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Understanding the motivation of farmers in financing agricultural research and extension in Benin

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Abstract

Farmers are increasingly asked to pay for agricultural research and extension (ARE) services in many developing countries. Although, farmers participate diversely in funding these services, their motivation is rarely sustainable. This paper addresses the question whether this financial participation is the reflection of the development of a sense of appropriation of services or rather an adaptation strategy of farmers who may have been coerced to share the costs of services. We conducted a qualitative inductive analysis based on three case studies in Benin to develop a framework for understanding farmers' motivation to finance ARE. The analyses show that farmers' subjective interpretations of service organizations triggered and guided the motivation to finance ARE. Motivation processes could turn to diversion processes or congruence processes. Conversely to diversion processes, motivation congruence processes ensured a sustainable farmer financial participation. These findings could be useful for designing or analysing ARE funding systems, especially with respect to their effectiveness and sustainability.

Keywords: agricultural research and extension, farmer financial participation, motivation, Benin
JEL: Q1, O3, Z1

1. Introduction

The decision-making mechanisms of African farmers were widely discussed since the seventies by anthropologists (BOIRAL et al., 1985; CHAUVEAU, 1997; COCHET, 2006). The issue was often addressed from technical and economic perspectives (CHAMBERS et al., 1989; LANDAIS and LHOSTE, 1990), focused on farmers' strategies toward natural resources management (FAO/ORSTOM, 1995), socio-political logics (LE MEUR, 2000) and farmers' behaviour with respect to issues related to agricultural development projects (DOZON and PONTIE, 1985; BIERSCHENK et al., 2000). With

regard to development projects, typologies of farmers' motivation and subsequent behaviour were suggested. For instance, YUNG and ZASLAVSKI (1992) refer to defensive, skirting and offensive strategies to characterize farmers' reactions to agricultural development projects. According to OLIVIER DE SARDAN (1995), these reactions based upon principles of selection of part of technological packages and diversion of objective according to logics of safety and assistancialism. In opposition to self-reliance and appropriation of advantages and opportunities, assistancialism refers to being always looking for maximization of external support without self-commitment. Three important remarks come up. The first point is about the nature of the issue and was largely discussed. Understanding the rationality and the logic of actions of farmers turns out to be a permanent challenge. This can vary importantly over time, from community to community, from context to context and even from one farmer to another (OLIVIER DE SARDAN, 1995; COCHET, 2006). The second remark concerns the research focus points. Studies about African farmer rationality scarcely dealt with farmers' behaviour in connection with institutional reforms especially the financial participation of farmers to agricultural research and extension (ARE). Lastly, little attention has been devoted to psycho-sociological analysis, although this can provide another perspective of the issue.

The interest for investigating the motivation of farmers in financing ARE relies on the fact that the achievement of goals of service organizations and development projects and the sustainability of their experiences depend on farmers' commitment. The mechanism through which ARE are funded would affect decision making with regard to their goals, target groups, methods, messages and the organization of service delivery. Stakeholders who finance the ARE do so because they think it is a way to reach their goals (VAN DEN BAN, 2000). Therefore, many challenges would be associated with the financial participation of farmers. According to KATZ (2002), financial participation is desirable because it empowers farmers, who turn from beneficiaries to customers or owners. Moreover, it is the most helpful lever for ensuring effective services and accountability of extension workers and researchers to users. The involvement of farmers in funding is also presented as a strategy for giving local stakeholders a sense of responsibility and for ensuring sustainability after achievement of projects in many developing countries.

Benin's economy is still based on agriculture which contributes up to 35% to GDP. More than 60% of people work in the sector and are small farmers doing non-mechanized agriculture primarily for household subsistence. Cotton and pineapple are the most important cash crops in north and south, respectively. Agricultural research and extension were provided to farmers free of charge by public organizations until 1991. The Ministry of Agriculture set up agricultural development offices at department, district and village levels to reach farmers. Either investment costs (houses, cars,

equipment, etc.) or operating costs (salaries and other advantages, consumables, etc.) of ARE were supported in the framework of national and international development projects implemented by public organizations. In addition, farmers were paid allowances for participating in meetings, trainings and other activities. Since 1992, the liberalization of agricultural services led to partial withdrawal of the government from delivering services and the involvement of many other stakeholders such as farmer organizations, NGOs, input providers, etc. Development projects are now more commodity-oriented and managed by councils less dependent on governmental offices. Consequently, issues such as farmer financial participation and direct financial contribution of farmers were given more importance. Service organizations designed and implemented incentives to get farmers involved in financing ARE.

The idea of farmers' financial contribution is spreading, but increasingly proves to be a great challenge. In fact, many farmers remain motivated to disburse their share during the implementation phase of development projects that promote farmer financial participation. Some motivation factors (MF) induce, guide or sustain the motivation of the farmer to finance ARE. Services organizations designed three types of MF that provide incentives for farmers in sharing ARE costs. There are the increasing participation strategy (IPS), the need meeting or fulfilment of the farmers' needs (FFN) and the local leadership valorisation (LLV) (MOUMOUNI, 2008). IPS involves farmers by enhancing progressively their share over time. Farmers are expected to pay fully for services at the end of the process. This supposes that farmers' motivation to finance ARE will increase as they get proof of the effectiveness of services. The FFN assumes that the satisfaction of farmers' agricultural needs and expectations by providing them with appropriate services was the key for motivation to contribute to ARE. LLV fits within the framework of the participation of beneficiaries to ARE activities. It attempts to valorise human and social capital. Service organizations combine these incentives to get farmers involved in sharing ARE costs. However, the motivation of many farmers decreases and becomes blurred when the project is completed (MOUMOUNI, 2008). Therefore, we addressed the question whether this financial participation is the reflection of the development of a sense of appropriation of services or rather an adaptation strategy of farmers who may have been coerced to share the costs of ARE whatever its nature, quality and profitability? This study aims at developing inductively an appropriate theoretical framework for accounting for the influence of the service organization strategies in shaping the motivation pattern of farmers to finance ARE. The specific objectives are to analyze (i) how farmers' motivation are triggered and guided and sustained and (ii) the cognitive and behavioral consequences of the motivation processes. This will provide background to policy-makers and development workers in designing and implementing ARE funding systems.

2. Theories of motivation processes

The theories of cognitive choice or theories of process (ROUSSEL, 2000) strive to understand how motivation mechanism functions and what the processes taking place from perception to action and achievements are. The theory of achievement motivation developed by ATKINSON (1957) presents motivation as resulting from the interactions of six factors. These factors are the motives for succeeding and avoiding failure, the expectations of success and failure and the evaluations of effects of success and failure. The trade-off between these subjective motives, expectations and evaluations determines and influences the motivation process. In the same way, FORD (1992) suggests the motivation systems theory which presents motivation as an interacting combination of an individual's goals, emotions, and personal agency beliefs. VROOM (1964) proposes an alternative theory that goes beyond the arbitrations between expectances of successes and failures. His theory of Valance-Instrumentality-Expectancy (VIE theory) or expectancy theory explains the motivational process as a force determined by three factors which combine in a multiplicative way. The expectancy is the belief that one's effort will result in attainment of desired performance goals. Instrumentality is the belief that if one does meet performance expectations, he will receive a greater reward. Valance refers to the value the individual personally places on the rewards. The VIE theory stipulates that causal relationships exist between motivational process and the levels of expended efforts, achieved performances and allocated awards. Other interesting works insist on the dynamic and multiple effects of motivational trends on the orientation and the duration of actions (ATKINSON and BIRCH, 1970). According to the perspective of dynamics of action, consuming and incentive motivational forces oppose and determine behaviour. This opposition explains the stability or the instability of the behaviour over time. At a given time, the dominant force determines the motivation trend. The theories of self regulation-metacognition (KANFER, 1990) concerned with affective and cognitive mechanisms that take place when the individual attempts to reach his objectives. In this vein, LOCKE et al. (1981) elaborated the goal setting theory that answers the question "how to motivate people by setting goals?" This theory strives to understand how goal setting could impact behaviour. LOCKE and LATHAM (1984) identified four characteristics of high quality goal. Firstly, the goal should be able to attract and draw the attention of the individual. Secondly, the goal should be able to mobilise the efforts for achieving it (intensity). Thirdly, it should encourage the mobilisation of efforts (persistence). Finally, the goal should ease strategy development. To be an incentive, goals should be difficult, precise and comprehensible. The individual may have a certain freedom in work organization, planning, decision-making.

One of the most recent theories of motivation is the hierarchical model of motivation (VALLERAND, 1997; VALLERAND and GROUZET, 2001). According to this model, a complete analysis of motivation must include intrinsic motivation, extrinsic motivation and amotivation (performing mechanically something with alienation). Intrinsic and extrinsic motivation and amotivation exist at three levels of hierarchy: the global, the contextual and the situational levels. Social factors influence motivation. Their impact is mediated by people's feeling of being competent, autonomous and related to others. Three types of consequences of motivation were suggested in this hierarchical model. Cognitive consequences include concentration, attention and memory. Behavioural consequences are decision for action, persistence of the action, determination and performances. Affective consequences refer to pleasure, interest, emotions and satisfaction. The sustainability of consequences depends on the level of self-determination associated with motivation factors (PELLETIER et al., 1995).

Investigations on motivation were mainly concerned with education, work, sport, politics, leisure, interpersonal and couple relationships (VALLERAND, 2001). They scarcely dealt with agricultural development in general, and the funding of agricultural services in particular. Hence, there is a need for an explanation framework that will help better account for the motivation of farmers in financing ARE, particularly the influence of service organization strategies in shaping farmer's motivation patterns to finance ARE. We carried out the study predominantly within the actor-oriented perspective. Actor-oriented analysis seeks to provide a conceptual and methodological framework for understanding the processes by which particular social forms or arrangements emerge and are consolidated or reworked in the everyday lives of people (LONG, 1992, 2002). This approach helped focus on how differences of socio-economic interests and interpretations amongst farmers influence the processes of the motivation to finance agricultural services. We discussed the framework that emerged from our study in light of the theoretical analysis presented above.

3. Methodology

3.1 Description of case studies

We identified twelve service organizations requesting financial participation from farmers (MOUMOUNI, 2008). The Special Programme for Food Security (PSSA), the Union of South Benin Farmers (UPS) and the Support Unit for Management Advice (CADG) were selected through a theoretical sampling process (STRAUSS and CORBIN, 1990). The three case studies represented different types of service organizations, working in different sectors and areas, providing different agricultural services, and developing different mechanisms of farmer financial participation (table 1). PSSA was

the first selected case study because farmers were requested to contribute both materially and financially to a sort of adaptive research. When investigating the next case studies, we focussed on aspects that did not appear with the previous case study. This made it possible to come up with various incentives and motivation processes.

Table 1. Characteristics of case studies

Cases studies	Intervention sectors	Focus thematic areas and services	Financing mechanisms	Districts
PSSA	Experimentation, adaptive research	Modern/intensive poultry husbandry	Mixed contribution (material and in cash)	Tori Bossito and Kandi
UPS	Extension	Pineapple production and exportation (technical advice and marketing)	Indirect financial contribution of farmers through levies	Tori Bossito
CADG	Advisory services	Advice in farm and income management (Training on use of management tools)	Direct financial contribution of farmers (in cash)	Banikoara

Source: own inquiry

Special Programme for Food Security: PSSA programme was initiated by FAO and Benin government in 2001 to reduce malnutrition by increasing food production and availability. A technical staff was set up to lead the implementation of the programme which targeted low income areas of Benin. Specific objectives were (i) water control for farming, (ii) intensification and diversification of agricultural production and (iii) systematic analysis of constraints for sustainable production. PSSA took action in four districts, Kandi (Borgou department), Glazoue (Zou), Tori-Bossito (Atlantique) and Dangbo (Oueme). We selected intensive poultry husbandry - that farmers experienced for agricultural intensification and diversification with PSSA support - for further investigation in Tori-Bossito and Kandi districts.

Union of South Benin Farmers: With the liberalisation of agricultural service in 1991, farmer associations were given responsibility for organizing activities such as marketing and inputs supply. Progressively, a multi-scale farmer organisation was set up with divisions from local to national level. The nine (9) district farmer associations of Atlantique department in southern Benin created UPS. Its mission was (i) to be the representative and spokesman of farmers, (ii) to ensure access to appropriate services to farmers and promote self-assistance and rural development. We considered UPS as farmer association providing technical and marketing services to pineapple growers and carried out surveys in Tori-Bossito district.

Support Unit for Management Advice – CADG was founded in 1997 to serve as platform for experience exchanges, methodological thinking and validation with respect to farm management tools. The NGO provided management advice to farmers under the framework of the Farming System Diversification and Improvement Project (PADSE) in northern and central Benin. The management advice consists in providing farmers with tools for decision-making and technical, economical and financial problems solving based on reliable information and data. CADG set up in many districts Professional Interest Groups (GIP) which are small associations (20-25 farmers). Some GIPs included only people who could read and write French "GIP lettré" and others included people who can read and write their mother tongue (GIP alphabetisé). We selected three GIPs in Bouhanrou (1 GIP lettré and 1 GIP alphabetisé) and Goumori (1 GIP lettré) villages in Banikoara district because of their so-called high interest in CADG's activities.

3.2 Data collection and analysis

Over five months, we conducted semi-structured interviews with 18 leaders of service providers (six leaders for each case study) and 18 leaders of farmer organizations (six leaders for each case study), six groups of farmers (two groups for each case study) and individual farmers. We supplemented the interviews by direct observation (METTRICK, 1994). Our sample, performed through theoretical sampling, included 75 farmers who appeared to be relatively young small-scale farmers depending mainly on agriculture for their livelihood (table 2). After 15 farmers in each case, additional interviews did not add new information.

Table 2. Description of the sample of farmers

Service organizations	Number of farmers	Age average	Average of annual cash crop income (FCFA)	Average of annual non-farm income (FCFA)
PSSA	25	45	814,460	105,120
UPS	25	44	1,410,540	539,990
CADG	25	35	1,129,955	308,270

1 Euro = 655.957 FCFA

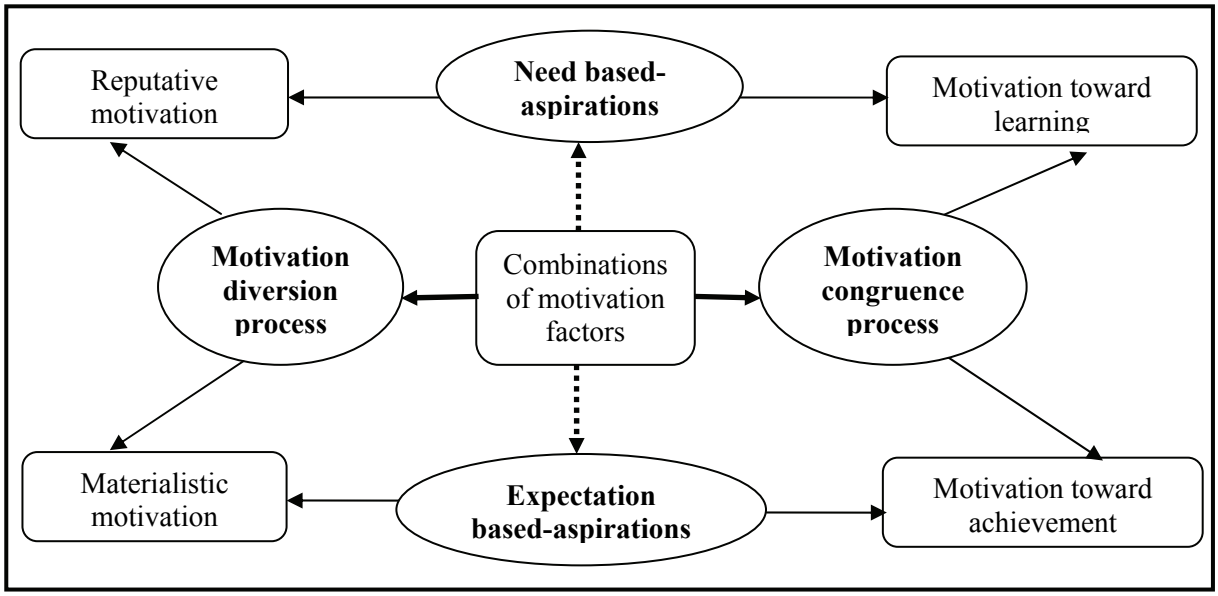
Source: own inquiry

The collected data included information about the ARE organizations (operational ARE systems/methods, activities and performance of ARE field workers, mechanisms and modalities of farmers' financial contribution), farmers' associations they worked with (basis, functioning and management) and services they provided to farmers (relative advantage, compatibility, practicability and complexity). We performed open, axial and selective coding (STRAUSS and CORBIN, 1990), using ATLAS.ti program. This process led to thematic and comparative analysis thereby allowing important themes to emerge, and to be compared and contrasted. Systematic analyzes were carried out at (i) the interfaces between farmers' needs/expectations and their behavior with regard to financing ARE, (ii) the correspondence between farmers' socio-economic aspirations and the objectives of service organizations, and (iii) the sustainability of farmers' motivation. We reported the most expressive life stories and quotations especially as matter of enquiry, evidence, explanation, illustration, to deepen understanding and to give a voice to participants of our survey. When a quotation comes from the farmer N°3, the written source is referred to as F3. When it comes from ARE workers, the initial of their name, organization and district were mentioned. Some quotations are headed by short statement from another interviewee that gives an insight into their content.

4. Results

Two major analytical categories emerged from our analyses as types of motivation processes. They were identified according to whether or not the goals of the farmer fit into those of the service organization (figure 1). Some farmers developed diversion motivation processes while others developed congruence motivation processes. The diversion process occurred when the farmer targeted implicit goals that were not fully or explicitly known by the partner. The motivation diversion included two sub-categories: reputative motivation and materialistic motivation. The congruence process happened when both farmer and service provider share almost the same objectives. It included also two subcategories: the motivation toward learning and the motivation toward farm goal achievement. These motivational trends coexisted but with different importance. It stands out that the motivation process began through the initial meetings between farmers (or farmer community) and the service providers (or development project) leaders. During these meetings, the farmer based on his understanding and interpretation of the intervention strategies of ARE organizations and subsequently directed his motivation towards diversion or congruence. The farmer imagined what opportunities the service provider offered in connection with his socio-economic aspirations. Subsequently, he developed his own strategies to meet his needs and his expectations.

Figure 1. Diversion and congruence motivation processes



Source: own presentation

4.1 Motivation diversion

Motivation diversion occurred when the farmer gets the impression that the strategies and target of the service organizations didn't fit well with his farming goal. Inappropriate services, non effective farmer participation in intervention planning, top-down decision-making and malfunctioning of farmer organization served motivation diversion. The IPS had often induced and fed materialistic and reputative motivations. This was much true when it was not supported by an effective FFN. In most of the cases, the farmer was willing to involve in ARE projects because he paid nothing or his contribution was very low and/or in kind at the beginning. It was easier to provide local material input than paying cash money. During the first year, the individual farmer paid nothing when the project used the IPS. The projects usually supported all the costs while in the second one, the district farmer organization paid farmers' share. During the following years, the farmer assessed the beneficial material effects of his behaviour and compared it with his expenses. He accepted to disburse his share once his need for social prestige was getting met or his expectation of material advantage catchments was promising. Otherwise, he gave up.

As the ARE workers based upon farmer leaders to get in local communities, the motivation process turned to diversion, when the functioning of the farmer organization is too weak with no democratic renewal system or a lack of respect of rules and norms within the organization. In such conditions, the farmer did not trust the leaders

as intermediary. In addition, the possibility for the farmer to get easily information and knowledge from his peers certainly restrained on his motivation to pay for ARE services. Table 3 summaries the conditions for the emergence and the development of motivation diversion.

Table 3. Motivation factors and motivation diversion

Motivation factors	Needs	Expectations
	Reputative motivation	Materialistic motivation
Fulfilment of farmers' needs	- Complex and risky services/ technologies - Non reliable coaching systems	- Credit and input access - Subsidies
Local leadership valorisation	- Peer recognition and Prestige reinforcement - Contacts with workers/leaders	- Complicity and incredibility of leaders - Interest-oriented leaders
Increasing participation strategy	- Selective choice and involvement - Low speeds of financial participation	- Providing infrastructure - Providing farm equipments - Per-diem (money)

Source: own inquiry

4.1.1 Reputative motivation

The reputative motivation developed when service organizations made a selective choice of farmers who should involve in ARE projects. The selection of a farmer among many others as participant and a representative in the village made him proud. He felt honoured and got the feeling that his social position was going to improve. The involvement of the farmer and his relationships with development workers or project leaders reinforced this motivation diversion process. In all, selective choice of farmers' involvement in project activities, frequent relationships between participants and workers/leaders, peer recognition and prestige reinforcement developed the reputative motivation. Having visits from ARE leaders, especially from outside enhanced the reputation and the status of the farmer in his village or community. The following life story illustrates how farmers finance ARE to enhance their social prestige.

> *F23, GIP, male, 25 years, is native of Bouhanrou village in Banikoara district. He abandoned school very early. Four years ago, he could not marry the first girl he fell in love with because her father thought he was lazy and useless. It was a shock for him. He felt ashamed. Since that time, he was secretly ambitious to provide to all the proof of his competence. He became a farmer. Because he was literate, F23 was proposed for involvement in CADG's management advice*

project. He was very pleased to be so honoured. It was a privilege to be trained directly by specialists and to train other people in return. Through this, he found an opportunity to increase his social status because it is socially valuable to be identified and selected to take part in such a project. "I did not hesitate to accept to pay my membership fees and I did so. I feel proud and happy. My parents too", he stated.

For instance, hosting experimental modern henhouse and having visits and technical assistance from the technical staff of project put a farmer in an enviable position. In the same way, a farmer exporting pineapple enjoyed a certain "prestige". Attending classes offered by qualified trainers and getting teaching materials might justify the pride and the prestige of a farmer. In this instance, contacts of prestige were important than talks about agricultural services or technologies. Therefore, reputative motivation appeared as an opportunistic and immaterialistic motivation. Nevertheless, effective learning and reaching farm goals could also result in a form of social prestige, which was, however, different from the motivation diversion. The farmer would be then personally satisfied and proud of his success. Thereby, he could also gain respect and esteem or arouse jealousy from peers.

4.1.2 Materialistic motivation

The diversion process was oriented towards a materialistic motivation when the farmer perceived the project principally as an opportunity to get infrastructures, working materials or money, credit and inputs. The following life story displays materialistic motivation of a PSSA partner-farmer in Kandi.

F1, 32 years old, is married to two women and has 8 children. He completed his primary school and is a well-known and prestigious farmer in Kassakou village in Kandi district. He has been involved in many development projects since 1995. F1 is one of the farmers who shelter modern poultry husbandry with the financial and technical support of PSSA. He built a big henhouse which is well equipped. He got high-performance sire from project leaders who assisted him in vaccination and acquiring some feed ingredients free of charge. He has been trained and retrained about taking care of hens. This farmer found the new technology very valuable. He had more successful results when the project was still financing his activities. He had more than 100 hens; that is, about 10 times the population he had before the project. Two years after the project had stopped assisting him, his activities went down. Facing concerns about feeds, vaccination, time, etc., F1 abandoned modern poultry activities. However, he continued with his traditional poultry. He was expected not only to continue taking all the costs into account but also to help disseminate the technology in his village and

around. F1 said: "PSSA leaders are not happy with me. They thought that I betrayed them. I told them I could hardly continue with modern poultry husbandry if they abandon me as they did. Anyway, I'm happy to have got a new henhouse."

The complementary couple of statements below from CADG case study are quite illustrative of materialistic motivation at a larger scale.

Where is our share? They don't want to give it to us… (F5, GIP Banikoara)

Farmers from "GIP alphabétisé" wanted to get money during training we gave to them because the project gave allowances to their colleagues of "GIP lettré". Clearly, farmers claimed to be paid for participating in our training sessions. Many farmers joined our training sessions because they thought money would be distributed. Many of them thought I collected money from project leaders on their behalf and did not want to give it to them. This led to tensions and social atmosphere deterioration because I was considered a thief and a liar. Many farmers abandoned the group when they noticed there was no money. However, those who were interested in our services remained. We got the farmer used to collecting money. Because of that, it makes the job difficult for me to gather them for retraining sessions as there is no more money. The ones who come are those who are motivated to learn or to improve their farming outcomes. (B.B.K., CADG Banikoara)

These material advantages were distributed to participant farmers to ease research or extension activities or to support technology development or adoption. However, the farmer made it the main reason of his involvement in the project as revealed by the following statement.

At the beginning, PSSA provided farmers with veterinarian products, vaccines and some inputs for making animal feed. This worked because those who took care of their poultry got satisfactory outcomes. However, farmers were interested more in money than in the training. Many of them came at the beginning and the end of training sessions just to collect participation per diem. Finally, they did not adopt technologies. Because of that, our chef decided not to distribute per diem to farmer for their participation in trainings. PSSA stopped most of its financial support and farmers were expected to finance and to lead experimentations only with technical support. Since that time, the modern poultry activities started going down. (B.M., PSSA Tori-Bossito)

Non-judicious use of such subsidies induced and fostered the expectations of material advantage catchments and such an opportunistic motivation. If motivation diversion occurred with the majority of farmers involved in a project, the behaviour change was not sustainable and the final outcome the project was affected. Few years after the achievement, no tangible impact is to be expected on the field.

4.2 Motivation congruence

The motivation congruence was fostered when service organizations used the strategy of fulfilling farmers' needs. The farmer realized how the proposed services could help to meet his needs for learning or his farm goals. Positive attributions on the complexity/practicability, the risk factor and the financial advantages associated with the proposed technology/service were important for the congruence. Parameters related to the service organization such as the possibilities for the farmer to reach his farm goal, the opportunities given to him to participate in ARE activities as well as the integration level of the field agent into farmers' community appeared to be important. In other words, motivation congruence occurred when the farmer got the impression that the strategies and the target of the service provider were likely to meet his needs for knowledge and farm goal expectations. Appropriate services, effective participation in research or extension activities and satisfactory functioning of farmer organization are instrumental in the motivation congruence. The FFN generally matched with farmers' needs for knowledge and their expectation of meeting farm goals. Table 4 presents conditions guiding motivation process towards specific types of motivation congruence.

Table 4. Motivation factors and motivation congruence

Motivation factors	**Needs**	**Expectations**
	Motivation toward learning	**Motivation toward achievement**
Fulfilment the of farmers' needs	- Participation - Effective social learning - Skill improvement	- Appropriate service and constraints relief - Access to market/inputs and goal meeting - Links with other useful partners
Local leadership valorisation	- Credibility of farmer organization - Commitment and devotion of leaders - Trust in leaders	- Credibility of farmer organization - Selection of right partners - Trust in leaders
Increasing participation strategy	- Participation - Effective learning - Trust in leaders	- Participation and facilitation - Outcome improvement - Credibility of farmer organization

Source: own inquiry

4.2.1 Motivation toward learning

The participation of the farmer in research or extension activities, effective social learning, skill improvement, access to appropriate services and getting contact with relevant partners were some motivators that led to developing motivation toward learning. The following statement from UPS partner-farmer gives an insight of the motivation toward learning.

> *I enjoyed learning the modern poultry technology. Feeding and taking daily care of animal is the main problem in modern poultry. Due to the fact that animals are in captivity, the farmer must provide them with what they need for growing. It is very difficult for me to perform this daily job because this is not the only job I have. I have to go to farm and I share my time between the poultry and the farm. Since I'm interested in the technology, I decided to adapt it progressively to my conditions through a self-learning process. Finally, I decided to bring my poultry to farm. The illness risk is lower because of the isolation of the animals. Now, I feed my animals mornings and I free them afternoons so that they feed themselves with insects and grains on the farm. Evenings, they come back in their henhouse. By this way, I succeeded in quickly increasing my poultry. (F4, UPS Tori-Bossito)*

Service organizations satisfied farmers' needs for knowledge through skill empowerment, participation to problem solving, social learning and facilitation. Motivation toward learning was likely to develop where credibility of the leaders and mutual trust prevailed in farmers' organizations. The farmer was especially sensitive to the existence of appropriate bylaws and the existence of social obstacles to norms application. Where the farmer trusted committed leaders, the motivation toward learning was likely to develop. Credibility and commitment of farmer organization's leaders, and trust between farmers ensured the farmer that the environment was suitable for learning new good things. The farmer believed if he got involved in a learning programme by paying off his fees, he could get some opportunities to enjoy social learning and to accumulate information, knowledge and experience to maybe valorise his daily work. The needs for knowledge made it possible for a farmer to commit in technologies development. Such behaviour ensured the sustainable technology adoption and experiences of ARE.

4.2.2 Motivation toward achievement

By the process of motivation toward farm goal achievement, the outcomes or achievement were more important for the farmer than the knowledge or the method that would have been used. The possibilities for the farmer to get support for farming

constraints relief, farm goal meeting, accessing to market/inputs and appropriate services and achieving satisfactory farm records facilitated the emergence and the development of motivation toward achievement. Both couples of complementary statements from UPS and CADG case studies describe various perspectives farmers' motivation toward goal achievement.

> *I'm just looking for ways to increase my production and to sell my products (F18, UPS Tori-Bossito)*

> *To encourage the farmer to finance agricultural research and extension services, it is important to work toward organising commodity networks. This means improving not only production technologies but also organising the marketing of agricultural products. Recent experiences with cassava showed that increasing yields is not enough. If the farmer has access to good coaching, gets credit and inputs at the right time, at acceptable cost, he could cultivate more and better. Moreover, if he can profitably sell his yield, he will be motivated to finance research and extension. That is what we are trying to do. (D.B., UPS Allada)*

> *Management advice opens our eyes and prepares us for any other business. (F7, GIP Banikoara)*

> *We train farmers on filling management documents. There are forecast tools such as initial inventories, starting balance sheet, campaign plan, provisional account and treasury plan, etc.; management follow-up tools such as cash-box, labour use, input use sheets, other material and financial resources flows, etc.; synthesis tools such as cash flow, campaign balance sheets, margins and profit calculation etc.; and the use of data for decision-making purposes. Thus, we endow farmers with skills that they could use for any other business. (B.B.K., CADG Banikoara)*

An interesting example was also the pineapple grower who accepted to be charged fees because the charging process was intimately linked to the commercialization of his products. There is no charge without exportation and sale. The farmer put great emphasis on the risk factor and the financial advantages associated with the service. The IPS could contribute to the process of the motivation toward farm goal achievement if an effective facilitation supported by appropriate services/technologies resulted in outcome improvement.

The entrance gate that project leaders used to get in touch with the rural community was one of the early parameters that indicated to the farmer what could reasonably be expected from a project. Wrong entrances were highly liable to guide motivation towards diversion processes. The farmer knew "who was who" in his village or community. He knew past behaviours of each leader in the village. He was not ready to trust everyone. Using a crafty intellectual as entrance gate was a good way to trigger diversion motivation process. Conversely, using a trustworthy leader could inspire seriousness and trust. The farmer might not have doubts about the possibility to reach the objectives of the project. Henceforth, finding the best entrance gate became a great challenge to take up if one had to direct early motivation process to congruence. Relevant social capital appeared to be from high importance in motivating farmer to pay for ARE services. Inconsistent or destroyed social capital shook the motivation even in the presence of appropriate service offers. Effective learning and concrete goal meeting experiences predisposed the farmer to future congruence motivation processes.

4.3 Consequences of motivation processes

The consequences of motivation processes were identified at cognitive and behavioural levels. The first effect of motivation diversion, especially the materialistic motivation was at cognitive level and concerned with the growth of a culture of dependence. We referred to the culture of dependence as the farmer's belief that all the aid required for the development of his activities should always come from outside through development projects. This quite generalised belief was grounded on the past experiences of farmers. For a long time, farmers benefited from ARE services free of costs from public or semi-public (development projects) organizations. The provision of inputs and materials to farmers as well as the increasing participation strategy seemed rather to maintain and develop this culture of dependence as revealed by the following statements.

> *Over several years, we benefited from extension services free of charge. I don't know why we now have to pay. You have started to help us, you should continue because we will always need your support in our farming activities. Without you we can do nothing. (F1, PSSA Kandi)*

> *The project got us used to getting supports and we always rely on them; now, the project is willing to withdraw arguing that we must carry our charge. How can we afford without this support? No way. (F6 PSSA Tori-Bossito)*

The behavioural consequences of motivation diversion were about the strategic positioning of the farmer. The understanding that development projects were synonym of "money to eat" was widely shared in farmer community. This misappropriation seemed increasingly to govern the behaviour of many farmers. Any field researcher may have experienced wonderful illustrations. To any question, many farmers try to answer so as to improve their position towards eventual projects. Next, gifts to visitors play an important role within farmer communities. They were used to express gratitude, to congratulate, to help someone who needs support. To keep in touch with development workers and to take any advantage (need meeting or goal achievement) from their activities, farmers offered presents to them. Crops such as maize, yam, cassava and animals such as hen, guinea fowl were some donations that farmers gave to their partners. This strategic positioning often aimed less the acquisition of technical knowledge rather resource catchments. Farmers' motivation to engage expenditures for supporting research or extension could rely on the expectation to gain more. Sometimes, they were willing to pay without immediate return. They did so with the hope that "tomorrow will be better" if their behaviour suited ARE project leaders as illustrates by the statement below.

> *If today I refuse to contribute, tomorrow, they will not call me again if there is something else somewhere. So, I accepted to pay because of tomorrow. Tomorrow will be better. (F17, PSSA Tori-Bossito)*

5. Discussion

Most of theories of process identified factors, whose interactions (ATKINSON, 1957; FORD, 1992), multiplications (VROOM, 1964) or oppositions (ATKINSON and BIRCH 1970) trigger, guide and sustain motivation. The theoretical framework that emerged from this study suggests another analytical perspective which emphasises two possible motivation directions. Motivation process could be guided to diversion or congruence with regard to official purposes of service organizations. Diversion and congruence processes are not exclusive. They can take place simultaneously. As far as the farmer cooperates with leaders of service organization, one process may overtake the other. They are different but not opposite or conflicting processes in the sense of "consuming and incentive forces" identified by ATKINSON and BIRCH (1970), ATKINSON and BIRCH (1978) and KUHL and ATKINSON (1984). However, the intensity of the process determines the dominant type of motivation. The concept of dominant type of motivation emphasizes the permanent co-existence of the both processes. In presence of given motivation factors, two farmers could develop different motivation processes due to their socio-economic aspirations and their experiences, which influence and orient their perceptions of intervention strategies. Thus, the motivation process is

context-based as stated by VALLERAND and GROUZET (2001). High intensity of motivation is not synonymous with achieving objectives of the service organization. Rather, the type of motivation process determines the success of an approach. Only high motivation congruence provides guarantee of the persistence of the motivation to pay for ARE, especially when the project is completed. Motivation congruence processes are to be looked for if one has to expect successful and sustainable farmer financial participation. For instance, meeting needs for knowledge may strengthen the personal judgment that people hold about their ability to perform certain behaviours (BANDURA and WOOD, 1989; SEXTON et al., 1992). According to BANDURA (1986) this personal judgment is the central factor in human motivation and action.

The effect analyses of motivation processes tends to confirm PELLETIER et al. (1995) and VALLERAND (1997) that the consequences of motivation processes could be identified at cognitive and behavioural levels. (1) The culture of dependence is a cognitive consequence of extrinsic motivation. This phenomenon does not seem to be typical to Benin. In Nigeria also, after 20 years of the World Bank financial assistance to extension services, OMOTAYO et al. (2001) noticed that the continued reliance on external funds fosters a culture of dependence. It is also similar to what OLIVIER DE SARDAN (1995) refers to as "assistancialism". This culture is not compatible with a true appropriation of development process. In contrast, motivation congruence encourages the development of the culture of self effort. The farmer progressively trusts himself with regard to his skills and performances. (2) The lack of sustainability of the willingness to pay and the strategic positioning are behavioural consequences of the motivation diversion. FREUD et al. (2000) pointed out that African villages are in search of projects and described how development brokers, ex government workers and farmer leaders try to orient projects and to catch either financial or social advantages. This phenomenon may be seen as a consequence of the intervention approaches of projects. The development of such behaviour could complicate future interventions for development. This view is supported by VALLERAND (2001) who states that global motivation shaped by past experiences can impact contextual motivation. The farmer who has developed motivation diversion for long time could not easily reverse, as his shaped global motivation influences his first impression with respect to ARE projects. Continuous successful motivation congruence is necessary for change (SHANTEAU, 1995). Motivation congruence promotes sustainable behaviour changes.

6. Conclusion and implications

The findings of this study support the idea that the farmer financial participation in agricultural research and extension may not always be seen as high commitment in participation process, as motivation to finance could be underlain by reasons far away from the objectives of projects. It can rather hide an adaptation strategy of many farmers who have been coerced to share the costs of ARE whatever its nature, quality and profitability. The study provides a theoretical framework that is more appropriate for analysing the motivation of farmers to pay for ARE services. This framework could be useful for designing or analysing ARE funding systems, especially if one has to focus on their sustainability. Motivations toward learning and achievement may explain why many agricultural technology adoption studies conclude that farmers adopt technologies which are appropriate to their socio-economic and agro-ecological conditions.

The combination of three important measures would contribute to making the environment favorable for fund mobilization and avoiding the development of motivation diversion. (i) Farmers are accustomed to take advantage of ARE services free of charge for several years. Any change in the rules of the game may be clearly and convincingly exposed and explained to farmers. It is worth doing so irrespective of the time span required to progressively overcome the culture of dependence. (ii) As farmer organizations are usually the cornerstone of the mobilization of farmers' financial contribution, the reconstruction of trust capital is required for motivation congruence. (iii) ARE organizations have to convince farmers on their ability to relevantly address the needs and expectations of farmers. Providing farmers with attractive and useful services is the most reliable way to promote and foster effective and sustainable farmer financial participation. This requires the improvement of skills of ARE professionals.

References

ATKINSON, J.W. (1957): Motivational determinants of risk-taking behaviour. In: Psychological Review 64 (6): 359-372.

ATKINSON, J.W. and D. BIRCH (1970): The dynamics of action. Wiley, New York.

– (1978): An introduction to motivation. Van Nostrand, New York.

BANDURA, A. (1986): Social foundations of thought and action: A social cognitive theory. Prentice-Hall, Englewood Cliffs, N.J.

BANDURA, A. and R. E. WOOD (1989): Effect of perceived controllability and performance standards on self-regulation of complex decision making. In: Journal of Personality and Social Psychology 56 (5): 805-814.

BIERSCHENK, T., J.-P. CHAUVEAU and J.-P. OLIVIER DE SARDAN (2000): Courtiers en développement: les villages africains en quête de projets. Karthala et APAD, Paris.

BOIRAL, P., J.-F. LANTERI and J.-P. OLIVIER DE SARDAN (1985): Paysans, experts et chercheurs en Afrique noire. Sciences sociales et développement rural. Ciface et Karthala, Paris.

CHAMBERS, R., A. PACEY and L.A. THRUPP (1989): Farmer first: Farmer innovation and agricultural Research. Intermediate Technology Publications, London.

CHAUVEAU, J.-P. (1997): Des "stratégies des agriculteurs africains" au "raisonnement stratégique. Histoire, usages et remise en question d'un concept d'un concept pluri-disciplinaire". In: Blanc-Pamard C. and J. Boutrais (eds.): Thèmes et variations. Nouvelles recherches rurales au sud. Coll. Dynamique des systèmes agraires. ORSTOM, Paris: 179-217.

COCHET, H. (2006): Etat des savoirs sur les mondes ruraux africains. Etudes africaines /état des lieux et des savoirs en France. 1re Rencontre du Réseau des études africaines en France, 29-30 novembre et 1er décembre 2006, Paris.

DOZON, J.-P. and G. PONTIE (1985): Développement, sciences sociales et logiques paysannes en Afrique noire. In: Boiral, P., J.-F. Lanteri and J.-P. Olivier de Sardan (eds.): Paysans, experts et chercheurs en Afrique noire. Sciences sociales et développement rural. Ciface et Karthala, Paris: 67-80.

FAO/ORSTOM (1995): Stratégies et comportements des agriculteurs les plus pauvres vis-à-vis de l'intensification et de la préservation des ressources naturelles dans les pays de l'Afrique soudano-sahélienne. FAO, Rome.

FORD, M.E. (1992): Motivating humans: Goals, emotions, and personal agency beliefs. Sage, Newbury Park, CA.

FREUD, C., T. BIERSCHENK, J.-P. CHAUVEAU and J.-P. OLIVIER DE SARDAN (2000): Courtiers en développement. Les villages africains en quête de projets. Hommes et Sociétés. In: Cahiers d'études africaines 167, 2002. URL: http://etudesafricaines.revues.org/document1496.html.

KANFER, R. (1990): Motivation theory and industrial and organizational psychology. In: Dunnette, M.D. and L.M. Hough (eds.): Handbook of industrial and organizational psychology. Consulting Psychologists Press, Palo Alto: 75-170.

KATZ, E. (2002): Innovative approaches to financing extension for agriculture and natural resource management. LBL, Eschikon.

KUHL, J. and J.W. ATKINSON (1984): Perspectives in human motivational psychology: a new experimental paradigm. In: Sarris, V. and A. Parducci (eds.): Perspectives in psychological experimentation: toward the year 2000. Erlbaum, Hillsdale: 235-252.

LANDAIS, E.and P. LHOSTE (1990): L'association agriculture-élevage en Afrique intertropicale: un mythe techniciste confronté aux réalités du terrain. In : Cahiers des Sciences humaines 26 (1-2): 217-235.

LE MEUR, P.-Y. (2000) : Logiques paysannes au Bénin: courtage, associations, réseaux et marchés. In: Autrepart 13: 91-108.

LOCKE, E.A. and G.P. LATHAM (1984): Goal setting: a motivational technique that works! Prentice-Hall, Englewood Cliffs.

LOCKE, E.A., K.N. SHAW, L.M. SAARI and G.P. LATHAM (1981): Goal setting and task performance: 1969-1980. In: Psychological Bulletin 90 (1): 125-152.

LONG, N. (1992): From Paradigm Lost to Paradigm Regained: The case of An Actor-oriented Sociology of Development. In: Long, N. and A. Long (eds.): Battlefields of Knowledge, The Interlocking of Theory and Practice in Social Research and Development. Routledge, London: 16-46.

– (2002): An Actor-oriented Approach to Development Intervention. Background paper prepared for APO Meeting in Tokyo, 22-26 April 2002. Wageningen University, The Netherlands.

METTRICK, H. (1994): Recherche agricole orientée vers le développement. ICRA, Wageningen.

MOUMOUNI, M.I. (2008): Motivation of farmers in financing agricultural research and extension in Benin. Verlag Dr. Köster, Berlin.

OLIVIER DE SARDAN, J.-P. (1995): Anthropologie et développement, essai en socio-anthropologie du changement social. Karthala, Paris.

OMOTAYO, A., D.O. CHIKWENDU and K. ADEBAYO (2001): Two decades of World Bank assisted extension services in Nigeria: lessons and challenges for the future. In: The Journal of Agricultural Education and Extension 7 (3): 143-152.

PELLETIER, L.G., R.J. VALLERAND, I. GREEN-DEMERS, N.M. BRIERE and M.R. BLAIS (1995): Loisirs et santé mentale: les relations entre la motivation pour la pratiques des loisirs et le bien-être psychologique. In: Revue canadienne des sciences du comportement 27 (2): 140-156.

ROUSSEL, P. (2000): La motivation au travail – Concept et théories. LIRHE Note 326. LIRHE, Toulouse.

SEXTON, L.T., W.B. TUCKMAN and K. CREHAN (1992): An investigation of the patterns of self-efficacy, outcome expectation, outcome value, and performance across trials. In: Cognitive Therapie and Research 16 (3): 329-348.

SHANTEAU, J. (1995): Person judgment in management decision making: Three findings from research on impression formation. Paper prepared for: Risky Business: Risk Behaviour and Risk Management. Stockholm University, Stockholm.

STRAUSS, A. and J. CORBIN (1990): Basics of Quality Research: Grounded Theory Procedures and Techniques. Sage, London.

VALLERAND, R.J. (1997): Toward a hierarchical model of intrinsic and extrinsic motivation. In: Zanna, M.P. (ed.): *Advances in Experimental Social Psychology*. Academic Press, New York: 271-360.

– (2001): A hierarchical model of intrinsic and extrinsic motivation in sport and exercices. In: Roberts, G. (ed.): Advances in motivation in sport and exercices. Human Kinetics, Champaign, IL: 263-319.

VALLERAND, R.J. and F.M. GROUZET (2001): Pour un modèle hiérarchique de la motivation intrinsèque et extrinsèque dans les pratiques sportives et l'activité physique. In: Cury, F.; P. Sarrazin and J.-P. Famose (eds.): Théories de la motivation et pratiques sportives: états de la recherche. Presses Universitaires de France, Paris: 57-95.

VAN DEN BAN, A.W. (2000): Different ways of financing agricultural extension. AGREN Network Paper 106: 8-12.

VROOM, V.H. (1964): Work and motivation. Wiley, New York.

YUNG, J.M. and J. ZASLAVSKY (1992): Pour une prise en compte des stratégies des producteurs. CIRAD, Montpellier.

Acknowledgements

This study has been financed by the German Academic Exchange Service (DAAD). I am grateful to Dr. Orou G. Gaoue and Ir. Laurent C. Glin for their comments on the manuscript.

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