

Importance of women in the rice sector to improve households' living conditions: The case of Bambari town in Central African Republic

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Abstract

Women devote most of their time to food production activities and contribute greatly to the well-being of households, especially those of low-income rural people. A survey conducted in the town of Bambari and its surroundings aimed at assessing women's contribution to improving living conditions of households through their intervention in the rice sector. Data were collected through survey and interviews. The results showed that 56% of rice production activities were carried out by women, 24% by men and 20% by children. Rice commercialization was a women's activity at producer level, although it was the family head who took the decision to sell rice and who managed the incomes. In processing, husking was manual as well mechanized. There was a women's organization that carried out manual husking. Women pounding paddy rice could husk an average of 52 kg of paddy per person per day for a remuneration of FCFA 1000 (2 dollars). Despite their major role in the rice sector, women's investment capacities to develop their activities were limited. As a consequence, their task was heavy and difficult. Technical and financial support would help them to reduce poverty and reinforce food security.

Introduction

Central African Republic has a population of 3 895 139 inhabitants. Women form the majority of this population at 50.2% (MEPCI, 2005). The country has a total surface area of 622 984 km² with 15 millions ha of arable land of which only 700 000 ha, about 1% of the national territory, is cropped annually. Food crops cover 75% of the cultivated areas. They represent 55% of the added value of agriculture and contribute significantly to improving the income of rural households (MFASSN, 2007).

At the global level, rice is the third most produced cereal after wheat and maize. Asian countries alone provide about 90% of the world production and 70% of the rice on the international market. Most of the major rice-consuming countries grow enough rice for their own consumption. Only 7% of the world production is traded on international markets (AgriAlerte, 2008). African local production does not meet the rapid growth in demand and local rice often competes with imported rice (Benz, 1996).

Rice cultivation in west and central Africa occupies about 20 million small-scale farmers, with women taking the major role working on family farms. According to AgriAlerte (2008), women farmers' incomes and investment capacities are severely affected by competition with imported rice. Women are at the center of development in rural areas — they carry out most of the farm activities. Women play a crucial role in the traditional socioeconomic system. They control the greatest part of nonmonetary economy (subsistence agriculture, child rearing and education, household tasks). Women's agricultural and commercial activities also represent a significant contribution to the well-being of rural households. Women are development drivers in rural areas. Very often, they face additional responsibilities — for example, as head of single-parent families (AEMS-ASBL, 2004).

In Central African Republic, rice was a marginalized food crops for a long time, but has experienced renewed interest. National production rose from 31 900 tones in 2005 to 38 500 t in 2008 (FAO and PAM, 2008). In the sub-prefecture of Bambari, rice cultivation is gaining interest not only as a food crop, but primarily as an income-generating activity for populations intervening in the rice sector.

This study aimed mainly to analyze women's contribution to improving household living conditions through their intervention in the rice sector.

The specific objectives of this work were to:

- Analyze women's investment capacities in the development of the rice sector;
- Determine the level of women's intervention in the rice sector.

Material and method

This survey was conducted in the town of Bambari and the surrounding villages of Gbako-Malekpa, PK 12 and Kapa-Banga. Bambari is the county town of the Ouaka located in the center-east of Central African Republic. Criteria for choosing this study zone involved rice activities, but especially the existence of a women's organization that processes paddy rice using traditional methods.

Data were collected via a questionnaire survey. The survey involved 48 rice-producing households, 12 women paddy rice pounders, 48 rice sellers, and 36 women processors of white rice. A literature review was also conducted. Interviews were also organized with officials of Agence Centrafricaine de Développement

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Agricole (ACDA), the extension structure that works in the study zone. Data collected included the level of women's involvement in rice production, the major forms of white rice processing, rice marketing channel, the profitability of rice-sector activities.

Descriptive statistics were used for data analysis to calculate averages, frequencies and percentages. All these calculations were done using Microsoft Excel software.

Results and discussion

Production

We recorded two modes of rice cultivation in the study zone: rainfed rice cultivated during the rainy season, and irrigated rice cultivated all year round. Rainfed cropping was practised more in peri-urban and rural areas, while irrigated rice was found in the urban area. Rice monoculture was practised, but sometimes rice was cultivated in association with maize (21%).

Acquisition of production land

Figures 1 and 2 show the proportion of women who were owners of cultivable lands and the mode of land acquisition. Women represented only 10% of land owners. They were generally unmarried and from the area and had inherited the land from their parents, or they were widows who inherited the land from their husbands. Married women worked on family farms and did not have their own land. Over half (56%) of the producers acquired land through inheritance. It is a traditional land ownership system in which the ownership is linked to the filiation of the first owners as pointed out by Villemarceau *et al.* (2005). These authors recommend that individual land property be shared out equitably between members of the community, mainly women, who can participate in land development efforts.

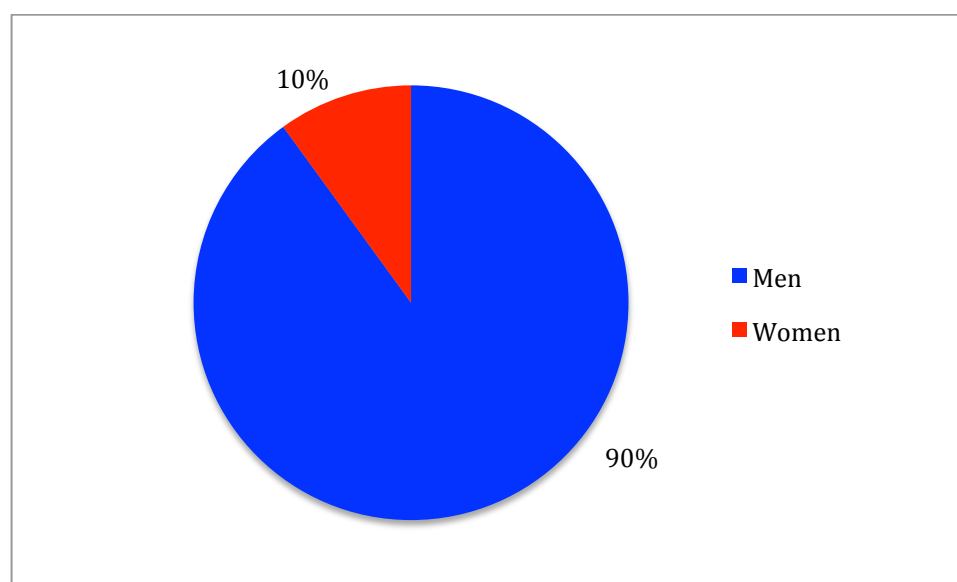


Figure 1. Owners of agricultural land.

Level of women's involvement in the production

Table 1 shows women's contribution to the different rice production activities.

Table 1. Contributions to rice production by gender (percentages)

	Clearing	Gathering† & plowing	Seeding	Weeding	Bird- scaring	Harvesting	Transport	Drying & packaging
Men	70	20	30	10	40	10	10	10
Women	15	60	60	75	10	80	75	75
Children	15	20	10	15	50	10	15	15

† 'Gathering': After clearing and before plowing, the clippings are collected together and either composted or burned.

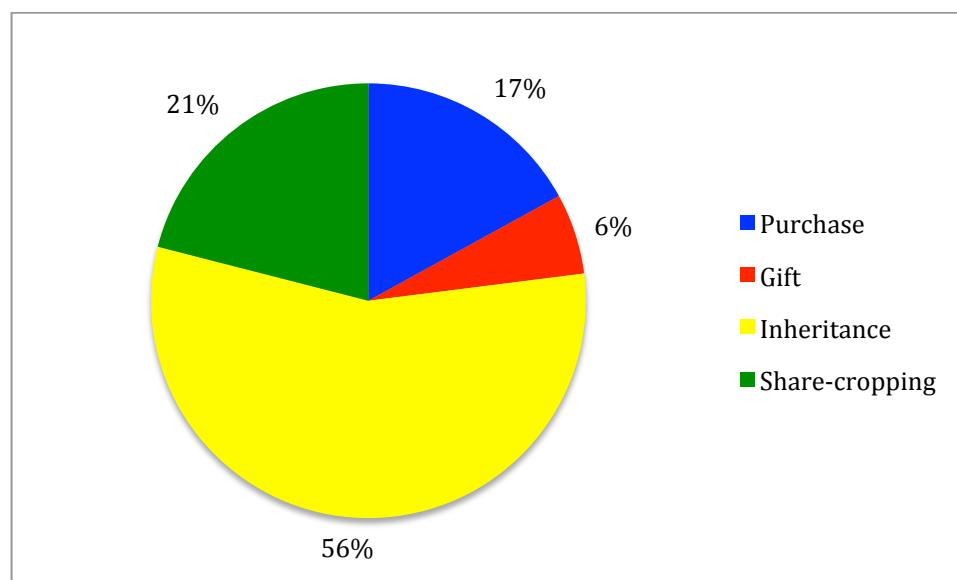


Figure 2. Mode of acquisition of agricultural land.

Women were more active than men in rice activities. Nevertheless, there were exceptions — clearing and bird-scaring activities — where men did more than women.

Labor in rice production

Generally, rice production activities — like all other farm activities — were carried out by the members of the family: household head, his spouse(s), children and other active members. Additional labor was available via paid labor, mutual aid through rural interest groupings (RIG), women's and clergy associations (and others). Women represented about 70% of this available labor in rice cultivation. This situation tallies with AgriAlerte's (2008) findings that show that rice cultivation in west and central Africa employs about 20 million small-scale farmers made up mostly of women working on family farms.

The remuneration of farm activities depended on the work done. Mean values for clearing, plowing and weeding were evaluated at 10 000, 20 000 and 14 000 FCFA/ha, respectively. Some activities like seeding and bird-scaring were done by family members only.

Rice commercialization

Commercialization channels

Rice commercialization channels are presented in Figure 3. At the level of producers, the decision on rice use (quantities to be sold, quantities for self-consumption, seeds, gifts) was the responsibility of the household head. However, women took care of the actual sale and reported to their husbands, who in turn decided how the income gained from rice was to be used.

There were two commercialization channels in the study zone: the short channel and the intermediary one. In the short channel, the producer sold the product directly to the consumer. Rice was sold in the following ways: in front of the house of the producer, at the weekly market, or transported and sold at the markets of big centers in Bambari. For sale in Bambari, women hired carts to transport the goods. Sometimes, they carried the goods on their heads (depending on the weight involved) and covered an average distance of 15 km to reach the urban market. Some men (6% of cases) also transported the product to urban areas using carts or bicycles.

With regard to the intermediary channel, there is at least a middleman (intermediary) between the producer and the consumers. Middlemen included wholesalers, retailers and processors (Fig. 3). They purchased rice from producers and sold it to consumers either in the form of paddy or processed it before sale. Retailers and processors also obtained rice from wholesalers when producers' stocks were depleted. The arrows that go from retailers and processors to producers show that those producers who sell all of their produce then have to 'buy back' food grains and seed. Rainfed rice is harvested between November and January, a period that corresponds to three successive feasts in Central African Republic (national Independence Day on 1st December, Christmas and New Year), when the population has more demands on its finances. This is why certain producers sell their entire produce and then supply themselves from retailers and processors.

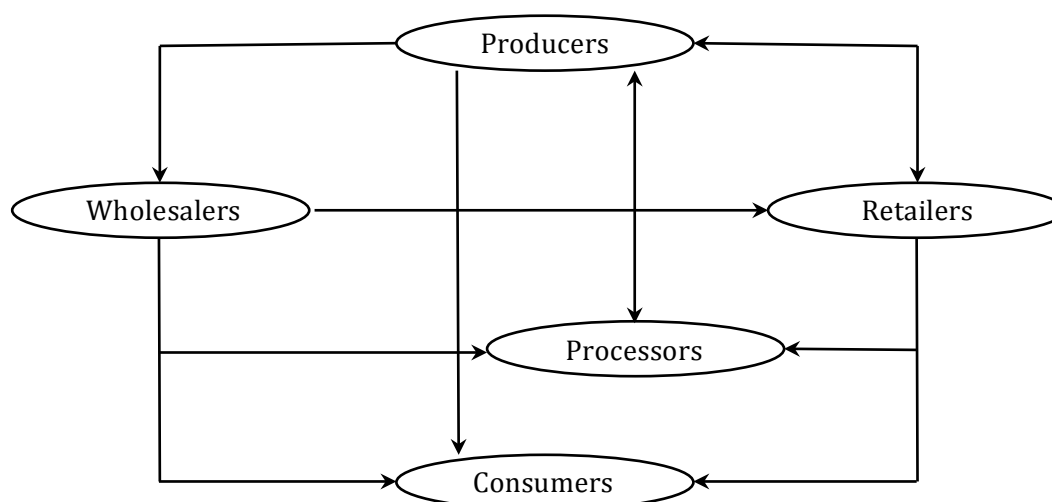


Figure 3. Rice commercialization channels in the study zone.

Types of rice traders

The proportions of the different types of rice traders working in the study zone are presented in Figure 4. There were four types of traders: men retailers, men wholesalers, women retailers and women wholesalers. Women represented 60% of the traders. However, there were twice as many men wholesalers as women wholesalers; there were considerably more women retailers than men. This shows of women's weak investment capacities despite their good will for (i.e. strong desire to be involved in) rice sector development.

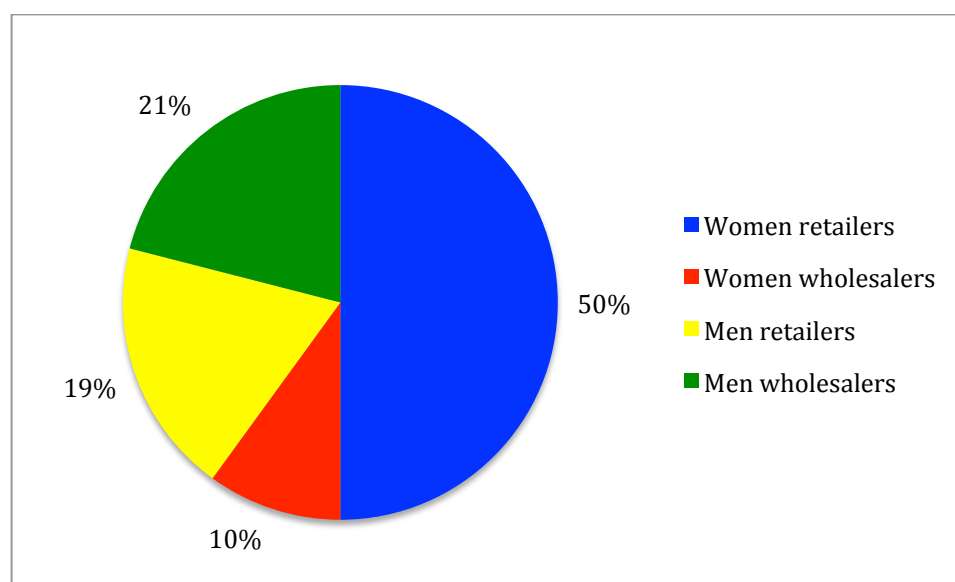


Figure 4. Rice traders in the study area.

Retailers are traders with small capital (27 500 FCFA [US\$ 55] on average), most from the town of Bambari. Most bought paddy rice from producers and sold it straight away on urban markets to other retailers, processors or consumers. Some of them sold rice after having processed the paddy. Wholesalers came from Bambari, Bria and Bangui. These are traders who have large capital (estimated more than 1.5 million FCFA [\$3000]) that they invest in rice commercialization. Each of these wholesalers bought on average 3.9 t of rice from producers. Part of this rice was either sold straight away as paddy, or the paddy was husked before sale. They stored the remaining to be sold during the period of shortage from June onward — a period during which local rice is scarce and its price is high. After this period, demand is mainly met by imported rice; a situation that shows that local production does not meet the growing demand of the population and the country must always import rice (Benz, 1996).

Income gained from rice commercialization

The commercialization mode depended on the capital invested. The unit of measurement is the *ngawi*, which corresponds to 13 kg of paddy or 20 kg of white rice. Traders who had small capital (< 50 000 FCFA [\$100]) bought paddy from producers at between 750 and 1500 CFA (\$1.5–3) per *ngawi* and resold it on urban markets for 1000–1800 FCFA (\$2–3.6) per *ngawi*. This commercialization took place between the November and March. During harvest (end of November to January), producers sold paddy rice at 750 FCFA (\$1.5)/*ngawi*; this price gradually evolved to reach 1500 FCFA (\$3) in March. From the end of March, producers did not have any more paddy to sell, and rice was sold by urban centers.

Wholesalers bought rice from producers in December and March at 750–1500 FCFA (\$1.5–3)/*ngawi*. Between December and January, some wholesalers bought paddy rice at 750 FCFA (\$1.5), husked it and sold it straight away at 3000 FCFA (\$6)/*ngawi* of husked rice. They then purchased for the second or third time between February and March when the price was between 1000 and 1500 FCFA (\$2–3). This product was stored for 2–4 months before being resold. The price of paddy per *ngawi* changed on urban markets from 1000 FCFA (\$2) in December to 1800 FCFA (\$3.6) between November and March to 2500–3000 FCFA (\$5–6) between April and June. From July, the paddy price per *ngawi* was 3500 FCFA (\$7). The price of white rice, in contrast, changed from 3000 FCFA (\$6) in January to 7000 FCFA (\$14)/*ngawi* from end of July. Selling by barter was also practised in the study zone where paddy rice was purchased in kind.

Processing

The results of our study show that 10% of rural producers husk paddy rice before selling it. In rural areas, husking is done manually; it is mainly a women's activity (48%), but is also carried out by children (31%) and men (21%). In the town of Bambari, husking may be mechanized (40%).

Manual husking: 'Pounding women in Bambari'

Some urban retailers buy paddy rice in rural areas and husk it on the spot, using local labor paid 250 FCFA (\$0.5)/*ngawi*. This operation is also done manually at the same price in the town of Bambari. The cost of mechanized husking is 300 FCFA (\$0.6)/*ngawi*. In the peri-urban zone and rural areas, women do not pound rice as a income-generating activity. However, it is a profession for some men.

However, in Bambari, women who pound rice have created an association called 'Association of women pounding and selling rice'. It is an association of several groups made up of two to four women processors of average age 33 years, and rice sellers who make this association to defend the interests of their members. A woman can pound about four *ngawi* per day, ensuring an income of about 1000 FCFA (\$2) per woman per day. These women are otherwise generally jobless and live in town. They practise peri-urban agriculture during the rainy season.

Pounding paddy rice is practised more during the dry season (December–March) — a period when farming activities are less and there is lot of paddy on the market. During the agricultural campaign (April–November), when paddy is scarce on the markets, pounding is organized between women who carry out farming activities in the same period. Some women processors are traders who sell white rice: they buy paddy from wholesalers in urban areas and husk it manually before reselling it.

Since manually pounded paddy rice yields about 55% compared to 45–50% for machine-milled paddy, about 60% of commercialized rice in the study area was husked manually. In addition to the high yield, people like the quality of pounded rice more than rice husked mechanically. In fact, paddy rice husked mechanically has a low yield due to the high rate of broken rice attributable to the quality of the husker. Rice husked manually is well sorted and clean, so consumers asked for it more often. Unfortunately, manual husking takes a good part of the day. It is physical work that requires a lot of energy and leaves women very tired in the evening. In addition to this pounding activity, they have other daily activities such as water collecting and other household tasks required to make the rural house tidy. Therefore, women need some help in the face of their many responsibilities since they pay school fees and health expenses of their children, especially when the husband is unemployed or if he is a polygamist and not able to satisfy the needs of all his wives (GRAD, 2001).

There are also male processors in Bambari. They often go to quarters in peri-urban zones to look for paddy to pound. They do not belong to any organization yet. Men pounders can manually husk about 5 *ngawi* per day.

Major processed forms of white rice

We found three major processed forms of white rice on sale: rice-based porridge, cooked rice and rice-based cake. Rice-based porridge is the commonest form of cooked rice at the national level and the only form of porridge sold in the study zone. Cooked rice accompanied by various sauces is also sold. However, there is also cooked rice without sauce, which is sold especially in peri-urban or rural areas. Rice-based cake is sold mainly in areas where there are many children (schools for example). Women are the sole traders in rice-based porridge and cakes. However, men are involved in commercializing cooked rice in restaurants, mainly in urban areas. These processing activities allowed actors to make a mean daily profit of 2379 FCFA (\$4.76) per actor for

porridge, 2054 FCFA (\$4.11) for cooked rice and 1787 FCFA (\$3.57) for rice-based cakes. The mean profit per actor per day varied from 800 to 5000 FCFA (\$1.6–10) for porridge, 750 to 4400 FCFA (\$1.5–8.8) for cooked rice and 700 to 3500 FCFA (\$1.4–7) for cakes. Porridge commercialization permits women to make more profit than the other forms of rice processing because porridge is more consumed by the population for breakfast and as a snack. Rice is also used in cooking many products such as food pastes, alcohol and oil, and rice starch is used as animal feed. This demonstrates the need to improve rice production in order to create jobs for populations involved in rice activities.

Conclusion

Women are the main actors in the rice sector: they are involved from production to processing, where their participation allows them to make acceptable income in order to contribute to the improvement of household living conditions. The rice sector plays a major socioeconomic role since it creates jobs for the different actors involved (women producers, traders, pounders, processors, etc.). However, despite their good will and efforts, the weak investment capacity of women does not allow them to make this sector a poverty-reducing activity. Women's tasks are hard, so they need some help to develop themselves. The rice sector could be a means for reducing poverty through:

- Making credit available for women to acquire inputs and farm equipment;
- Training women in improved rice production and processing techniques.

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