



RURAL WOMEN AND INNOVATION IN IVORIAN RURAL AREAS



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ABSTRACT

This paper aims to shed light on the central role of rural women in the agricultural production process in Cote d'Ivoire, in particular their potential for innovation and social change. Although they are not included in agricultural innovation projects, women remain the main agents testing out new techniques and ideas. As regards innovations, women display more self-confidence and a desire to know and understand new things. They show a high level of interest in activities and an ability to start varied experiences. Our study has been conducted from the introduction of new varieties of rice and maize in the Gagnoa area. It shows that innovations have a greater chance of success when they go through women. Therefore, the study suggests building women capacity and strengthening their position in agricultural production, if we want to ensure better adoption of innovation.

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Keywords: Rural women, Innovation, Côte d'Ivoire, Agriculture, Rural area, Adoption, Gender.

Contribution/ Originality

This paper contributes to the gender issues in Ivorian rural areas, mainly concerning innovations in agriculture. The study is about an example of adoption of new agricultural practices by women in Gagnoa area in Côte d'Ivoire. It shows that innovations are more successful when they go through women.

1. INTRODUCTION

In every region of the world, namely Asia, Latin America and Africa, women contribute fundamentally to the production of subsistence crops (Bisilliat and Fieloux, 1983). In Africa, women have responsibility for cleaning and preparing the field, planting and harvesting (Kouakou, 1982). In African folk beliefs, women represent the “wet” element and fertility. They further germination, hence the relationship established in the minds between maternity and agricultural production by Labouret (1972). The techniques of production they use are based on their own expertise, on what they have “in their mind”, anything that reflects their culture and belonging to a community. Women’s desire to innovate resists all obstacles they face on a daily basis. Even though, compared to men, they have a very limited access to the means of production, input and agricultural services as well as rural jobs; women represent a key driver for the adoption of innovations (FAO, 2011). As they operate on the entire production line, they constitute the main agents of the experimentation of new techniques and ideas. Successful innovations in agriculture are very often the work of women (Laisney and Lerbourg, 2012). Is this tendency confirmed in the Ivorian context? In other words, how do Ivorian rural women react to innovations introduced into farming?

This paper provides answers to this question through a precised experiment on agricultural innovation carried out by women in the Gagnoa area in Cote d'Ivoire concerning the adoption of new varieties of rice and maize. In this paper, we intend to show the potential for innovation and social change of women in rural areas.

2. METHODOLOGY

2.1. Survey Tools

a) Questionnaire

A questionnaire has been elaborated for farm managers. It has two parts: first, the characterization the production system and then the knowledge, attitudes and practices about innovations of S.S.P. Another questionnaire was designed for women of surveyed farm managers because of their responsibility in the cultivation of rice in Guéménédo, in the sub- prefecture of Gagnoa.

b) Knowledge, Attitude and Practice Approach

The Knowledge, attitude and practice approach is to ask for each of the innovations the following questions: Do you know the innovations, for example herbicides? The answer is a choice between “yes” or “no”. If the answer is yes, the following question is: “How did you have the opportunity to know the innovation?” the next question is about his attitude “what do you think of this innovation? Why? If the person has a positive attitude (if she appreciates the innovation) the following questions are asked: have you practiced this innovation? Why? When? If the farmer practiced the innovation, the following questions are: Do you intend to continue practicing the innovation? Why?

2.2. Field Of Study: Guéménédo

The first criterion is the level of association with the S.S.P. The second criterion takes into account the non-association with the S.S.P. Thus, we selected 100 operators as the table below shows

Table-1. Sample investigated in Géménédo

Stratum	Number of individuals investigated
Women producing rice and maize having in direct contact with S.S.P.	40
Men producing rice and maize having in direct contact with S.S.P.	40
Women having no contact with S.S.P	10
Men having no contact with S.S.P	10
Total	100

Source: According to Our Survey

3. RESULTS

3.1. Origin of Varieties Selected for S.S.P.

Varieties of rice and maize selected for the experimentation were developed by IDESSA researcher teams (Savannah Institute) and ICARD (International Centre for Agricultural Research for Development), for around ten years. They were tested in station and then on farm. These varieties have high productivity and high output in controlled environment. These experiments proposed in the S.S.P. are adaptive trials which should enable the production techniques to adjust to local production systems. We shall present the results on the dissemination of varieties of rice and maize which were credited with a high productivity and therefore not devouring large space.

3.2. Women and Agricultural Innovations Dissemination in Gagnoa

Farmers from the Gagnoa area and other areas of Cote d'Ivoire must face new challenges: plantations are at the end of their pioneering cycle, the growing of food crops is conditioned by a short fallow, invasion of plots by weeds, high land pressure etc.

In this context, farmers helped by research organization are increasingly expected to develop an ability to offer solutions to the fertility of fallow land for intensive agriculture in order to preserve existing forest resources. In this context of production constraints, technical references of System Study points were created for the fixation of

farming. New varieties of rice and maize were proposed to farmers: the results show that women pay more interest to these innovations than men do.

3.3. Innovation Adoption Rates

A quantitative analysis of innovations adoption rates based on the results of the “operator questionnaire” regarding the responses to the questions on knowledge, attitude, and practice of five types of innovation (selected varieties, seeding equipment, herbicides and fertilizers, farming techniques) was made.

For our analysis, we shall only retain the innovation “selected varieties of rice and maize” in order to assess the rate of adoption by women in Guéménédou.

Table-2 . Comparison of adoption percentages of selected varieties of maize and rice by women and men.

Gender	Maize			Rice		
	knowledge	Attitude	Practice	knowledge	Attitude	Practice
women in contact with SSP	80%	63%	53%	85%	65%	60%
Women having no contact with SSP	8%	4%	4%	10%	6%	4%
men in contact with SSP	48%	28%	20%	52%	32%	28%
Men having no contact with SSP	0%	0%	0%	0%	0%	0%

Source: According to Our Survey

The Ferké maize is well known, mostly by women who came into contact with S.S.P. (80%) than men (48%). Among women having no contact with SSP, this maize (Ferké maize) is known by only 8% of them while no man from that category knows this kind of selected maize. That difference is similar to the positive attitudes (63% for women against 28% for men who came into contact with S.S.P.) and practices (53% for women against 20% of men having been associated to S.S.P.).

The IAC 165 rice variety is well known by women who came into contact with S.S.P. (85%) and relatively well known by men from that category (52%). Women having no contact with S.S.P. barely know IAC 165 rice (10%). As for men from that group, they have no knowledge of it too. There are also gender differences regarding the proportions of positive attitudes for rice varieties. Among women who came into contact with S.S.P., positive attitude with regard to IAC 165 is 65%. Positive attitude of men who had contact with S.S.P. about the variety IAC 165 is 32%. As regards the practice of the variety IAC 165, women in contact with the SSP are 60% while the practice rate in men is 28%.

Speaking about maize or rice, some women farmers having no contact with the S.S.P know these selected varieties, show a positive attitude towards them and practice them. This shows the importance of social capital to adapt to on-farm innovations. Knowledge and practices are indeed transmitted through family networks, friends, neighborhood, community relations and through formal and informal (Sabourin and Tonneau, 1998).

In women, the source of innovations, knowledge is independent of the level of contact with the S.S.P, their educational level, age, date of installation and also the membership of women in a group. In men, the source of knowledge depends on the level of contact with the SSP

In addition to this practical example of the dynamism of women in the adoption of agricultural innovations, women in the social conditions of agricultural production have a central role because they are sources of fertility.

4. DISCUSSION

4.1. Key Role of Rural Women in Agricultural Production and Dynamic of Appropriation of Innovations

4.1.1. Central Role of Rural Women in Agricultural Production

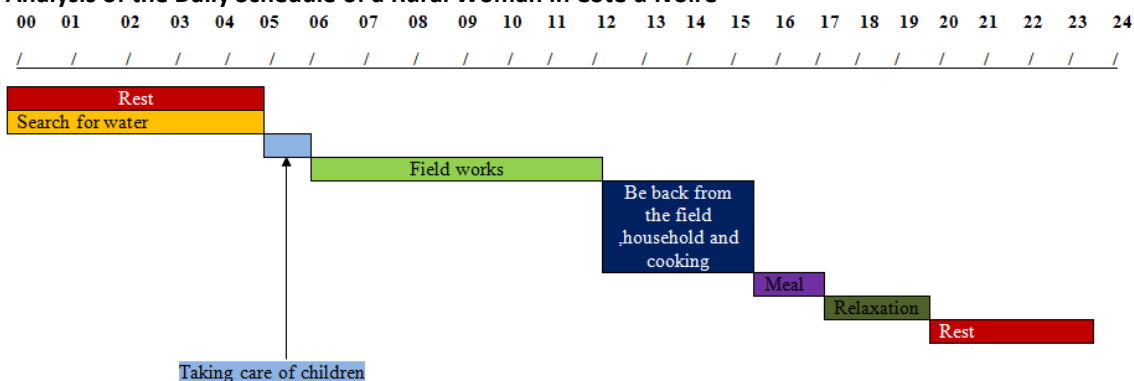
The role of women is achieved throughout rural economy. They are found in all stages of the production process; farming, fishing, crafts, breeding and housework. They, therefore, represent a real workforce in agricultural production. All the ancient mythology was inspired by the concept of motherhood to idealize the role of women. Labouret (1972) points out that: "Reproduction of animals, plants and soil fertility are designed as parallel but identical to the relations between men and women". The earth is likened to women as goddess of fertility and life. Since women represent fertility in African folk beliefs, they are given the privilege of placing the grain in the soil during the planting season. The analysis made by Kouakou (1982) shows the paramount importance of women in food economy. *The place of women in subsistence farming is well known. We must give them more to produce, process and market. The role of women is expressed in all and mostly in the rural economy. They are indeed found in all stages of rural production: farming, fishing, crafts, livestock and domestic care. Women represent a considerable workforce: cheap labor force in the case of any short- agricultural enterprises or labor in family farms, women cover 90% of needs in this sector of rural economy. Women, on whose behalf fields are made, are not the owners. They are the usufructuary, concerned with maintenance and harvesting. Without life, there is no food, and without food no gold workforce while the production of food is first women's business (Kouakou, 1982).*

Women provide an essential contribution to agriculture in developing countries. On average, women represent 50% of the agricultural workforce in sub-Saharan Africa and 36% in Cote d'Ivoire (FAO, 2011). They produce 60% to 80% of the food of the continent (Njobe and Kaaria, 2015). Rural women cultivate agricultural products, take care of animals, provide water and fuel, process and cook foods, are engaged in commercial activities, take care of family members and do the housework. In addition, household responsibility of rural women is quite huge. They manage complex households. In order to achieve their purposes, they use several strategies to ensure that family living means exist. So, rural women are responsible for the balance and well-being of the family. Through their renewed efforts on the entire production line, they provide education and family health, food and most of food production. In a word, "women play a dominant role in every domain of social life" (Bugain, 1988). They also provide men with serenity and security needed to carry out their duties,

For a long time, this essential role has remained invisible because overshadowed by men. Agricultural work has always been seen as men's job, for it is difficult and physically painful (FAO, 2011). However, acts of producing performed by women require much physical strength than fineness and patience. But as Westermarck quoted by Labouret (1972) pointed out: *"Various occupations of life are divided according to gender rules probably influenced by the stronger sex selfishness. The essential principle has deeper roots. They are in fact consistent with the indications that nature itself has provided."*

In fact, The Division of Labor is based on Gender Separation in Daily Activities. It is A Division of Labor That, As Servier (1980) Stated, is Not Induced by Any Biological Necessity, But of the Will of Men to Shape All their Actions on an Archetype That is the Main Reference System in All Civilizations. *"We Cannot Indeed Imagine the Existence of A Civilization in Which Women Would Plough Field and Men Would Spin Wool. If Such Civilizations Exist, it is Always in Tune With Legendary Model, A Kind of Conception of The Universe and the Place of Men in the Cosmos"* (Servier, 1980).

4.1.2. Analysis of the Daily Schedule of a Rural Woman in Côte d'Ivoire



- The village has only one rural enhanced hydraulic pump (E.H.P) to supply water to a population estimated at 2,000 inhabitants. In order to have adequate provisions for water, women must get up very early. Water is therefore a bottleneck.
- In addition to the field work, women must prepare children for school, cook and do the housework.
- Women's rest time is from 10 /11 pm to 5 am .Which is about 07 h, compared to men who enjoy more rest, almost 8h after farm work.

4.2. Dynamics of Innovations Appropriation by Rural Women

The adoption presupposes a change of behaviour based on how useful innovation is and the security that this innovation represents. Women display more self-confidence and a will to know and understand unknown things. They have a spontaneous desire of questioning to find solutions to problems they may come across in agricultural production process (Njobe and Kaaria, 2015). They show a high level of interest in activities and an ability to start varied experiences. Laisney and Lerbourg (2012) will say that, compared to men, women are "particularly concerned" about carrying out successfully innovations.

Despite their efforts, women have always difficulties accessing agricultural land, which they generally get only after getting married (Bucyedusenge, 1990). Aware of their strength and ability to innovate, rural women set up on their own more and more in order to carry out personal professional projects designed beforehand. Thus, the number of agricultural households lead by women is increasing over the years (Laisney and Lerbourg, 2012).

These women are increasingly in the process of gradual transition from traditional organizations of female expression and agricultural production to Economic interest groupings. These are plural spaces to meet and exchange agricultural experiments and disseminate innovations. Today, this dynamic has resulted in the creation of women's cooperatives in rural areas as it is the case of food cooperatives in Cote d'Ivoire. These cooperatives, especially show the ability of rural women to adapt to new challenges of production and their desire to bring under control the process of marketing of their products. Cooperatives are indeed agricultural practices change drivers and a means of assertion of rural women in their communities. They also show the ability of these women to self-manage and participate actively in the economic and social development of their families, communities, villages, regions and nations. Because of their efficiency, these cooperatives are frameworks of dissemination and adoption of innovations by rural women (Zoundi and Hitimana, 2004). When they are well organized, they are economically strong and socially viable. So, these cooperatives can facilitate their members access to production factors (access to land, credit and agricultural inputs) that may increase the level of adoption of innovations (Kouassi, 2004; Zoundi, 2005).

5. CONCLUSION

How to build the capacity and strengthen the position of women in agricultural production for better adoption of innovation

In Côte d'Ivoire, rural women have demonstrated their self-ability to adapt to challenges and make innovations their own. This shows their vitality as well as their dynamism and also, the ability of these women to achieve

unexpected performance if they were receiving necessary support from agricultural advisory services. The support from extension workers to women will increase their ability for innovation (OIM, 2003).

However, this support will only be effective if social norms that limit the role of women in agricultural production are revised. Actually, access to land in several Ivorian communities is still a taboo subject. Men control exclusively lands to the detriment of women who have to respect traditional values at the basis of such discrimination. (Minagri, 2004).

To strengthen the leadership of women, it is necessary to develop human capital and this starts with an access of women to education. To achieve that, the private sector and NGOs have a vital role to play in supporting women's will and actions of the State.

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