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RICE IN THE DEMOCRATIC REPUBLIC OF CONGO—A MARKET SYSTEMS ANALYSIS

FEED THE FUTURE MARKET SYSTEMS AND
PARTNERSHIPS ACTIVITY

MARCH 2023

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ACRONYMS

BAB	Bio Agro-Business
CAM	Competitive Appraisal Matrix
DRC	Democratic Republic of Congo
FAO	Food and Agriculture Organization of the United Nations
IFC	International Finance Corporation
INERA	National Institute for Agricultural Research and Studies
MT	Metric Ton
NPK	Nitrogen, Phosphorus, and Potassium
NGO	Non-Governmental Organization
PICAGL	Project on Agricultural Growth in the Great Lakes Region
SENASEM	Service National des Semences (National Seed Service)
SME	Small- and Medium-Size Enterprise
USAID	United States Agency for International Development

1. Summary

Rice is a crucial staple crop in the Democratic Republic of Congo (DRC), and it is consumed by both rural and urban populations. Smallholder farmers are responsible for producing around 50% of the 700,000 MT of rice consumed in the country, while the remaining 50% is imported. The rice produced by local farmers is mainly consumed by themselves and purchased at by local market consumers. In contrast, imported rice is consumed in urban areas and used by breweries. Unfortunately, the current cultivation systems used by approximately 800,000 smallholder farmers are highly inefficient and mainly rely on pluvial (rainfed) cultivation, yielding only 0.8 MT/ha, while only 32,000 farmers practice flood irrigation, yielding about 2 MT/ha. In both cultivation systems, farmers lack access to finance, seeds, and other necessary productive inputs to improve their yields. The outdated rice processing equipment in DRC also impedes the production of high-quality, locally-branded rice products.

The two recommended interventions in the rice sector are increasing rural economic activity and enhancing smallholder resilience through income growth and food production. To achieve these goals, it is necessary to collaborate with wholesalers and non-finance institutions to deliver improved seeds and productive inputs, as well as provide extension services and access to non-bank finance. These interventions will help increase rice production in the DRC and improve the overall quality of locally-produced rice.

2. Background & Context

Objectives and methodology

The purpose of this report is to present an in-depth market systems analysis for the rice value chain in DRC. The approach for this study combined a mix of rapid desk research and stakeholder interviews, with Gregoire Poisson leading the fieldwork in person in this phase. The team triangulated inputs among literature, key stakeholder interviews, and the latest quantitative data available. This involved leveraging ÉLAN, IFC, the World Bank, USAID/DRC, and the team's personal networks to reach out to key informants. The team also conducted a series of in-depth interviews with different primary value chain actors and players performing supporting functions. The data collected was used to conduct in-depth analysis of the core market, supporting functions, and rules governing the value chain, identifying constraints and opportunities at the firm and system levels.

Rice was selected alongside poultry and soy for in-depth market systems analysis through a Competitive Appraisal Matrix (CAM) from a list of 10 pre-selected agricultural value chains. The CAM is a tool used to screen value chains by three main criteria: competitiveness, systemic impact, and feasibility. Based on the findings, maize, palm oil, and poultry scored the highest across these criteria, but given other considerations—e.g., the need to coordinate with IFC and its decision to focus on maize, aquaculture, and cassava, as well as political economy and environmental concerns from USAID/DRC—poultry, rice, and soy were selected.

This report will provide an overview of:

- the rice market system, including current supply and demand dynamics in the core market for rice;
- key constraints holding back market system functioning and growth at the firm level and system level (e.g., supporting functions and rules); and
- initial guidance and partnership potential for interventions in the sector

There is limited reliable data on the consumption, production, or import of rice for the DRC. This analysis therefore aims to triangulate and adjust consumption and production estimates from official sources (e.g., FAO) with primary data collected from key industry informants.

DRC rice sector overview

Rice is a key food crop in DRC for rural and urban consumers. Smallholder farmers produce an estimated 50% of the total volume consumed in the country, which is almost entirely consumed near the production centers. Urban consumers predominantly consume imported rice. National demand, estimated at 700,000 MT, is strong with per capita consumption averaging 7–8 kg and rising, driven by urban consumption.

National production has stagnated at around 350,000 MT over the past 15 years, and average yields in the DRC are very low compared to neighboring countries. DRC rice producers average about 2 MT per ha or 36% of the yield that Rwandan producers manage under very similar growing environments (the average in Rwanda is 5.8 MT/ha¹). This is due to poor access to productive inputs, weak market infrastructure, and unsophisticated production practices, including poor water management. Flood irrigation is the most commercially oriented but is conducted by only 32,000 smallholder farmers and produces 5% of the country's rice.

The predominant rice cultivation strategy in DRC is pluvial or rain-fed cultivation. This is largely undertaken in the interior parts of the country on land reclaimed by slash-and-burn agriculture. Almost all of the rice produced in this manner is consumed by smallholder families or sold locally. About 800,000 smallholders cultivate this way, contributing 95% of the domestic production, but extremely poor yields of 0.8 MT/ha. This is a very unproductive method of rice farming, and to continue the comparison with Rwanda, this group manages only 14% of the average expected yield.

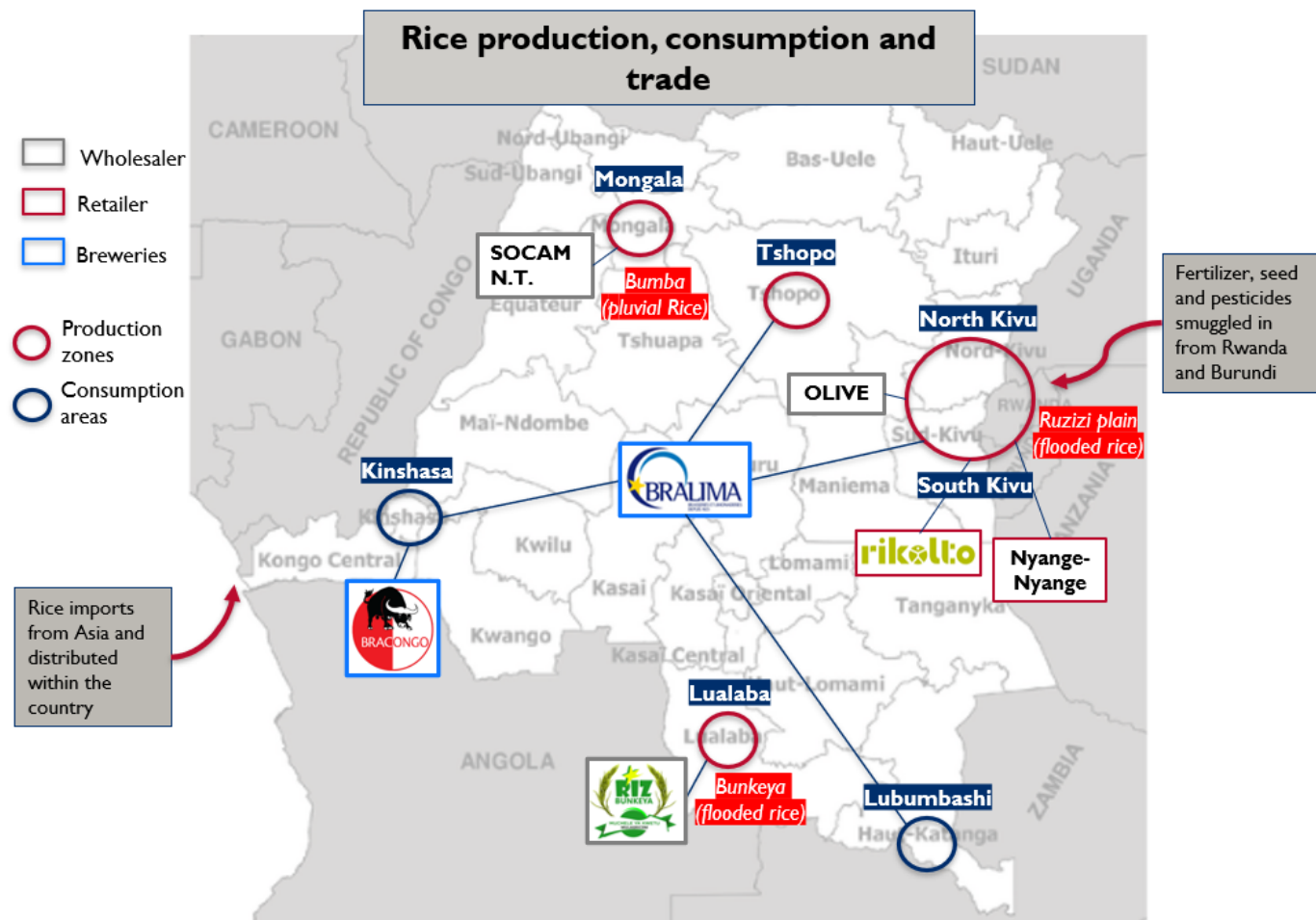
Farmers in both the flood and pluvial production systems struggle to access input and output markets which reduces their ability and incentive to increase production. The processing equipment available is outdated and delivers poor quality finished products, which struggle to compete with high-quality imported rice. As a result, urban markets rely on imported rice for direct consumption and use in breweries.

To improve the situation for farmers of both rice cultivation types, efforts to link commercial delivery of seed, fertilizer, and phytosanitary inputs are needed, as well as field

¹ JICA, https://www.jica.go.jp/rwanda/english/office/about/about_02_01.html

extension. Concurrently, linkages with offtakers have links to urban consumers is key to incentivize investment in rice. Similarly, improvements in processing and packaging locally produced rice with branding that can compete with imports is needed.

Figure 1: Rice production, consumption, and trade



3. Core Markets

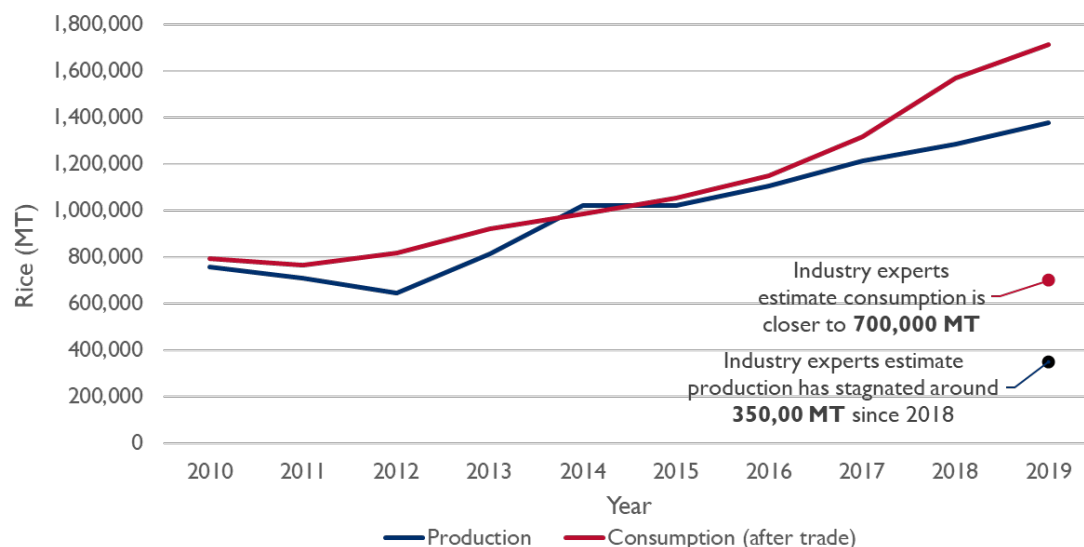
Supply and demand dynamics

Rice consumption in DRC is low for the region but outstrips domestic production by as much as 100%. DRC shares similar consumption patterns to neighboring countries in which cassava and maize, both rice substitutes, are regularly grown and consumed. Compared to other countries in the region, DRC is the least developed with the lowest per capita incomes.² Approximately half of the country’s rice is imported (see detail based on FAOSTAT below). Recent FAO statistics indicate that annual consumption of rice in DRC as of 2019 was 19 kg per person per year (or 1,710,000 MT in total per year), which is only slightly less than Kenya (21 kg) and far more than Zambia (3 kg), Uganda (8 kg),

² [Datacommons.org](https://datacommons.org)

and Rwanda (11 kg).³ This is likely a significant overestimation given the large number of very poor households in DRC compared to the other countries and limited domestic production. Research and industry consultations conducted for this study suggest that a more accurate figure is 7–8 kg⁴ per person or about 700,000 MT in total per year. Since FAO data is typically a compilation of official statistics, it is not uncommon to find inflated figures for key staple or politically sensitive crops.

Figure 2: Total rice production and consumption (after trade)



Source: FAOSTAT, 2023

Rural rice production is consumed locally, as poor infrastructure and vast distances hamper rice marketing outside of rural areas. As a result, most of the estimated 350,000 MT of rice produced in rural DRC is consumed near production centers. Three provinces account for the bulk of production and consumption: Oriental Province (9.4 kg per capita), Sankuru, and Maniema (17.5 kg per capita).⁵ The few production centers, such as the Ruzizi Plain on the border of Rwanda and Burundi, that are commercially focused use flood cultivation methods. Alternately, the majority of rice farmers are pluvial cultivators with little to no access to the broader market outside their neighboring communities.

Urban consumers rely primarily on imported rice, driving up import volumes over the past decade. Growth in rice consumption in DRC is driven by growth in urban areas where the convenience of preparing rice over cassava or plantain is a key selling point. Long shelf-life, ease of storage, and short cooking times are all attractive attributes of rice. Based on industry consultations, it is estimated that 95% of the rice consumed in large cities is imported. Consumers value the year-long availability of imported rice, superior quality, and labeled packaging which includes a variety of smaller

³ FAOSTAT, 2020

⁴ Analyse comparée des chaînes de valeur du riz dans la plaine de la Ruzizi, 2018

⁵ National Rice Strategy, 2013

packaging sizes down to 1 kg. Where there is locally produced and packaged rice, it is typically slightly more expensive than imported rice or of poorer quality at a comparable price (see following section). Because of the availability of imported rice, consumption is higher and increasing much faster in urban centers than in rural areas. This increased demand has meant that imports have increased sixfold between 2010 (55,000 MT) and 2019 (306,000 MT).⁶

Breweries use local and imported rice to supplement barley in beer production. The DRC's two large breweries, Bralima and Bracongo, both use rice as a key ingredient in their beer. Rice reduces the cost of brewing beer and is utilized globally for the purpose⁷. In DRC, rice in beer is derived from both imported and local sources. Bracongo reported using around 7,000 MT of rice annually, all of which is imported. Bralima (see case box below) reported using around 10,000 MT of locally sourced rice and 7,000 MT of imported rice per year and is the only industrial offtaker that provides predictable demand for local producers. Depending on the location of the brewery and its proximity to import infrastructure, the price of locally sourced rice is typically on par or up to 20% cheaper for the breweries.

Case study: Bralima Brewery

Bralima uses rice in its Kinshasa, Lubumbashi, Kisangani, and Bukavu breweries. It uses 16–18,000 MT per year and has made it corporate policy to source as much as possible from local producers, provided that the rice meets their minimum quality standards (under 40% broken). This is a challenge in DRC as the majority of the milling equipment is outdated. The following is a breakdown of Bralima's recent purchases and usage across its different breweries:

- **Kisangani:** 3,000 MT of rice used annually. 100% sourced locally, mostly from SOCAM in Bumba and SCIPEC near Kisangani, at US\$750 per MT.
- **Kinshasa:** 7,000 MT of rice used annually. 70% sourced locally at US\$750 per MT from SOCAM and at the same price for imported rice. It has not been able to source from Bas-Congo or Ndjili.
- **Bukavu:** 4,000 MT of rice used annually. 40% sourced locally from cooperatives at US\$820 per MT, while imported rice costs US\$800 per MT.
- **Lubumbashi:** 3,000 MT of rice used annually. Only 10% sourced locally at US\$800 per MT, while imported rice costs around US\$1,000 per MT. It has been trying to source locally and has contracts with Mbeko Shamba and Elixir but has not been able to procure volumes at the required quality.

⁶ FAOSTAT, 2021

⁷ abbeybrewinginc.com

Table 1: Rice market segmentation summary:

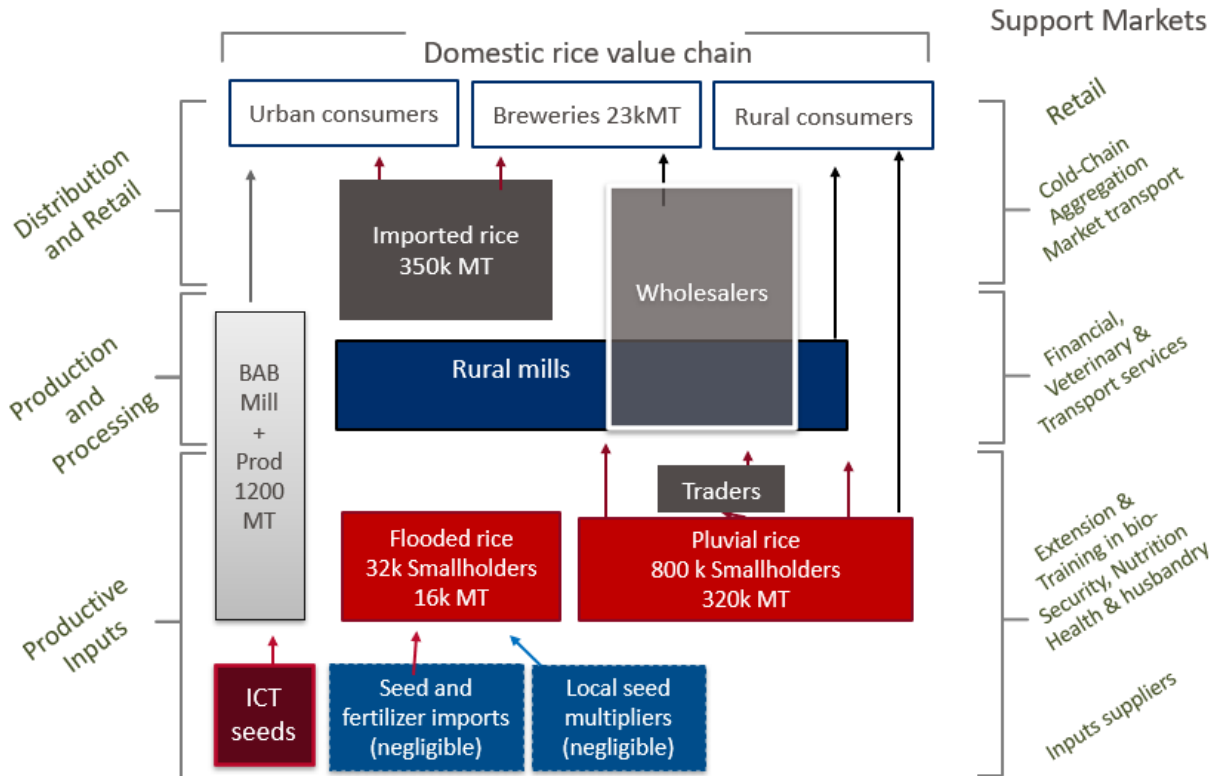
Market Segment	Defining Attributes	End Market Buyers	Inclusive Development Potential
Pluvial Rice	<ul style="list-style-type: none"> • Own consumption • Very local trade • Affordability • Taste 	Rice producers and nearby rural consumers	Medium: rural consumer demand growth is limited by incomes, but large groups of farmers available
Flooded Rice	<ul style="list-style-type: none"> • Better quality • Less than 40% broken 	Wholesalers, breweries, very limited sales to urban consumers	Medium : import substitution for breweries may open the door to the urban consumer market, but the number of farmers is low
Packaged imports	<ul style="list-style-type: none"> • Availability, price, quality, packaging 	Urban consumers	Low : limited to job creation in distribution chain and retail only

Supply side opportunities and constraints

The rice value chain in DRC involves several formal and informal stakeholders and supporting markets. To provide advice on intervention opportunities and partnerships later in this report, it is important to understand the value chain structure and interconnections. The sector map presented in Figure 3 provides an overview of the rice value chain in DRC. It is a generalized map intended to highlight the actors in the sector and the ways in which they interact.

The value chain begins with inputs used in rice production which include seeds, fertilizers, and pesticides. As much of the rice produced in DRC is grown by smallholder farmers, input use is very low, negatively impacting yields. There are two smallholder cultivation systems for rice in DRC: flooded rice and pluvial cultivation. These systems differ in terms of area planted, input use, and expected annual yield. Harvested rice is processed in local mills for onward sale to middlemen and wholesalers who distribute primarily to local retailers unless the end user is a brewery. Imported rice is bought by traders for urban retail distribution and by breweries.

Figure 3: DRC rice value chain



Source: Wellspring consultations

Inputs

Seed

Improved seed use is very low among rice farmers in the DRC. It is common for smallholder farmers to reuse their own open-pollinated rice seed from year to year. Farmers view this as a cost-saving technique, but repeatedly reusing seed without introducing variation results in poor yields. Unfortunately, smallholder farmers in DRC have little alternative. Commercial and government-led rice seed production and distribution services are nearly non-existent. ICT Corporation, an agro-dealer based in Lubumbashi, used to distribute imported rice seed, but it has not done so since 2020.⁸

Even in the Ruzizi Plain, DRC's largest and most commercial flooded rice production area, the practice of reusing seed is widespread. According to a 2015 survey,⁹ for all varieties combined, 73.5% of rice farmers in Ruzizi use their own seed from the previous harvest, and 21.5% of farmers buy rice seed from neighboring producers.

⁸ 90 MT of Nerica-4 seed, produced by Zamseed in Zambia, was last sold to a rice producer in Bas-Congo (BAB) in 2020.

⁹ Analyse comparée des chaînes de valeur du riz dans la plaine de la Ruzizi, 2018

Most rice grown on the Ruzizi Plain is more appropriate for brewing than household consumption, and increased availability of Nerica improved seeds would be key to shift this. On the Congolese side of the Ruzizi Plain, the traditional “Iron” variety is grown on 55% of the rice fields compared to 8% for Nerica. The Iron variety is suitable for brewing but not for most DRC consumers who prefer more fragrant, longer rice. On the Rwandan side, Nerica is grown in 77.4% of rice fields and Basmati on 22.6%. Although the National Agricultural Study and Research Institute (INERA) is supposed to produce Nerica base seeds in Ruzizi, stakeholders interviewed noted that there is little evidence of its multiplication and distribution.

A few projects have distributed improved seeds to rice farmers, but these remain small and sporadic. These include the Integrated Project on Agricultural Growth in the Great Lakes region (PICAGL) and Bralima’s collaboration called Project Riz. This project distributed improved seed through a reimbursement scheme via wholesalers including Olive and Rubota. Élan DRC also supported the private multiplication of rice seed through Munga, a wholesaler in Ruzizi Plain which produced and sold 300 MT in 2019. In Bumba, the main production hub in Equateur Province, Bralima partnered with SOCAM (a wholesaler) to distribute improved seed varieties in order to improve the quantity and quality of the rice received from the territory. SOCAM also organized workshops to train producers in methods of selecting and storing seed stock following harvest.

Fertilizer

Smallholders in the Ruzizi Plain are the only group to use fertilizer, and they use very low volumes. Upland rice farmers in areas such as Bumba rely on rainfall to irrigate their rice fields and use no chemical fertilizers. Instead, slash-and-burn farming is common in which farmers cut sections of forest, burn it, and plant fields in the ashes where organic material remains to nourish the crops. Unfortunately, this highly destructive and unsustainable practice does not remain effective for many seasons, leading farmers to repeat the process again and again. The practice persists because the remote location of the pluvial rice farmers hinders commercial delivery of chemical fertilizers, and the farmers themselves lack purchasing power due to poor market linkages. Likewise, flooded rice irrigation areas such as Bukeya are not served by the private sector due to the high cost of fertilizer and transport.

The only use of fertilizer for rice production is found on the Ruzizi Plain, and even there it is limited. Donor activities in recent years have encouraged the application of chemical fertilizers (primarily urea and nitrogen, phosphorus, and potassium (NPK)), but the uptake remains small. Official imports and legitimate commercial delivery of fertilizer is hampered in the territory by smuggling from bordering Rwanda and Burundi where fertilizer is subsidized and far less expensive. The black market that has grown in the area has made it difficult for legal importers to compete.

Pesticides

Pesticide use on the Ruzizi Plain is higher, but black market led. According to stakeholders on the Plain, pesticides are more readily available than fertilizers. Demand for pesticides is high as there are a number of pests that threaten the rice crop, some of which can result in a 100% crop loss. Farmers purchase from several vendors which import pesticides smuggled from neighboring countries. Like fertilizers, there is a black market for illegal imports from Rwanda and Burundi that takes advantage of

the government subsidies there to offer lower cost products. Elsewhere in DRC, smallholders use very little or no pesticides, further contributing to very low yields.

Production

The two rice cultivation techniques in DRC are very different from one another and merit separate discussion. They differ by location, number of engaged smallholder households, yields, and levels of commercialization. In later sections discussing options for intervention, the two cultivation types will be evaluated differently as well.

Flooded rice cultivation

Smallholders who practice flooded rice cultivation produce higher average yields and are more commercially focused but represent only ~5% of total rice farmers in DRC. According to the National Rice Strategy, *Strategie Nationale de la Riziculture 2013* (latest), there are 411,000 ha of pluvial rice (cultivated by 800,000 farmers) and 8,000 of flooded rice (cultivated by 32,000 farmers). The potential for flooded agriculture (not necessarily rice) is 4,000,000 ha. The goal of the strategy was to reach 70,000 ha of flooded rice and 10,000 ha of irrigated rice.

Flooded cultivation is found primarily along low-lying areas near rivers. With this method, water is allowed to flood the paddy field. This method is suitable for areas with heavy soil and high-water retention capacity such as the Ruzizi Plain. In DRC, an estimated 32,000 smallholders use this cultivation system, and the Ruzizi Plain is the largest and most productive area.¹⁰ The average plot of flooded rice is only 0.25 ha, yielding 2 MT per ha (at a cost of US\$280.50 per MT) which is well below average for the region. In comparison, the average yield in Rwanda is 5.8 MT/ha¹¹ (US\$228.80 per MT), and in the Mwea region of Kenya average yields under irrigation were 6.2 MT/ha in 2018¹² (US\$240 per MT¹³). In terms of smallholder production, this type of cultivation is only 5% of the total output in DRC.

Pluvial rice cultivation

Smallholders who practice pluvial rice cultivation have very low yields, practice unsustainable slash-and-burn agriculture, and sell only minimally to nearby markets, but they represent ~95% of the rice farmers in DRC. According to consultations, an estimated 800,000 smallholders cultivate plots of 0.5 ha on average, with average yields of 0.8 MT per ha. This method is used in areas where water resources are limited, and where rainfall is sufficient to support some level of rice cultivation. Requiring less maintenance and infrastructure, pluvial cultivation is typically less expensive, but comes with the obvious risk that fluctuating rainfall can lead to low and highly variable yields. Cash poor rain-fed rice farmers lack access to inputs, and therefore, resort to slash-and-burn techniques to expand production into forested areas, leaving behind nutrient-depleted soils.

¹⁰ Analyse comparée des chaînes de valeur du riz dans la plaine de la Ruzizi, 2018

¹¹ JICA, https://www.jica.go.jp/rwanda/english/office/about/about_02_01.html

¹² Toward a Green Revolution in Sub-Saharan Africa: Farm Mechanization in the Mwea Irrigation Scheme, Timothy Njaji and Yukichi Mano, *Agricultural Development in Asia and Africa*, pp. 63-73

¹³ Cost of Rice Production Under Irrigated Systems in the 2017 Cropping Year

Case study: Mbeko Shamba, Haut Katanga

This farm is located in Likasi, Haut Katanga, and owns 5,500 ha of which only 2,500 ha is currently cultivated. The farm is repositioning itself after losing a key US mining client to which they used to supply maize and flour, alongside a wide array of horticultural produce. Currently, Mbeko Shamba has secured a large contract with BRASIMBA (Castel) to produce maize grit, with a target of producing 12,500 MT of grit/year from 25,000 MT of maize. The farm is currently unable to fulfill the entire contract (only 4–5,000 MT grit in 2022) and is seeking to integrate small-scale farmers into its supply chain.

Mbeko Shamba is also engaged in rice production, having signed a 1,000 MT contract with BRALIMA. Due to the high price of inputs, however, the farm was only able to produce 100 MT in 2022–2023. Mbeko Shamba uses Zamseed seeds, which it multiplies itself. The company noted that although the local price of rice is good, local rice cannot compete with imports on quality due to a high rate of broken rice.

A note about production data

FAO data was not used as the primary data source for this study. The figures for production and area harvested are estimates based on available data tempered with key informant interviews conducted during this study. Data is notoriously unreliable in DRC, and there may be many politically motivated reasons to inflate production statistics year-on-year. In 2009, the FAO recorded 300,000 MT of rice harvested on 420,000 ha. This is a reasonable estimate according to industry experts and underscores the limited nature of rice farming in the DRC. Since then, there has been no sustained investment in the sector to address the low use of improved seed, fertilizer, and pesticides, nor have agronomic techniques improved. In flooded systems, water management and irrigation infrastructure have not changed, and the pluvial farmers continue much as before. This explains why this study has chosen to estimate 350,000 MT per year harvest instead of FAO's 1.6 million MT estimate. The estimate is a plausible change from the earlier baseline¹⁴ and not FAO's which represents a 400% increase.

Processing

Rice processing is typically carried out on-farm or brought to mills near the main production hubs. After harvest, farmers dry their paddy, remove stones and debris, and either de-husk the paddy manually or take it to a mill in the nearby population center. De-hulling involves removing the outer husk of the rice grain. This is followed by milling in which the rice is further processed to remove the bran and germ layers, leaving the white rice grain. This is done in one of the dozens of rice mills in the main production hubs. At one time, there were over 70 mills around Bumba and about 60 in the Ruzizi Plain, but many are no longer operational. Dated milling equipment negatively impacts the paddy-to-rice conversion rates,¹⁵ processing volume capacities, and the quality of rice (i.e., resulting in a high proportion of broken grains). In addition to commercial millers, some wholesalers such as Olive in Ruzizi, SOCAM in Bumba, and Mulagricom in Bunkeya, also provide milling services on a fee basis. Some farmers associations provide milling services as a member benefit or on a fee basis.

¹⁴ Analyse comparée des chaînes de valeur du riz dans la plaine de la Ruzizi, 2018

¹⁵ Average conversion rates are between 60-65% but likely to be much lower in the DRC.

Milling fees vary depending on the location of the facility, overall demand for milling services, and the quantity of rice being milled. The fees are paid by the farmer and typically range from 3–5% of the milled volume or its cash equivalent. The principal cost for operating these facilities is fuel, which accounts for nearly 90% of the cost. Manual labor is usually paid on a commission of 10–15% of daily receipts. According to consultations, the majority of rice mills process an estimated 300–400 MT of paddy per year with the exception of about four or five larger mills that process between 500–600 MT/year. SOCAM has by far the largest milling capacity with the ability to process over 16,000 MT/year.¹⁶

Marketing and distribution

Wholesale

Wholesalers aggregate the milled rice for distribution and sale. There are three categories of wholesalers: large to medium-scale formal wholesalers such as Olive and SOCAM, small-scale female entrepreneurs known as “mamas,” and farmers’ associations. The larger, formal wholesalers are often integrated with mills and sell rice primarily to the Bralima Brewery. The mamas are part of an informal network that purchase rice from individual farmers or associations and transport and resell it in rural and urban food markets. The associations focus sales on local markets, except in Ruzizi, where several cooperatives trade rice with Bralima.

Retail

Branded rice is uncommon on DRC market shelves, although several domestic businesses have begun packaging branded rice their volumes are very small. Rikolto and PICAGL-supported Nyange-Nyange launched a label to sell Ruzizi rice into the local market in 2021. In 2022, Nyange-Nyange sold 80 MT of branded rice through five supermarkets and three smaller selling points in Bukavu. The company operates by providing quality control, packaging, and branding services to smallholder rice cooperatives, who then sell it on to retailers at US\$27 per 25 kg bag. Consumers typically pay US\$31 for Nyange-Nyange rice. This is on par with the cost of imported rice but likely at a much smaller margin for the retailer. In Kimpese, Bio Agro-Business (BAB)¹⁷ harvested 1,000 ha of rice in 2021 and sold the 12,000 MT production in Kimpese at a highly subsidized price of US\$17 per 25 kg bag (see case box).

Farm gate prices are variable based on location, time, type, and quality. However, to give a benchmark, Ruzizi rice at farm gate is ~US\$0.58/kg, US\$0.87/kg ex-processor, US\$0.98/kg ex-wholesale, and US\$1.09/kg at retail level.¹⁸ However, it is important to note that domestic rice is very rarely found at retail level.

Imported rice is US\$0.80/kg at wholesale (Bralima KI) and US\$0.96/kg at retail level.¹⁹ Seasonal price fluctuations are limited over the year due to imports providing a price ceiling.²⁰ Imports are always available, local rice is mostly available at harvests (two harvests in Kivus; one in the rest of the country).

¹⁶ ELAN RDC unpublished information

¹⁷ BAB is a private enterprise mandated by the government to operate the formerly Feronia-owned, US\$80 million rice mill in Kimpese.

¹⁸ Analyse comparée des chaînes de valeur du riz dans la plaine de la Ruzizi, 2018 p. 152

¹⁹ Ibid

²⁰ FEWSNET DRC Staple Food Market Fundamentals provides a detailed comparison of prices.

Case study: Bio Agro-Business (BAB), Kinshasa

BAB is a Congolese agro-industrial company founded in 2018, which provides technical and entrepreneurial agricultural training to rural farmers under the Ministry of Agriculture's Voluntary Agricultural Project. BAB grows rice on 1,000 ha in Nkundi, with yields of around 1.5 MT paddy per ha. It also supports some smallholders in Myombe, with yields of around 0.6 MT/ha.

The company purchases its seeds from Zambia (Zamseed) through the National Rice Program and procures fertilizers and herbicides through Indigo, although inputs bought in 2020 have not been fully paid yet. It processes its rice in Kimpese and is the owner of the former-Feronia rice mill, a large modern US\$80 million facility with a processing capacity of 5 MT/hour.

In 2022, BAB managed to produce 2,000 MT of paddy, equivalent to 1,200 MT of rice. The rice is sold locally at subsidized prices: US\$15–17 per 25 kg per bag. According to an informant, this output is just a couple of days of the mill's capacity.

Case study: Rikolto NGO, South Kivu

Rikolto is a Belgian NGO working in rice in the DRC since 2000 as part of PICAGL, a four-year program financed by the World Bank (2019-2023). They also receive financing from the Belgian government (up to 2026). Rikolto works with INERA and SENAEM but still relies on Burundi's national research facility, Isabu, to procure basic seeds to multiply for its farmers. The NGO works with 18 cooperatives and 28,000 small farmers (17,000 in Kivu and 11,000 in Tanganyika) on a total of 9,195 ha. Supported cooperatives produced an average of 1,700 MT rice a year in 2019–22, of which most (1,200 MT) was sold to Bralima.

In these cooperatives, Rikolto adopts the principles of the Sustainable Rice Production Approach to reduce environmental impact and use gender sensitive approach, and quality inputs. The supported cooperatives sell their produce to Bralima (1,200 MT/year) and the local market under a brand launched in 2021, Nyange-Nyange. Nyange-Nyange sells in eight retail points (five supermarkets and three selling points) in Bukavu. The brand inspects quality and provides packaging to the farmers who then sell the labeled rice themselves. Rice is sold at US\$27 per 25 kg bag to retailers and US\$31 to final consumers. This compares to wholesale prices of USD\$41 per 50 kg unsorted and US\$23 per 25 kg unlabeled for Bralima.

Rikolto is working with Equity Bank, Bralima, and cooperatives under a triangular uptake scheme. Financing is granted to cooperatives, while repayment is done by Bralima when rice is supplied by the cooperatives. They are also working with SMICO Bank to finance smallholders. As a member of Federation of Producers of South Kivu, Rikolto is exempt from taxes on inputs. Seeds and fertilizer are not exempt, and cooperatives are taxed.

4. System-level Constraints

The previous section highlighted the constraints to DRC rice production and commercialization. The vastness of the country contributes to very limited access to input and output markets for smallholder produced rice.

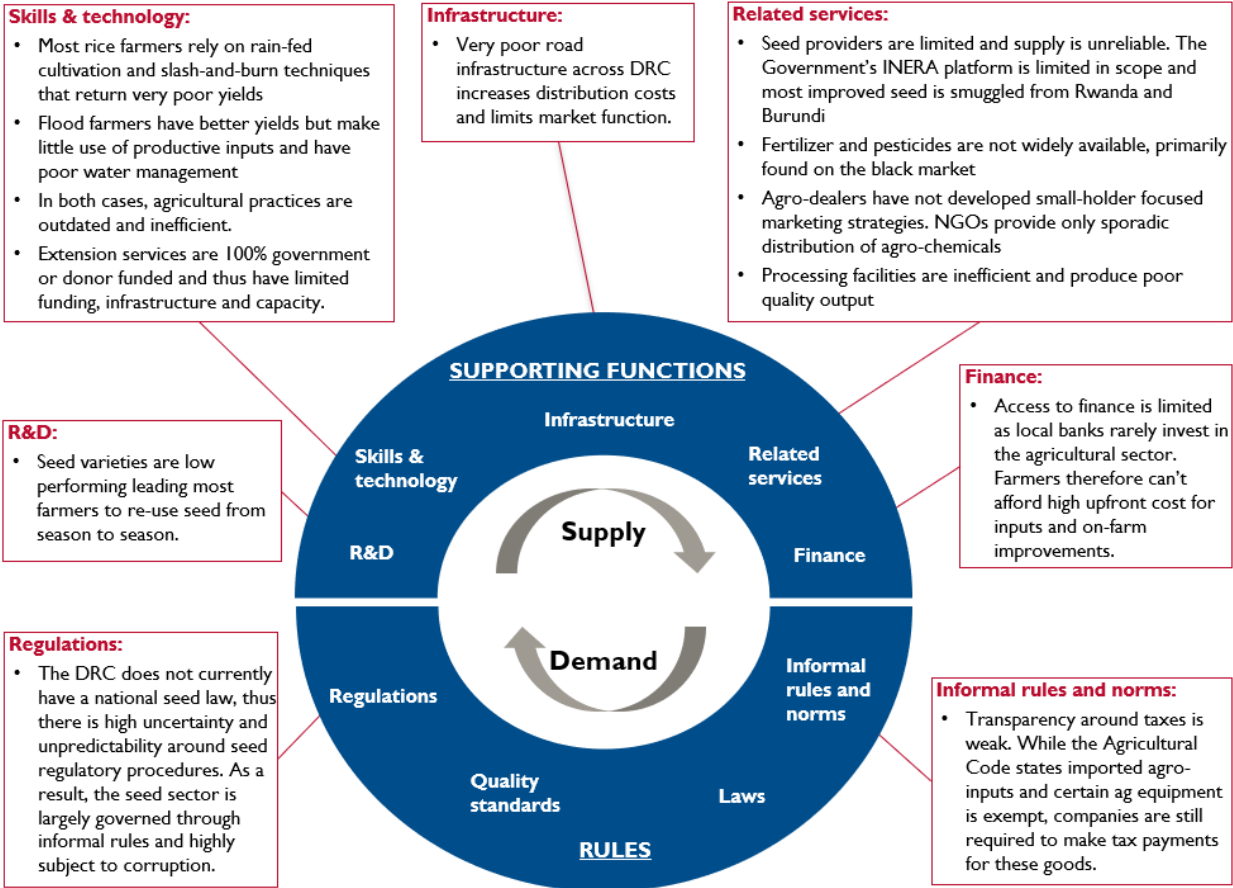
Seed, fertilizer, and pesticide: Smallholder use of productivity enhancing inputs necessary for achieving maximum yields is limited primarily to the Ruzizi Plain. Elsewhere, farmers are cash poor and disconnected from input markets. The practice of reusing seed and the extremely limited availability of improved seed restricts yields.

Water Management: 800,000 pluvial rice farmers in DRC are dependent on rainfall for their production. The use of rain-fed cultivation techniques limits productivity and the effectiveness of using inputs. The flooded rice producers, while more productive and commercially focused, have poor water management generally, and lack of maintenance of the irrigation infrastructure limits the cultivable surface area in flood cultivation.

Supporting functions and rules

In addition to the key firm-level issues, the enabling environment for the rice sector in DRC hinders sector growth. Undermining every rural enterprise is the poor transport infrastructure and unreliable electricity, which increases costs across the value chain and limits the function of both input and output markets. These challenges are out of scope for agricultural development programming and investment and are a problem for business generally in DRC. Figure 4 below provides a summary of system-level constraints faced by rice producers in the DRC.

Figure 4: Constraints in supporting functions and rules in the rice sector



Supporting functions:

Seed providers: There are effectively no commercial rice seed providers in DRC. ICT Corporation in Lubumbashi used to offer rice seed, but it has not sold any in the last two years. Local multiplication of improved seeds is erratic at best with very low volumes, unreliable availability, and uncertain quality.

Agro-dealers: There are still very few agro-dealers offering agro-chemicals to rice producers. Most of them target NGOs rather than smallholders and have not developed smallholder-focused marketing strategies.

Agricultural extension: Public extension services face several challenges, including limited funding, inadequate infrastructure, and insufficient numbers of trained extension agents. Training on modern agronomic practices is provided mainly by NGOs, but a patchwork of goals, project areas, and funding streams hamper sustainable delivery of these services. Because farmers are remote and cash poor, no private agricultural extension system exists.

Agricultural research: Locally adapted rice seed varieties have been developed by INERA, but it lacks the capacity and systems for regionally specific research and wide dissemination.

Processing: Rice mills are mostly concentrated in major production areas. They are often inefficient and outdated, leading to breakage and impurities. This makes locally finished rice less marketable to urban consumers who have access to clean, high-quality imported rice.

Access to finance: Developing production and support services (mills, branding, etc.) requires capital. Unfortunately, DRC banks are highly risk-averse and will not support the agricultural sector. This affects production by hampering farmers' ability to purchase fertilizers or use other productivity enhancing technologies. It also makes it difficult for commercial farmers and processors to invest in land preparation for flooded rice production, milling equipment, or to improve storage facilities.

Rules

Seed regulation: The absence of a national seed law and implementing regulations creates uncertainty and unpredictability in the application of seed regulatory procedures. As a result, the seed sector relies on informal seed replication. With only limited coordination among seed sector stakeholders at the national and provincial levels, stakeholders have been unable to mount a concerted lobbying effort that can generate the political will for reform.

Formal and informal taxation: There are numerous formal and informal taxes which affect actors throughout the value chain. It is not always clear which taxes are official, and in some cases, it is not even clear who is collecting the tax. While the Agricultural Code provides tax exemptions on imported agro-inputs and certain agricultural equipment, this is rarely applied, and businesses continue to pay high taxes on such imports. This opens the door for smuggling and the establishment of a black market for inputs.

Sectoral policies: An ambitious national rice strategy was adopted in 2013, and a rice seed strategy in 2016. The government is currently finalizing a new one. However, concrete actions are lacking, and insufficient resources have been allocated.²¹

Quality standards and norms: Because most DRC produced rice is traded informally, there are no quality control standards with respect to color, impurities, and breakage. Since prices rarely reflect differences in quality, this provides little incentive for farmers and millers to invest in improved post-harvest processing or other practices to enhance the quality of rice. This disadvantages local producers as urban consumers expect the same high quality as they find in imported rice.

5. Potential areas of intervention

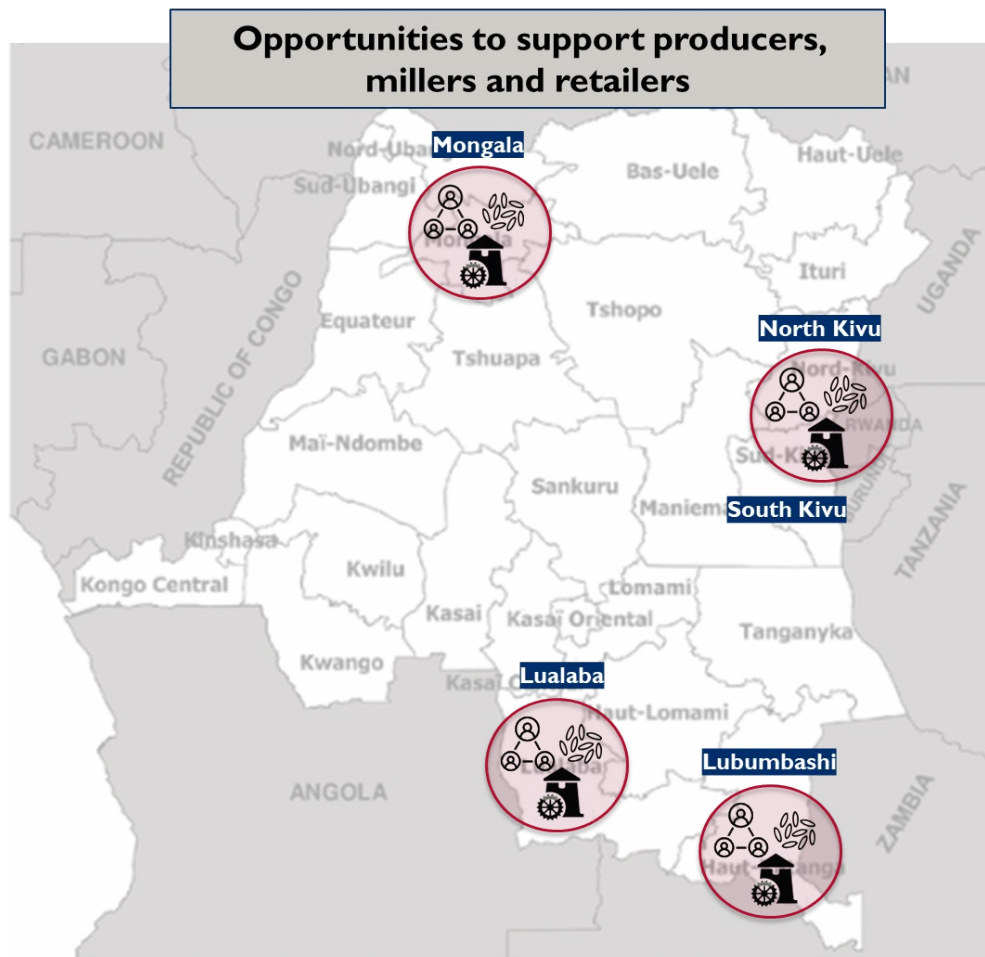
This report's recommendations for addressing constraints in the rice market system are tied to the following development objectives:

1. **Increased rural economic activity**, creating linkages with supporting market players to deliver inputs and create markets for outputs
2. **Improved smallholder resilience through increased incomes and food production**, extension and appropriate use of inputs increases yields, leading to increased incomes and food security

The most significant intervention opportunities for DRC rice is to boost farmer productivity by supporting increased access to inputs, finance, and improved processing. The two distinct rice cultivation types will require slightly different approaches, but it will be critical for both to take a regional cluster approach when designing interventions and partnerships in the sector given the poor infrastructure and size of the country. This could involve intervening in a selection of some of the main geographic clusters of Lualaba, Lubumbashi, Mongala, and the Kivus.

²¹ Based on key informant interviews

Figure 5: Opportunities for intervention in the rice sector



Intervention 1: Support expansion of commercial rice production in flooded cultivation areas as a means of import substitution for urban consumers and industries

- Specific support: Develop offtaker agreements and commercially viable outgrower schemes that include the provision of commercially-delivered inputs, technical support, and finance for producers to supply urban consumers and breweries. Aim to expand the hectareage of rice properly farmed with flooded cultivation techniques with a view to matching the yields of neighboring Rwanda.
- Potential partners: Large commercial farms (Mbeko Shamba, Ferme Elier, Frank Demaeght), traders (APAG in Bunkeya) or brewers (Bralima) in Lualaba and Haut-Katanga

Intervention 2: Support increased distribution of improved rice seeds around the main production hubs in both the flooded and pluvial areas

- Specific support: Support existing or new seed importers with concessional finance and technical assistance to scale up the import and sales of rice seed (including preferred varieties such as Nerica).

Concurrently, grant finance should be provided for the continued development of locally adapted rice and piloting local multiplication models.

- Potential partner: Existing seed importers in Lubumbashi (ICT Corporation), introduce new importer in the Kivus (TBD), and INERA for local seed development and multiplication

Intervention 3: Pilot and scale up sustainable agricultural extension models for the rice sector, including embedded support alongside input providers or offtakers

- Specific support: Provide technical and financial support to input providers and offtakers in developing embedded agronomic and business advisory services using innovative service delivery models catered to the area and cultivation system. This will include design of delivery models which appropriately incentivize agents and trainers over the long-term.
- Potential partner: Input providers in Lubumbashi (ICT), upcoming outgrower schemes and offtakers in Lualaba, Haut-Katanga, Equateur, and the Kivus (Mbeko Shamba, APAG, SOCAM, Olive, cooperatives)

Intervention 4: Support fertilizer and pesticide distribution around the main production hubs

- Specific support: Develop a sustainable network of agro-dealers to reach smallholder rice producers. This will initially require technical assistance and concessional capital to improve marketing and distribution models, as well as affordable working capital and supply chain finance in the long-term.
- Potential partner: Importers of agro-chemical in Lubumbashi (Indigo), and Kivus (Agriforce), agro-dealers

Intervention 5: Finance the development of newer, more efficient rice mills

- Specific support: Provide access to capex (e.g., concessional debt, leasing products) and technical support (e.g., grants for project preparation and feasibility studies) to set-up or upgrade mills in South Kivu, Haut-Katanga, and Equateur
- Potential partner: Existing millers (AGAP in Bunkeya, SOCAM in Equateur), wholesalers or commercial farmers in Lualaba and Haut Katanga (Mbeko Shamba, Ferme Elior, Frank Demaeght)

Intervention 6: Support the development and promotion of local consumer rice brands

- Specific support: Provide access to concessional capital and strategic marketing support to set-up or develop local brands in Haut-Katanga, Lualaba, Kivu and Equateur
- Potential partner: Existing brands (Nyange-Nyange in Bukavu, BAB in Kongo Central) or new ones in Lubumbashi and Kinshasa (with Ferme Elior or APAG in Lualaba, Frank Demaeght in Haut Katanga, or SOCAM in Equateur), wholesalers or commercial farmers in Lualaba and Haut-Katanga (Mbeko Shamba, Ferme Elior, Frank Demaeght)

Intervention 7: Improve financial access to sector via banks and non-bank financial institutions

- Specific support: Work alongside lenders to develop new products (leasing and loans for equipment for mills), support banks to better understand the sector, provide de-risking mechanisms (e.g., first-loss guarantees), support mills and wholesalers in accessing finance through technical assistance and linkages.
- Potential partners: SME banks (Equity, TMB), microfinance institutions

Intervention 8: Support the passing of the seed law, tax regulation and enforcement, and sectoral policy development

- Intervention: Support private sector advocacy around issues through capacity strengthening to industry associations and preparation of evidence-based reports and studies to advocate for change.
- Potential partner: Industry leaders and industry associations (FEC Agriculture, rice producer associations, commercial soy producers, and animal feed producers)

Table 2: Intervention summary and ranking

Function	Intervention	Impact	Feasibility	Potential partners
Rice production (flooded)	Support rice production and import substitution in flooded rice areas, grow numbers and increase yields	Medium	Strong	Mbeko Shamba, Ferme Elior, Frank Demaeght, APAG, or Bralima in Lualaba and Haut- Katanga
Rice production (pluvial)	Support extension and better inputs use to increase yields.	Strong	Medium	TBD
Rice milling	Support the development of new, more efficient mills	Medium	Medium	AGAP, SOCAM, wholesalers or commercial farmers in Lualaba and Haut-Katanga (Mbeko Shamba, Ferme Elior, Frank Demaeght)
Branding	Support the development of local brands	Medium	Medium	Nyange-Nyange, BAB, Ferme Elior, APAG, Frank Demaegh, SOCAM, or Mbeko Shamba, Ferme Elior, Frank Demaeght
Seed distribution	Support quality seed production and distribution	Strong	Medium	ICT Corporation, TBD in the Kivus
Agro-chemical distribution	Support fertilizer and phytosanitary distribution around the main production hubs	Medium	Medium	Indigo, agro-dealers
Access to finance	Link banks and businesses	Strong	Medium	Equity, TMB, microfinance institutions (e.g., SMICO), financial advisers, USAID Invest
Seed regulations, taxation, standards, and policies	Support the passing of the seed law, tax regulation and enforcement, sectoral policy development	Medium	Low	FEC Agriculture, soy producer associations, commercial soy producers, animal feed producers

