesalers / distributors set up sustainable supply contracts with the URR members of CCRB and URFER-C in South Benin

The share of small-scale producers in the national rice market has increased from 39% to 65%, almost certainly because of rice quality improvements. However, the result cannot always be utilized because of the calculation method (a ratio comparing national production with national need).

The number of contracts established (6) exceeds the expected number, suggesting rice quality meets the market requirements. However, the number of contracts is less important than the volume sold—a measure on which progress is still needed.

VECO has contributed to the improvement of quality by financing certain pieces of equipment. VECO facilitated contracts with potential buyers, and helped the unit to reduce production costs, and thus it can be said that VECO aided the number of contracts established. However, the challenge lies in the supply of paddy in sufficient quantity, and in facilitating the speed and capacity of sorting. On this latter count, it will be necessary to install the optical sorter, in order to ensure that it serves the unit of the UNIRIZ and also the other units—allowing all units to respond to and meet large orders together. Setting up a finishing center could also be an option. These options should be undertaken under entrepreneurial management, but a rental management (e.g. leasing) could be another option to consider.

Discussion with steamers revealed that some people do not like to hire the processing unit services, as they feel these are very expensive. They also confessed that the miller (mill operator) was not recruited full-time, but intervened only when there was paddy to process. The interviews also revealed that the manager and the technician are paid by GIZ (while the unit is an income-generating activity).

This suggests that the unit is not run as a business. To ensure long-term viability and impact, the support of VECO should aim at realizing the profitability of the unit (which has not yet been fully guaranteed by VECO's support). The private management of profitable aspects of the unit (such as leasing) could be one option.

Main conclusion SCA2:

The URR members of CCRB and URFER-C in South Benin provide rice in accordance with the quality and quantity requirements of the urban market;

The share of rice sold meeting urban market standards and requirements increased from 15% to 25%. The quality of the rice produced has improved, largely thanks to VECO's intervention. The challenge lies in the ability to produce large quantities of rice due to limited access to credit and low processing capacity of manual sorting (as a result of the current non-use of the optical sorter). Likewise, there is still a need to further increase the share of production which meets urban market requirements.

As indicated in the SCA1, the improvement in quality is partly attributable to VECO. The ability to produce large quantities of rice that meets market requirements is mostly bottlenecked by manual sorting. VECO has made an effort to alleviate this problem, by providing equipment. To scale this up, VECO should help with the installation and operationalization of the optical sorter. Moreover, it should support the union in finding and implementing a more entrepreneurial model of management. As discussed, ensuring the site can function as a finishing center used by all the units in the region, is a promising option to consider.

Main conclusion SCA3:

The UCR members of UNIRIZ-C practicing rain-fed rice production use an adapted and financially accessible supplementary irrigation system in developed lowlands, in order to increase the production of good quality paddy.

The target for SCA3 is fully met, as the system is functional in the two UCR members of UNIRIZ-C. Furthermore this system is appreciated by farmers since it helps to counter drought effects and allows them to produce good quality paddy.

This outcome was achieved thanks to the financial support of VECO. The interviews illustrate that VECO built the intervention on the basis of PADA's experiment through improving the water access system (with drilling instead of wells).

Producers argue that they anticipate that the resulting rice yield will be good despite the drought. This is a success which is entirely attributable to VECO, and needs to be scaled up. According to the interviewees, this would not only improve the quality and quantity of paddy but also make off-season cultivation feasible, which would improve farmer income and lead to greater food security.

Observed evidence from indicators (source: SCAR)

SCA	2013 (baseline)	2016 (target) achieved	Comments	Result
SCA1: Rice wholesalers / distributors set up sustainable supply contracts with URR members of CCRB and URFER-C in South Benin;				
1.1. The market share of small producers / trainers in the national rice market increased.	39%	Target: (54%) Result: 65%	Not relevant because of the calculation method, which solely considers national production in relation to national need. 65% is the target for 2016; however, the results for 2016 are not available. These results are not linkable to VECO's intervention.	Not relevant
1.2 Number of contractual arrangements between distributors and OP for a supply of at least 40% of their stock	0	Target: (2 URR members of CCR-B and C-URFER establish contractual arrangements with 3 distributors / wholesalers for a supply at least 40% of their stock) Achieved 6 contracts between UNIRIZ-C and FAL, for the supply of 5 tons; between UNIRIZ-C and the civil prison of Abomey to supply 2 tons of rice; between UNIRIZ-C Label Benin for the supply of 10 tons of rice, between UNIRIZ-C and tropical Nature for the supply of 4 tonnes of parboiled rice and between UNIRIZ-C - MONT THABOR for 6 tonnes of parboiled rice, and between UNIRIZ-C and CNTR-B for a quantity of 70 tonnes (or: ONASA_CNTR-B contract).	VECO agrees on the fact that, while the number of contracts established is important, a more relevant indicator is the quantity of rice sold. Progress as such is moderately satisfactory: many contracts have been established, but because of limited production capacity, the units are unable to take large orders.	Partially achieved

SCA	2013 (baseline)	2016 (target) achieved	Comments	Result
SCA2: The URR members of CCRB and URFER-C in South Benin provide rice in quality and quantity in accordance with the requirements of the urban market;				
2.1. Part of the rice sold complying with standards and requirements of the urban market	15% of rice sold meets the quality standards (representing the packaged rice sold)	<p>Target: (25% of packaged rice and sold meets the quality standards and requirements of distributors)</p> <p>Results:</p> <p><u>2014:</u> 19% of packaged rice and sold meets the quality standards and requirements of distributors. Local rice is sold under different names: Rice Delight, RIVALOP, Flavour, Rice Mountain, RIZNO, Rice SOUROU, Bagou Rice, etc.</p> <p><u>2015:</u> 28% of packaged rice sold meets the quality standards and requirements of distributors. Local rice is sold under different names: Rice Delight, RIVALOP, Flavour, Rice Mountain, RIZNO, Rice SOUROU, Bagou Rice, etc.</p> <p><u>2016:</u> 41% of packaged and sold rice meets the quality standards and requirements of distributors. Local rice is sold under different names: Rice Delight, RIVALOP, Flavour, Rice</p>	The quality of the rice produced has improved thanks to VECO's intervention. The challenge lies in the ability to produce large quantities despite limited access to credit and the inability to use the optical sorter	Partially achieved

SCA	2013 (baseline)	2016 (target) achieved	Comments	Result
		Mountain, RIZNO, Rice SOUROU, Bagou Rice, etc.		
2.1. % Of URR members of CCR-B in the South region and Benin URFER-C which provide quality rice for their entire production quota.	0% of the URR members of CCR-B in the South region and Benin URFER-C provide proper rice meeting the requirements of all production markets	Target: (50% of URR members of CCR-B in the South region and Benin URFER-C provide rice conforms to market requirements for all of their production) Result: 75% of URR members of CCR-B in the South region and Benin URFER-C provide rice conforms to market requirements, but for (48%) of their production	The target adoption rate (50%) was already met in 2014; and the 2016 adoption rate (75%) far exceeds the original estimates. However, the targets for improving the produce of these members was not met.	Partially achieved
SCA3: The UCR members of UNIRIZ-C practicing rain-fed rice production use an adapted and financially accessible supplementary irrigation system in developed lowlands, to increase the production of good quality paddy.				
3.1. Number of UCR members adopting the supplemental irrigation system in a suitable and affordable way.	0; no UCR members adopt a suitable and affordable supplementary irrigation system: the existence of pockets of drought negatively influence the quality (empty bullets, blackheads, immature grains etc.) and the yield of rice produced.	Target: (2; 2 UCR members of UNIRIZ-C adopt extra irrigation devices) Result: 2 out of 4 UCR members who have started establishment of suitable and affordable supplemental irrigation systems.	The system is functional. The positive results are conclusive given the fact that all the interviewed producers wish to use it. Furthermore, another project (CECI) is interested in adopting it.	Achieved
3.2. Performance increase in quality and quantity	Yield is low, at 2.5t/ha, there is a failure of	Target: (yield of 3,75t/ha; 2 UCR members of UNIRIZ-C establish a	The harvest for 2016 has not yet been completed. According to the actors interviewed, the current condition of the crops	Pending results

SCA	2013 (baseline)	2016 (target) achieved	Comments	Result
	paddy quality control. Existing specifications for quality of paddy production are not applied	functional internal control system for quality paddy production.) Result: (2015): yields of 2t/ha (2016) [in progress]	suggest the yield will likely be high.	

Support Strategies:

Support Strategy	Summary of activities
NURTURING THE DEBATE & AGENDA SETTING	
Measure what is happening in the pilot and communicate through multi-stakeholder processes,	<ul style="list-style-type: none"> Monitoring of field activities (FOs); Sharing experiences with other actors including private companies, research structures, intervention structures such as CTB, GIZ, ADF, SNV, PPAO, PADA, CARDER, European Union, IFDC (FOs); Capitalization documents placed on the VECO website (VECO)
Influence the state and regional organizations UEMOA and ECOWAS, persuade them to invest in regulatory mechanisms of rice imports, funding for rice sectors, and upgrading “le riz en 5 ^e me bande”	<ul style="list-style-type: none"> Supporting CCR-B in advocating for the regulation by government of rice importation (CCR-B); Advocating for institutional purchases of rice (CCR-B);
Supporting CCR-B units in South Benin in clarifying and updating their transformation strategy, to mitigate negative environmental impacts and promote product quality in compliance with market requirements	<ul style="list-style-type: none"> Integrated soil fertility management, Internal control system (SCI), collective selling (UNIRIZ-C)
BUILDING EVIDENCE	
Supporting the effective establishment of a database on the market for players in the value chain	<ul style="list-style-type: none"> Apart from price monitoring, other data are available (CCR-B, see database) Supporting CCR-B in contracting with the CILSS. Unfortunately, the data provided by CILSS are not relevant as it deals mainly with cross-border flows. There is ongoing negotiation with ONASA for partnership (price) (CCRB)
Create a space for exchange between different actors in the value chain to improve business relationships through cross-platform players (LDCs)	<ul style="list-style-type: none"> Supporting CNTR-B creation to facilitate business relations between producers, processors and rice traders (CNTR-B, UNIRIZ-C) Supporting innovation platforms in collaboration with Africa Rice, INRAB, GIZ, PPAO and others. (Africa Rice, INRAB, GIZ, PPAO)
Driving demonstration units for equipment suitable for processing / production and for supplementary irrigation	<ul style="list-style-type: none"> Supporting the setting up of a large-capacity steaming complex (Africa Rice, URFER-C) Supporting experiments on irrigation systems to cope with climate change effects (UNIRIZ-C) Supporting experiments on sorting tables (UNIRIZ-C)

Support Strategy	Summary of activities
Support CCR-B in improving the communication of results from the implementation of the pilot	<ul style="list-style-type: none"> Workshop to formulate the national advocacy strategy (CCR-B)
[Support CCR-B in synthesizing and disseminating the studies for the development of the rice sector]	<ul style="list-style-type: none"> Supporting CCR-B in using the results of the two studies to develop arguments for advocacy (CCR-B)
EXPANDING AND USING OR NETWORK	
Support the scaling of successful innovations of the pilot	<ul style="list-style-type: none"> Ongoing discussions with other financial partners (CTB, PPAO, etc.) and private partners to solicit financing for the sector (VECO WA, CTB, PPAO)
[Support CCR-B in participation in national and regional meetings to enhance the alliance building opportunities and synergy of actions]	<ul style="list-style-type: none"> Encouraging and enabling CCR-B to participate in regional visits and regional workshops (CCR-B)
LEARNING & KNOWLEDGE SHARING	
[Sharing knowledge and lessons learned during the implementation of the pilot]	<p><u>Achieved (information recieved from field visit):</u></p> <ul style="list-style-type: none"> CCR-B's participation in the regional rice exchange in Burkina Faso has made it clear that Benin is indeed producing better quality rice. It also highlighted the constraints of road erosion in sub-regional trade (Benin's rice cannot be sold in Burkina Faso because of these incidental costs) The Exchange visits in Burkina Faso facilitated an understanding of the importance of inter-profession Exchange Advocacy on institutional purchases was drafted on the example from Mali; The exchange visit to Burkina Faso led to the creation of URFER-C; - The failure of PADA's irrigation experiment (large diameter well for irrigation) yielded lessons learned, leading VECO to choose another irrigation system for its own pilot.

Further comments / explanation

It was commonly stated that if local rice did not penetrate the market, this was due to its poor quality (high breaking rate, presence of foreign particles, moisture content). Today, all of these problems have been more or less resolved. However, although quality improvements have been achieved, the production rate (in terms of performance and speed of processing) of high-quality rice remains a bottleneck and area for improvement. An optical sorter is available, but must still be installed. The possibility of guaranteeing a sufficient quantity and quality of paddy production does exist thanks to the tested irrigation systems. Traders exist and are willing to buy large quantities of local rice, particularly after the government has adopted a decree requiring the purchase of local rice over imports, as well as additional investment in the sector. Institutional purchases started with the ordering of 500t of rice by ONASA. It can be said that all elements for the promotion of local rice more or less exist, but the challenge is to find the optimal synergies between them. VECO could contribute by continuing to support the units, helping them adopt more entrepreneurial processing, and improving the management of the sorting process (and of the optical sorter). The actors are hoping that VECO continues to support and promote the irrigation systems.

Given the fact that VECO does not have a lot of financial resources, collaboration with other donors needs to be strengthened, in order to scale up successful innovations, especially irrigation system. This will

improve (in quantity and quality) domestic rice production in order to meet the growing demand which has been reinforced by the government's decision requiring importers to buy a proportion of local rice.

Observed evidence (Source: SCAR)

- Rice production is increasing in Benin compared to the need for consumption. It rose from 39% in 2013 to 52% in 2015, and the expected rise for 2016 is 65%. With the improvements in rice quality, six formal delivery contracts were signed in 2016, with agreed quantities ranging from 2 tons to 10 tons. CCR-B signed a 500-ton contract with ONASA. This quota is divided among the processing units, of which 70 tons are for UNIRIZ-C.
- Quality rice is produced by 75% of the South-Benin URR members of the CCR-B. The constraining factors here are the limited financial capacity to mobilize paddy, and the reluctance of microfinance structures to give credit to the units.
- To alleviate the effects of drought on paddy quality, supplementary irrigation systems were tested. This experiment was promising, though its impact has remained rather limited as it has only been implemented in only two sites as a result of limited resources.
- In order to achieve the desired structural changes, it has been necessary to provide good quality paddy, and then to build the technical, financial and commercial capacities of the processing units.

Evidence from partners (Source: key informant interviews)

It is important to note that in Benin there is a causal relationship between the SCAs, which has been confirmed by VECO. Improved quality of paddy (SCA3) contributes to improving the quality of husked rice (SCA2), which in turn improves the ability to obtain contracts with wholesalers and distributors (SCA1).

Interview with UNIRIZ-C and URFER-C suggest they recognize a lot of support they received from VECO, including:

- Institutional support, training in association management, strategic plan development, innovation platform setting up, etc.
- Support for rice production (soil fertilizer management, harvesting and post-harvest technique, internal control system, experimentation of supplementary irrigation system),
- Support to the processing unit: equipment and infrastructures (calibrating machine, manual sorting tables, sorting machine by PPAO, steaming equipment, sorting room construction by GIZ, etc.), exposure visits, processing unit management, and other.
- Marketing support: contact with importers/merchants, drawing up specifications, participation in fairs.
- VECO helped them to enter into contact with other partners such as GIZ, Africa Rice, PPAO, CECI, etc.

An element which was highly appreciated by all interviewees is the complementary irrigation system. An interviewee even said: *“if VECO helps all producers to access irrigation systems, [they] will be honored.”*

Interviews with CCR-B confirm that VECO contributed by funding basic studies and advocacy. CCR-B is aware that the improved rice quality and productive capacity have contributed to the strength of their advocacy.