

## Stakeholder's perception on rice production constraints and challenges in Faranah prefecture, Republic of Guinea

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### Abstract

Rice occupies a special place in West African food systems. It differs from other basic foodstuffs in the rapid growth of its consumption and the resulting increased dependence on the global market. Imports represent on average half of the consumption of rice over the past two decades. This cereal has become a major issue in the formulation of food policies in Guinea. This research focused on qualitative data collected by using participatory approaches. Historical profile, map of area, polarization diagram, Venn diagram, Semi structured interview (ISS), Transect, Seasonal calendar, Life line, polarization grid, analysis grid of constraints, and pyramid of the constraints were tools engaged. This research was carried out to list and analyze all the constraints related to rice growing and its rise in Faranah prefecture from the perspectives of different stakeholders engaged in rice production. Specifically it aimed to identify the main constraints and challenges related to rice production, analyze these constraints and challenges in terms of profitability and income of rice actors and propose solutions to improve rice production and income of farmers. The research is based on a logical framework that would make rice production a national goal to address all food and income issues that can significantly impact the lives of stakeholders. Rice production has so far been source of major weaknesses reported such as: the low arable land development, excessive land poverty, traditional land management, inadequate agricultural equipment, tense relationship between farmers and herders, low use of inputs, inaccessibility to certain production areas, low agricultural credit system, inefficient rice market, as well as scarcity of local and external labor. Proposed solutions were: to provide effort to develop all arable lands, bringing aid to producers, regulating the operation of the hillsides and allowing the great land reform in the wishes of farmers.

**Keywords:** Stakeholders perception, Rice production constraints, Development, Rice production framework

### 1. Introduction

According to Nuijten, E. and al (2009), production in sub-Saharan Africa in 2003 was about 15.08 million tonnes (provide the source of data-author and year of publication); West Africa account for 70.4% of rice area. The major contributing countries are Nigeria (47.9%), Guinea (5.20%), Cot d'Ivoire (5%) and Mali (4%). East Africa accounts for 16.1% of rice area (Hirsch R; Cirad, 1998). According to Akpokodje G, et al (2011), the major contributing factors for low rice productivity is: late planting; poor post-harvest handling, processing and marketing; poor extension services and inadequate rural infrastructures. West Africa and East Africa have the lowest average grain yields in Africa (1.9 and 2.3 tones/ha, respectively). According to Lançon F. (2001), Okry, F., Dalohoun, D (2011), added that West Africa contributes 70.4 percent of the rice area and accounts for 45.8 percent of total production, while North Africa contributes 6.7 percent of the rice area and accounts for 29.1 percent of total production. According to Akpokodje G, and Ogundele O. 2003, this is because of several constraints, including: high incidence of pests, weeds and diseases; drought and poor water control; poor seed management; poor soil fertility management; lack of access to credit, farm inputs, farm machinery and animal traction, and shortage of labour. Rice production faces other constraints such as ineffective farmers' organizations (Rubyogo, J. C. and Sperling, L. (2009). Rice occupies a special place in West African food systems (WALDA, 2001). It differs from other basic foodstuffs in the rapid growth of its consumption and the resulting increased dependence on the global market. Imports represent on average half of the consumption of rice over the past two decades. This cereal has become a major issue in the formulation of food policies (Thomas R, et al, 2016). For the whole area, on the basis of the food balance sheets published by the FAO, it can be seen

that the average per capita apparent consumption that was less than 12 kg per year during the 1960s increased to more than 27 kg per year during the last decade. (Dawe D, 2002).

During the first thirty years after Guinea's independence, the strategic options for agricultural development were characterized by the establishment of a quasi-exclusive government control system over rice imports and a strong intervention on marketing and local production ((MAEF (2007b). These options were gradually put back because of the macroeconomic difficulties linked to the increase of the public deficit and the weight of the indebtedness on the national economy (Dorward, P., Craufurd, P, Marfo, K., Dogbe, W. and Bam, R. 2007). The rice sector continues to be the area most affected by the dynamics of agricultural development, because of the place of rice in the food system of the Guinean population. In fact, the attempt to meet the demands of the rapid increase in rice consumption has led the Guinean authorities to mobilize a preponderant share, if not almost all the public resources allocated to the development of food production. According to Lançon F. et al (2001), Guinea is the second largest producer of rice in West Africa after Nigeria and the third largest per capita rice consumer after Sierra Leone and Senegal.

Rice sector is the main agricultural sector in Guinea (MAEF (2007). Rice is grown on nearly 520000 ha, which is half of all cultivated areas. Rice is found in the four natural regions. The natural regions which accounts for 80% of domestic production but even though rice production has increased over the past decade, it only covers 60% of needs (MAEF (2007b).

Imports are still needed to supplement the country's supply (DYNAFIV, 2003). The price of imported rice is favorable to the poorest people because it is currently 50% cheaper than local rice. According to IRAG (1997-2002), Guineans consume about 90 kg of rice per year which represents 43% of the 2100 calories required per day. In 2003, the local value chain generated an added value of about 340 billion GNF, or 5% of GDP. It markets around 120 000 tons of net rice a year, with around 65 000 tons being traded inter-prefectural (Diallo et al Subsol, octobre 2002).

Following Spencer, D. (1994), the rice sector continues to be naturally the focus of national agricultural development policies. Rice self-sufficiency, which has always been considered by policy makers as a priority issue, has led governments to implement several strategies for developing rice production. These strategies, which led to the adoption of improved varieties through the intensification of local production and then price adjustment in the context of liberalization policies, have not had the expected success despite the significant progress recorded in terms of increasing the level of domestic rice production (Witcombe, J. R., et al 19990). According to IRAG (2011), in Guinea, the total cultivated area increased from 476 000 ha in 2000 to 797 120 ha in 2010. The average yield, went from 1.71 to 2, 50 tons per hectare in 2011, for all ecologies combined, ie respectively an estimated aggregate paddy production of 739 000 tons in 2000 and 1 366 208 tons in 2012 (Dixon, J. A. Gulliver and D. Gibbon 2001).

## 2. Methodology

This research was carried out to list and analyze all the constraints related to rice growing and its rise in Faranah prefecture as they are perceived by different stakeholders engaged in rice production. Specifically it aimed to identify the main constraints and challenges related to rice production, analyze these constraints and challenges in terms of profitability and income of rice actors and propose solutions to improve rice production and income of farmers.

Data were collected in eight rural communes plus Faranah center (Bagna, Beindou, Heremakono, Nialia, Passayah, Sandenia, Songoyah, Tiro and Faranah center) through thematic participatory approaches from January to June, 2016. Focus groups discussions were conducted in which 26 key informants from government, NGOs and privates institutions were involved. 270 producers (132 man and 138 women) were also engaged during the interviews.

Consultation of the archives and general documents and training of the local facilitators to collect data relevant to the realization of diagnosis on the production systems and households income in these communities. Le thematic participatory diagnosis was focused on the following phases and tools: 1. preparatory phase of the diagnosis; 2. diagnosis phase; 3. participatory planning phase; 4. assessments phase;

With the historic profile we were able to know the history and the succession of significant events that have had an impact on village life from its inception to the present;

The map of the area helped to identify the agricultural potential of the production areas that have been the subject of investigation;

Polarization diagram was used to understand how the village developed relationships around him; what kind of relationship it existing between them?

Venn diagram allowed us to identify all villages' institutions (internal) interacting with those support the development of the village (external);

Semi-structured Interview (SSI): Semi structured interview (ISS): We made an inventory of the assets of the sites visited thanks to the perception of the different groups interviewed (focus group, key informants).

Transect walks: Helped to identify the different types of soil, vegetation, animal husbandry, rivers, the crops grown, trends, problems and proposed solutions from a representation of relief;

Seasonal calendar: Allowed us to identify the agricultural, social and cultural activities during the year in order to know the favorable periods of the achievements of the community services; Lifeline: Allowed us to know the age groups (children, adults and old) by production area to know the level of the agricultural population and the active layer;

Prioritization grid: To establish a list of priority issues and their hierarchy related to rice cultivation in rural commune;

Analysis of the problem grid: To understand the problems related to rice cultivation and market values and the desired yield (AACG, 2005; Bammann H., 2007).

### **3 Results and discussion**

#### ***3.1 Conceptual framework of the study***

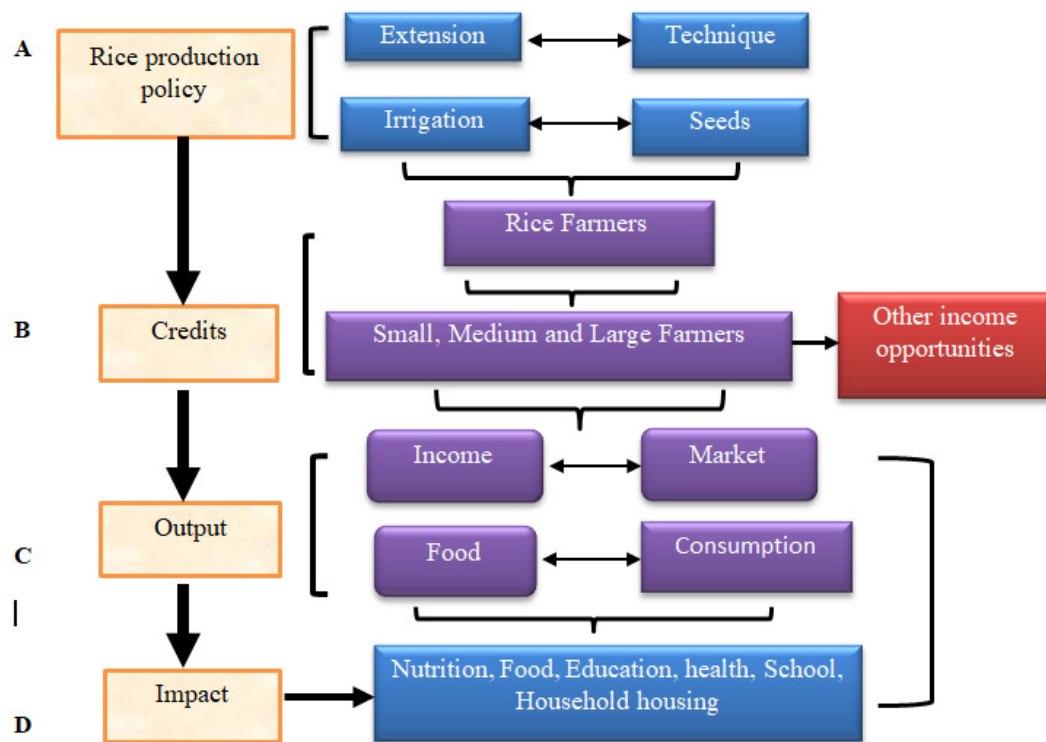
The research is based on a logical framework that would makes rice production a national goal to solve all food and income issues that can significantly impact the lives of all actors. Guinea's rice production policy is divided into four levels (ABCD): A level is the national decision center, where it has been decided to improve local rice production systems through extension of the cultivated areas, implementing fertilizers adoption and improving also the new agricultural techniques that would increase irrigation of the multiple plains while encouraging producers to adopt new improved seeds adoption to ensure sustainable productivity.

B Level receives direct support from the national policy giving access to agricultural credit to all categories of producers, allowing them to bear the costs of production and produce better through which they can initiate other income opportunities

At level C, productivity should be satisfactory, so that producers can sell the surplus of their production on the relevant markets by taking advantage of the opportunity costs desired after having planned all their food through a local consumption policy.

The last one is D level, in which we would like show the impact of rice production one rice stakeholders in terms of income, self-food sufficiency, health, schooling, children's education and housing.

This logical framework is a part of our contribution to this study of rice production and its contribution to household income in Faranah prefecture, Republic of Guinea. It would have been desirable, through this thesis, for the Guinean government and its partners to revisit rice cultivation with much more dynamics by providing the necessary means (infrastructure, land management and support to the peasants).



**Figure 1: Rice production conceptual framework**

### 3.2 Land management approach in Faranah

Table 1, indicates that land management systems in the study area consist of two great parts. The first is land management according to the traditional system which is divided in loan, gage, inheritance and donation. Specifically, these systems are largely based on the customs of the different communities that make up each zone of production and through which all land issues are settled amicably without confrontation most often. These different systems are also seen as a better alternative for a sustainable stability among farmers in rural areas where land is the most valuable asset.

The second part of this land management is called modern land management. This land management is composed of the purchasing and renting of land. These systems of regulation are envisaged by any producer who is definitely inspired by a field on which he puts into practice his production objectives and which seems to be the best way for the state services but also communities to secure the producer.

**Table 1: Land management from study area**

<b>Type of Land management</b>	<b>Management approach available</b>	
<b>The traditional management System in the different areas</b>	<b>Loans</b>	<b>Gage</b>
	It consisted an agreement between landowner and producer who needs it to producer for a period not exceeding one year and during that time, there is no consideration	it's when a landowner to pays a value (money, animal) or other property to someone who he owes, then he can decide to offer part of his land to creditor until the value or Property is exhausted.
	<b>Inheritance</b>	<b>Donation</b>
<b>Land Management according to the law</b>	it's a form of land ownership recognized to offspring family forever	it's a regular practice in rural area, it consist giving a definite and free part of his link with the producer for land to a person according to the year
	<b>Land purchasing</b>	<b>Renting</b>
	it's a definitive market between landowner and the producer in which the seller loses his right ownership over land forever to the buyer	it's a form of land acquisition , in the study area where the landowner must give a part of his practiced land to producer for a remuneration and who must pay it after the annual Yield.

Source: Computed from survey data, 2016

### 3.3 Agricultural systems advantages and challenges

. It has been indicated that the hillsides are mostly giving an available land estimated at 60% of the total land, but it has many problems in terms of profitability because of low yield between 1 to 1.5 t/ha and become a shifting cultivation for the producers. It has been observed in this last decade that rice production on the hillsides presents serious inconveniences on the nature because this practice has today decimated more than 40% of forests and contributes to the erosion of the soil in the most cases and based only on the rainfall. The production of rice in the lowlands is for the moment the best practice according to the producers as this type of land is naturally rich in nutrients but it is easy to work with the presence of water and it constitutes only 10% of the total land. It has some advantages such as: yield estimated between 2-3 t / ha, the sedentarization of the producers, and the reasonable production cost. In terms of challenges, these lands are mostly smalls areas (1 - 5 ha maximum), investment cost of the first year is high and inherited mostly. The plains constitute the important part of the cultivable land after the slopes. Its great advantages are among others: the large areas available in all production areas, great development opportunity because of the Niger River and its tributaries. Its main challenge is low yield (1-2.5 t/ha),

**Table 2: Characteristics of the different agricultural systems**

<b>Culture systems</b>	<b>Advantage</b>	<b>Challenges</b>
<b>Hillsides</b>	Rice production is estimated about 31 % in this kind of land which provides an opportunity of arable land availability more than 60 %; Low investment demand; The main part of the work is handled (clearing, ploughing and harvest); Submitted to the rhythm of rain during the vegetative cycle of the plant; Based on the local varieties with short cycle vegetative (2-3 months); Associated with some others cultures; Less labor.	A lot of clearing work; Low returns; Shifting cultivation; Negative impact on the environment; Low yielding (1 – 1.5 t/ha); The techniques always drawn on old expertise; low expenditure on field work; The effects of climate change are sometimes felt by the rarity of the rains, the plants wither and lose their good yield;
<b>Lowland</b>	Rice production in lowland is around 10 % and become the best land in terms of yield accruing in the Faranah prefecture (2- 3 t/ha) and have some advantage such as: The sedentarization of peasants; crop rotation (for most of the season); Maintenance of sown areas judged easy; The cost of labor is reasonable	High investment costs for developments when they are in their first year of operations; Low mechanization of field work; These lands are mostly smalls areas (1 - 5 ha maximum); They are generally inherited from the direct parents;
<b>Plains</b>	It is, mainly in Upper Guinea that this crop is grown at 28 % and constitutes 30 % in Faranah prefecture: Great mechanization possibilities (animal traction and mechanical); No environmental destruction ; Sedentarization of peasants; The extensive land available.	Water no controlled; High investments cost; High fertilizer demand; Large demand for labor; Yield still low (1-2.5 t/ha); Production based on rainfall; Permanent weed threat; Land work difficulties

**Source: Computed from survey data (2016)**

#### 3.4: The socioeconomics weight of rice production by stakeholder

It has been identified in Table 8-3 that rice production and its market value have an interesting weight on the five actors classified in two major groups according to their activities. It was observed that the first group is composed of small, medium and large producers, depending on the size of the cultivated land and the second group is composed by those who transform the paddy rice into net rice called transformer in which it was identified two actors who are the buyers-steamers and the owners of hullers or machines. Our analysis is based on the socio-economic weight of indicators composed of: strength, weakness, opportunity and threat. Through these indicators, our study consists of analyzing the growth factors of rice production and income on the different actors. Of all these indicators, the threats and the weaknesses constitute the nodal point of our approach of reflection on the scope of the rice cultivation on the producers in the zone of study. These two indicators specify the lack of provision to significantly improve local rice production. However, the indicators such as strength and opportunities constitute advances, or achievements that must imperatively perpetuate and constantly improve

**Table 1: Analysis of the socioeconomics weight of rice production on the stakeholders**

Stakeholders categories	Strengths	Weaknesses	Opportunities	Threats
<b>Smalls producers (0-2.5 ha)</b>	They are more than half of the producers; availability of labor; land usually solicited; Low operating	Low training Largely illiterate; Low operating resources; Scarcity institutional	Arable land availability (Hillsides, plain); Dominance of women on arable land; Appreciated yield (shallows 2-3 t / ha); High Rainfall.	Presence of weeds and diseases; Low seed improved adoption; Soil Poverty; Flooding or early
<b>Medium producers (2.5-5 ha)</b>	Great motivation in rice production; Existence of large arable land; Reasonable costs of land	Low land mechanization; More than half of them are illiterate; No water control; Unsubstantial	Government forecasting studies favouring the extension of rice cultivation; Availability of improved seeds.	Presence of insects and pests; Phyto toxicity and burning of plants; Depending on the rain:
<b>Large producers (above 5 ha)</b>	Great motivation in rice production; Existence of large arable land; Reasonable cost of acquiring land. Generally literate	Very low land management; Inability to minimize operating costs; No water control; Does not have land ownership and good market for rice; Renting or buying cultivation land;	Existing large lands; A flourishing sub-regional market; Modernization of the sector; Guinea's populations are rice consumers at 85 %; the number of producers is increasing;	High cost of agricultural tools; Flooding and early dryness; High cost of inputs and labor and lack of credits ; low Government support
<b>Bayer-steamers</b>	Good relationship; Quick access to the quantity of rice desired; Buy during the harvest time at low prices;	Financial mains limited; Poor steaming techniques; Poor conditions of the roads;	Abundance of rice during harvest times; Low costs of paddy rice Lack of good information;	High cost of husking High cost of steaming tools ; Competitiveness with white rice and
<b>Sheller</b>	Experience in the business Number less than the needs; High profitability	Low number of decorticator Low of financial means; Lack of follow-up and training;	High number of steamers; Abundance of paddy rice; Populations very interested	High taxes cost; High cost of maintenance and repair; Scarcity of spare parts ;

Source: Computed from survey data (2016).

The typology of rice production land systems is characterized by five colons: land categories, characteristics, the production pattern, mains constraints and dynamics. In terms of line, it was marked that these land categories are respectively lowland, plains and hillsides. As characteristics, it was noted that in the all of these ecosystems, rice is produced without fallow and with fallow, and especially in the lowlands; it is usually underdeveloped. Those that are developed are old in the hands of experienced producers. In the hillsides, clearing, burn debris, fallow between 5 and 6 years are notified. All production patterns are manual, harness and mechanized where it was observed the dynamics such as problems of soil fertility, strong production in the all production areas,



**Table 4: Thematic analysis of rice cultivation in Faranah prefecture**

Land categories	Characteristics	Production pattern	Main constraints	Impotence
<b>Lowlands</b>	3/4 of rice without fallow and 1/4 with fallow between 2 to 3 years;	Manual	Decline of fertility	Term lands abandonment at
	Rice product without fallow is usually undeveloped lands; While those that have been developed are old in the hands of experimented producers;	Harness	Weeds threat;	Production issues in all
		Mechanized	Difficult drainage	Lands management and The sustainability of rice Prefecture;
<b>Plains</b>	Rice without fallow and with fallow;	Manual,	Low productivity;	Abandonment, departure to the lowlands or
	Each year, cultivated areas are increasing at the level of medium and large lands	Harness	Increased need for mechanization;	on plateau sometimes; In decline because many risks (abandonment to others
		Mechanized	Effect of climate change;	Agricultural transhumance
<b>Hillsides</b>	Clearing, burning debris;	Manual	Nature fertility problems	Crisis in some areas, abandonment
	Fallow between 5 and 6 years.	Harness	Low productivity	for other crops such as cassava or fonio or
	At some time the fallow is between 7 and 8 years		Based rainfall systems	move down for the plains.

**Source: Computed from survey data (2016).**

### 3.5 The analysis grid of rice cultivation main's constraints in Faranah prefecture

The table 5 was developed to indicate the different levels of analysis performed on the constraints of local rice production in Faranah prefecture. The constraints are analyzed from domain, content, main constraint, cause, consequences and proposed solutions. As part of our study, three categories of agricultural land on which rice is cultivated have been identified. All of the different lands (Lowland, plain and hillsides) have many problems in terms of profitability because of the constraints such as the very low arable land development and excessive land poverty. The causes of these main land issues are low government support to producers, very low agricultural inputs adoption, Instability of climate data and lack of effective land reform which have resulted into many consequences on the quality of rice production such as: many producers do not have ownership land, land conflicts, famine and poverty in rural areas. From these all issues, causes and consequences, we proposed solutions to allow production to be one of the best such as: provide effort to develop all arable lands, bringing aid to producers, regulating the operation of the hillsides and allowing the great land reform in the wishes of all farmers.

With regard to the field of production, the main problems are the inadequacy of agricultural equipment, the relationship between farmers and herders and the low use of inputs caused by the acute poverty of the producers, the weak support of the NGOs and lack of private support in the agricultural sector. The consequences are diverse as the manual labor largely dominates the agricultural activities, the persistent poverty among rice farmers. Addressing theme we proposed to provide producers the production materials, facilitate small modern tools for small producers, and create farms for breeders and to empower producers with their own innovations.

The scarcity of financial resources for the stakeholders in the rice sector is another critical issue for the future of production and marketing in our study area, It has been revealed that the absence of a reliable credit system and the poor vision of agricultural policy are the main constraints that seriously prevent producers from achieving a full and successful agricultural activity. In terms of consequences, we have noticed the difficulties of starting agricultural activities, the delay in respecting the agricultural calendar and the sale of rice to usurers. Knowing all these sad realities, we proposed to the government and institutions to open a strong agricultural bank and agricultural credit systems in all production areas.



It was also found that those constraints such as scarcity of local and external labor; uncomfortable rice market and difficult access to certain production areas, the government's withdrawal from agricultural trade and the poverty of local residents consisted other significant problems that have enormous consequences. They include the rural exodus and mining activities (diamond, gold), high labor costs, rice production activities largely reserved for the aging class, opportunity costs for private traders and poor sales of agricultural products. These multiple factors which limit creation of income of the actors led us to make proposals of adapted solutions such as the organization of the young people in the agricultural cooperatives; involve producers in the sale of their products through grain banks and urge the government to improve community development.

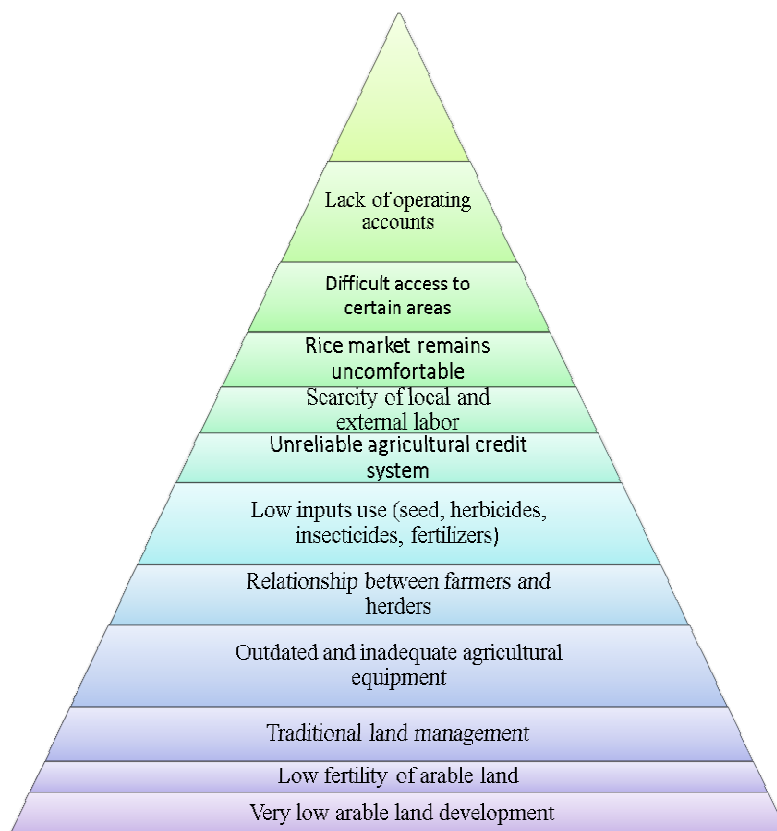
**Table 2: Rice production's main issues analysis in Faranah prefecture**

Domain	Contents	Main issues	Causes	Consequences	Suggestions of solution
<b>Farmland</b>	Lowlands	Very low arable land development,	Low government support to producers;	Daily suffering of producers	Provide effort to develop all the arable land;
	Plains	Low fertility of arable lands ;	Regular bush fires during the dry season on the hillsides;	Rain scarcity and pollution ;	Bringing aid to producers; Regulating rice production on the hills;
	Hillsides	Traditional land management;	Very low use of agricultural inputs; Instability of climate data; Lack of effective land reform; The increase of population;	Low rice productivity, Abandonment to others crops (fonio, taro, cassava); Perpetual threat of weeds; Many producers do not have ownship land; Land conflicts;	Raise awareness about the dangers of bush fire. Adopting a minimum of chemical and biological means at soil; Training on the climate change
<b>Production</b>	Agricultural equipment	Outdated and inadequate agricultural equipment	Acute poverty of producers; Low support of private organizations and development agencies in agricultural sector;	Famine and poverty in rural areas;	Allowing land reforms at each decade and preserve it in the social education
	Wandering Livestock	Relationship between farmers and herders	The animals in total wandering (no park); Lack of financial resources (livestock loans); Inadequate government support for breeders;	Large manual labor in the agricultural activities; Persistent poverty among rice producers; Producers are discouraged and resign themselves; Abandonment of rice production;	Provide to producers the production materials at the time; Facilitate small modern tools for small producers; Create a price of excellence to encourage;
	Supply of inputs	Low inputs use (seed, herbicides, insecticides, fertilizers)	The government assistance judged very low; Bad distribution of input stocks; Late delivery of inputs; Degradation of some rural roads;	The fields are largely devastated; Great fights between farmers and livestock farmers; Abandonment of land frequently crossed by animals; Rural exodus of some producers;	Apply laws to protect producers against animals invasion; Create parks for livestock farmers; Creation of livestock credits to breeders; create trust between farmers and ranchers;
<b>Financial means</b>	Stakeholder's financial means	Unreliable agricultural credit system	Inadequate national agricultural policy, The obvious corruption of some agricultural leaders	Producers not believe in their activity as a growth sector; Flooding of fields and threat of weeds; Low yield land; Growing discontent of producers on the manner of inputs delivery	Providing inputs to farmers over time Increase the training of producers on the use of inputs; Empowering producers with their own innovations; Opening up all production areas (roads)
				Lack of reliable agricultural credits for farmers; Many difficulties for starting agricultural activities; Sale before harvest of rice to moneylenders; Poor selling	Open the credits autonomous in the production areas; Build grain banks for post-harvest management ; Establish a national agricultural bank;

<b>Labor</b>	Labor availability	Scarcity of local and external labor	The hand work generally qualified as pain; The rural exodus and mining activities (diamond, gold); Income qualified as very low.	The labor cost very expensive ; Reducing purchase power of producers; Some lands are not being exploited; Rice production activities are reserved largely to the aging class;	Motivate youth through farmers support; Help farmers generating income from grants; Organize young peoples in cooperative systems;
<b>Rice market</b>	Marketing of local rice	Rice market remains uncomfortable	Lack of dynamic market for promoting and marketing local rice; The disengagement of the government in agricultural products trade; A market dominated by the private structures	Producers sell at a loss; Their production serves only to repay a large part of the creditors ; Opportunity costs are in favour of private traders; Poverty, famine, disturb farmers and destabilize their lives;	Creating a national dynamic market of local rice ; Associating producers in selling of their products through the cereal banks; Pre-financing the producers to start the agricultural activities; Develop leadership in production and to

**Source: Computed from survey data (2016).**

This pyramid was designed to demonstrate the severity of the constraints related to rice growing in the study area. Of these twelve major constraints, the order of visibility of magnitude depends on the bottom to up. When we leave the bottom of the pyramid, it's revealed that the constraints gradually follow from the relevant to the least according to each production area. All the constraints have been prioritized according to the weight on rice farmer to better clarify the need of our agricultural policy. So, all of these constraints should be improved to give a new face to our agriculture going in the direction of productivity, competitiveness and income to the actors



**Figure 2: Pyramid grid of rice production constraints by prioritization**

#### 4. Conclusion and Discussions

This research has focused on qualitative data collected in the study area where it was indicated that the participatory approach were actively used.

It was revealed in table 8-1 that, land management systems are regrouped into two great parts: land management according to the traditional system in which it was observed the loan, gage, inheritance and donation; the modern land management is composed of the purchasing and renting of lands.

The Comparative study between these land categories or ecosystems in terms of soil, vegetation, fertility, households' percentage occupation, water disponibilities and the average annual yields shows that 50 % of household are working in hillsides, with a low yield estimated at 1-1.5 t/ha, the system must be abandoned in favor of the plains and lowlands to allow a good protection of environment. However, the lowlands constitute for the moment the best practice lands according to the producers with the presence of water, yield raised between 1.5 to 3 t / ha, but largely smalls areas (1 - 5 ha maximum), inherited mostly, but constitute only 10% of household are working. On the plains, watered by Niger River and its tributaries, the average yield is low (1.5-2.5t/ha) for the moment, based on the rainfall at 90 % in year.

The socioeconomics weight of rice production on the actors was explained in the table 8-3, following Jiggins, J. and Collins, K. (2003), we divided producers in three groups (smalls, medium and large) and where it should concluded that rice production and market value have an interesting weight on the five actors classified in two major groups according to their activities. The first group is composed by the small, medium and large producers, depending to the size of cultivated land and the second group is those who transform paddy rice into net rice called transformers in which it was identified two actors: buyers-steamers and the owners of hullers or machines. Table 5 was developed to indicate the different levels of analysis performed on the constraints of local rice production in Faranah prefecture. He therefore observes that the constraints are analyzed from domain, content, main constraints, causes, consequences and the proposed solutions. Twelve constraints were having been identified such as: very low arable land development and the excessive land poverty. The Figure 2 shows the prioritization of these constraints from the bottom of the pyramid to demonstrate the severity of the constraints related to rice growing in our study area such as: the very low arable land development, Excessive poverty of arable lands Traditional land management, Excessive poverty of arable lands, Outdated and inadequate of agricultural equipment, Relationship between farmers and herders, Low inputs use (seed, herbicides, insecticides, fertilizers), Unreliable Difficult access to certain production areas agricultural credit system, Rice market remains uncomfortable, Scarcity of local and external labor for which we had proposed solutions to make our rice production an unavoidable hope of all actors.

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