

TYOLOGY OF THE LOGICS OF THE ACTORS IN THE CONTEXT OF THE INTRODUCTION OF FISH FARMING INNOVATIONS IN THE DEPARTMENT OF OUEME

CHIKOU Sandrine Liliose

University of Abomey-Calavi (UAC), Laboratory of Anthropology and Sociology of Environmental, Educational, Rural and Gender Dynamics (LASDEERG); sandchikou@gmail.com ; 229/97473236, BP1089 Abomey-Calavi (Benin)

HOUSSOU, Hermann Leopold

University of Abomey-Calavi (UAC), Laboratory of Anthropology and Sociology of Environmental, Educational, Rural and Gender Dynamics (LASDEERG); hmano8@yahoo.fr; 229/97117700, Abomey-Calavi, Benin.

SEHO Norbert Godossou

University of Abomey-Calavi (UAC), Laboratory of Anthropology and Sociology of Environmental, Educational, Rural and Gender Dynamics (LASDEERG); sehonorbert@gmail.com; 229/64728272, Abomey-Calavi, Benin.

BABADJIDE Charles Lambert

University of Abomey-Calavi (UAC), Laboratory of Anthropology and Sociology of Environmental, Educational, Rural and Gender Dynamics (LASDEERG). charlesbab@yahoo.fr ; 229/97461283, Abomey-Calavi (Benin).

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ABSTRACT

The introduction of fish production innovations in the Department of Ouémé following the scarcity of aquatic fauna is considered as a way to improve the living conditions of fish farmers. However, these new techniques have given rise to logics that do not favour their adoption. The present research highlights the typology of the logics of the actors around the implementation of fish farming innovations in the Department of Ouémé. It is qualitative in nature. Literature search techniques, interview and observation, as well as empirical data collection tools such as the reading sheet, the interview guide and the observation grid allowed data to be collected from 32 informants. The data obtained were processed with the theory of the entanglement of logics by J.P. Olivier de Sardan (2001). The analysis of the data from the surveys has made it possible to identify two essential logics: the strategic logics of "learning to fish", the logics of "giving fish" and the representative logics of purpose, circumstantial and value. The strategic logics are related to the development agents and the strategic logics are related to the fish farmers.

Keywords: Innovation, Logics, Actors, Department Of Ouémé.

1. INTRODUCTION

In order to revitalize the agricultural sector, the governments have opted for a vision, which is to make Benin, through the Strategic Plan for the Recovery of the Agricultural Sector (PSRA), by 2025 at the latest, an agricultural power, dynamic, competitive, attractive, respectful of the environment, creator of wealth and meeting the economic and social development needs of the population, with a particular focus on the fisheries sector (Mr. Manet, 2015, p 12). As a result, several innovations have been made to fish farming systems, including extensive systems. Fish farming training has been considered and implemented (PROVAC, 2013). Since then, the number of fish farmers in South Benin has increased, and what has attracted particular attention in the Department of Ouémé is the large number of fish farmers in the context of the conversion

of fishermen to other Income Generating Activities (IGAs) (E. Rurangwa, 2014, p7). However, the critical issue facing these innovations remains their adaptation and adoption. Despite the efforts made by local development structures, these new techniques have been slow to be adopted by farmers (O. Palou Madi, 2011 p 53)Tags: Very early on, the logics of the various main actors such as fishermen, administrators, and agents of development projects interacted. We are witnessing a panoply of logics that do not allow these innovations to take off significantly. The question that needs to be asked is to know the typology of the logics of the actors around the adoption of innovations in extensive fish farming systems in the Ouémé valley. It is with the aim of answering this question that this research was carried out.

2. MATERIALS AND METHODS

Presentation of the research framework

Bounded to the south by the Atlantic Ocean and the Littoral Department, to the north by the Plateau Department, to the west by the Atlantic Department and to the east by the Federal Republic of Nigeria, the Ouémé Department is located in the south-east of Benin. With an area of 1,281 km², the Department of Ouémé has nine (9) communes, namely: Adjara, Akpro-Missérété, Avrankou, Adjohoun, Bonou, Dangbo, Sèmè-Kpodji, Les Aguégués and Porto-Novo, the administrative capital of Benin. These communes are subdivided into 52 arrondissements, and 405 villages and city districts. The population of the Department of Ouémé has increased from 730,772 inhabitants, including 349,251 men and 381,521 women in the 2002 RGPH-3, to 1,100,404 inhabitants, including 534,814 men and 565,590 women in the 2013 RGPH-4. This means that the sex ratio rose from 91.5 men per 100 women in 2002 to 94.6 men per 100 women in 2013. The agricultural population is 185,147 inhabitants in 30,784 agricultural households. The population of Ouémé is essentially composed of three main ethnic groups, namely: the Fon and related (78.7%), the Yoruba and related (10.1%) and the Adja and related (8.1%). The people of Ouémé are followers of the Catholic religion (34.6%), Islam (12.1%), and celestial Christianity (17.4%).

Methodological approach

The research is qualitative in nature. It was carried out in the Department of Ouémé, which is full of potential and opportunities in the field of fish farming. The techniques used are documentary research, observation, interview and with the corresponding tools such as the reading sheet, the observation grid, the interview guide.

Interviews are conducted with fish farmers, promoters of innovations, and members of fish farmers' families. These interviews addressed the social and cultural realities, ways of thinking, representations and logics of actors in the context of the adoption of innovations in the department of Ouémé.

Sampling

The sampling technique used for this research is that of principled choice. It applies to all target groups without exception. Respondents are chosen because of their proximity to the research subjects. The target groups concerned are fish farmers who benefit from training and subsidies; the promoters of these innovations; local populations. The sample size is 32 informants, including 18 fish farmers, and 05 promoters of innovations, 09 members of fish farmers'

families. This size is determined by reaching the saturation threshold. For the production of empirical data, three techniques are used. These are: documentary study, direct observation, semi-structured interview. The data collection tools are the Reading Grid, the Observation Grid, the Interview Guide.

The data collected during the observations made it possible to highlight the points of view of each target group and to identify the logics of fish farmers. The interviews are transcribed as worded by the quests in anonymity. This made it possible to obtain verbatims to illustrate the major trends in the results.

The theory of entanglement can be broken down into three main approaches to the interplay of actors in interface situations (J-P. Olivier de Sardan, 2001). These are: the deconstructionist approach, which denounces the developmental configuration and its discourse. The populist approach, which exclusively exalts popular knowledge and practices, and the "entanglement of social logics" approach, which studies the heterogeneity of the actors who confront each other around development operations. It makes it possible to bring to light the "discontinuities of interests, knowledge and power, to understand the practices and representations of the actors", as well as "their strategies and the constraints of the contexts".

3. RESULTS

Actors' logics around innovations

Strategic Logic

A look at the standard models of intervention such as grants, grants, investment credits, extension of fish farming, training and research activities makes it possible to identify essentially two logics with regard to developers. These are the "give fish" and "learn to fish" logics. These two logics are drawn from popular adages in relation to aid to individuals or communities in general.

Table I: Logics of Development Agents

Logical	Forms of intervention	Project
"Giving Fish"	The Donation Subsidies Stocking Investment Loans	PADPPA PW PADRO, PROVAC, SyPiEX
"Learn to Fish"	Research activities Popularization of fish farming and training of stakeholders	PROVAC, SyPiEx

Source : Survey data, August 2020 April 2021

"Give fish" logics

The forms of intervention linked to the "Giving Fish" logic are: donations, subsidies, stocking and investment credits. These logics are linked to the forms of intervention of the projects Support Programme for the Participatory Development of Artisanal Fisheries (PADPPA),

Whedo Project (PW), Ouémé Rural Development Support Project (PADRO), Inland Aquaculture Extension Project (PROVAC), Extensive Fish Farming System (SyPiEX). "Giving fish" in this specific context means providing fish farmers with all the infrastructure and inputs for fish farming. This means that you have to pay for the costs of production. Indeed, an Executive Director of one of the NGOs in the fish farming sector explains:

"At the end of the training, we had offered the fish farmers, the Above-Ground Tanks, fingerlings, fish feed, plumbing and oxygen. Their job was just to feed the fry and change the waters. It's so that they get a taste for fish farming" (U K, 42 years old)

This logic keeps fish farmers economically or financially dependent. This may contribute to a tendency towards servitude or damage the intellectual or social integrity of the person in the long term. To "give fish" to someone is to leave them dependent. This system does not allow the fish farmer to take charge of his activity. For the one who "gives fish" does not allow one to learn difficulties in his absence. This does not allow fish farmers to carry out the activity in the long term. Fish farmers therefore operate at the expense of investors. This logic is an obstacle to the personal development of the fish farmer, the Department of Ouémé, Benin and Africa in general. For with the arrival of the settlers who knew nothing but to give to the black, Africa was kept in servitude. It must therefore be understood that the one to whom one is "given fish" will not grow.

The Sayings of a Fishmonger supports this idea:

"When they started the activities with the projects, we helped them. And just like that, there were a lot of fish farmers. Today, they have stopped all donations and we barely have two or three fish farmers. As a result, production has decreased. If they really want fish farming to evolve, they have to start over with the aid." (S.G, 54 years old)

Even in adulthood, he always remains small in the sense that he always has his hands outstretched to the donor.

"Learn to fish" logic

The forms of intervention linked to the "learning to fish" logic are research activities, the popularization of fish farming and the training of actors. This logic can be found at the level of the PROVAC AND SyPiEx projects.

A simple reformulation of the logic "learn to fish" allows us to affirm that these two projects contribute to the empowerment of fish farmers. In this respect, a fish farmer affirms that *"after the training, I set up with the help of the TSPH who until today comes from time to time to help me with the small problems of fish farming"* (P. M. 39 years old). This gives it independence and is of greater service to it.

In this case, the fish farmers receive the training. They become autonomous, independent. They are therefore able to take care of themselves and therefore know how to overcome the difficulties they encounter in the profession of fish farmers. *"Since there are many of us, when the technician is not yet available, I manage minor problems with my colleagues in this area while waiting for him to come,"* exclaims Mr. O.B. (fish farmer, 47 years old). The training allows fish farmers to establish ideas and develop them. It is then independent and develops. Through its development, they can develop the environment, the social environment in which they find themselves. The whole of society will therefore be able to benefit from its knowledge and learn from its experiences. He who learns to fish is therefore a free responsible being.

Representative logics

Goal Logic

This type of logic assumes that in doing so, it is necessary to put in place means that will achieve a specific goal or objective. The action then leads to an instantaneous result, palpable in the interest of the one who acts. In this way, the action is in line with the expected result. An official of the Directorate of Fisheries maintains that "*the training was tailor-made*" (A.C., trainer of fish farmers, 59 years old). This result, in this case, is related to the gain that the innovation must produce. This gain is often measured in terms of money, practicality, time, and comfort. This is clearly explained by the statements of this informant.

"It wasn't until after the first sale that I really understood the purpose of the trainings. After taking stock of all the expenses, I realized that it was very honeyed" (G. K. fish farmer, 56 years old)

The logic of the goal implies for the fish farmer that innovation, being a control action, must generate more benefits than efforts. To this end, the individual evaluates the innovation and identifies its interest in it. From field surveys, two different representations are detected: innovation as an opportunity and innovation as a constraint.

Innovation as an opportunity

This representation of innovation is characterized by a beneficial ending: the introduction of innovations has advantages. This is due to the positive outcome of the rational calculation that the individual makes, which is to adopt innovation.

"I also became a fish farmer with the contributions of the projects. From then on, I am respected. I, too, have fish at home that everyone comes to visit." (P.M., fish farmer, 45 years old)

In this case, the introduction of innovation is seen as a source of prestige. The fish farmer adopts innovation as a solution to the scarcity of fish in the Ouémé River and to the reconversion of fishermen

"Thanks to these new ways of getting fish, we don't necessarily have to go to the fish market to get our supplies. We have the producers here with us now" (Q.S. Riverside Community, 29 years old).

Indeed, innovations can produce profits. The introduction of innovation represents an opportunity. If the introduction of innovations is beneficial, profitable to the individual or to the professional activity, i.e. the equation between the introduction and the economic stake is favourable. The introduction of innovations and their adoption therefore remain conditional.

"At the end of the production cycle, after the sale, I use the recipes for the needs of the house" (G.A., fish farmer, 56 years old).

It became favourable by chance as a result of an adjustment with economic and social interests. This representation is noticed a priori during the pilot phase of fish farming projects.

Innovation as a constraint,

The representation of "innovation as a constraint" is considered by a vision that at first glance seems negative, from which restrictive actions would result.

It is very difficult to reconcile fish farming with other activities. She requires a lot of availability on everything when it comes to the fry stage. (H.R. fish farmer, 35 years).

This constraint is due to the fact that new fish farming techniques imply measures that go against routine and therefore an effort to be produced that is not customary. This way of thinking is then illustrated by examples of innovation that are considered ineffective by some fish farmers. In the case of BHS, one interviewee said:

"Fish farming in Above-Ground Tanks is good and simple..... But you can get up one morning and see all the dead fish. How many times have I had this situation before? This way of producing doesn't suit me, I don't find it efficient" (F.C., fish farmer, 53 years old).

A family member of a fish farmer exclaims:

" It creates an extra cost, it forces them to do things that they are not used to doing." (X. A., riverside community, 72 years old).

This respondent therefore highlights two fundamental elements that illustrate a representation of innovation as a constraint. These are the additional costs that these innovations entail, and then a new way of doing things, which is not approved. Fish farming innovation appears here to require too much effort, which is not even counterbalanced by an economic gain since, on the contrary, this effort is compounded by a loss of profit to which is added economic inefficiency. In the words of an interviewee

" Beyond being restrictive in terms of time, in terms of cost, and finally of additional cost, if in addition, it is not efficient ... ». (T. G. fish farmers, 62 years old)

The result of the rational calculation is therefore negative, this measure generates too many losses. This representation therefore does not allow for the adoption of fish farming innovations by fish farmers.

Circumstantial logic

This logic consists of a way of acting, of doing things that is entirely rooted in the present, according to the reality that presents itself. It depends on the circumstances that present themselves to the actor. On the one hand, it is limited in the sense that the individual does not act favourably according to the conditions in which he finds himself. On the other hand, circumstantial logic is also traditional, it is the result of a reflex, or a habit. From this perspective, the introduction of innovation is proportional to the estimated urgency it represents. In the case of BHS, adoption will only be real if concrete impacts are discernible. In the words of a fish farmer:

"The cost of the feed does not pay for itself at the end of the cycle. Food is too expensive..... I prefer to leave fish farming and devote myself to my farming. (J.P. Pisciculturists, 58 years old).

If no impact is felt, then the logic is not to act not because the innovation is not considered advantageous, but because other concrete and immediate priorities must be taken into account at that moment. The action is therefore carried out to the extent possible. The farmers, after exhausting the donations received during the pilot phase of the projects, stop the activities and devote themselves to other activities that they think are more profitable and advantageous for them.

Value Logic of Introducing Innovation as a Duty

This logic is displayed as a value and takes the form of the assignment. It is a question of doing things out of conviction, according to a certain conception of duty. From the perspective of this logic, adoption is therefore considered a duty. Different representations can be found within this

logic. It is therefore at the same time an awareness, a perception and a knowledge of innovation that leads to considering the latter as an "emergency". *"Revitalizing the fish farming sector is an urgent matter at the moment,"* explained Mr. X. Y. of ATDA 7.

Within this representation, three subtypes of discourse can be distinguished that are based on the same reasoning. A distinction is made between the speeches of local elected officials, fish farmers, and humans in general.

Local elected representatives: holders of the power to exempt from taxes

Local elected officials wear the costume of politicians. The latter is blamed for putting the issue of taxes on fish inputs on the back burner, and even not bothering about it at all.

"Clearly.... We need leaders who take care of escalating our needs to the highest levels. But we don't know their priorities, maybe it's just to get the title and have a good image that they are elected" (BM, fish farmer, 63 years old).

The reasons for this failure to take into account the need for tax exemption on the part of elected officials are many and varied. A local elected official explains to the daily concerns of his constituents that are other than the question of tax exemption:

"We have always done everything we can to ensure that the projects run smoothly and that each of them can play their part, but they always want more. Do I have a shop selling fish inputs?" (A. G., Village Chief, 69 years old).

Local elected representatives are denounced as the main culprits for the existing inaction, because their role is basically considered fundamental in this conception of politics. For the respondents, local elected officials hold the power to answer the question of taxes. It is then a vertical idea of politics with power exerted from the top down. This conception puts forward an idea of the politician whose ideal is almost embodied in the image of the "providential man".

Fish farmer: key to the successful introduction of innovations

The other type of thinking conveyed by value logic accuses the fish farmer of doing nothing to perpetuate the introduction of innovators. A TSPH agent puts it this way:

"Fish farmers are insatiable consumers, projects give them everything but they never want to put in their own. Every time the donations end, they spend the revenues and profits and stop the activities" (T. J TSPH, 49 years old).

This abandonment on the part of fish farmers is explained as a tendency to think that, in their opinion, in general, the introduction of innovations is only carried out in a vertical manner, i.e. at the level of the developers. However, we must not "expect everything from others, they must also participate" (R. T., counsellor to a village chief, 71 years old).

Just like the discourse with regard to local elected officials, it also unfolds within a framework, representing the introduction of innovations as an action whose end is the common good.

Introduction of innovations: a moral duty for all

Following the two previous speeches, a third appeared in the way of representing the introduction of innovations. Just like the first two speeches, a lack of will is expressly noticed. However, this is not a question of the lack of will of fish farmers or local elected officials, but of all social actors in general. This conception is part of a moral perspective, since man in general is accused of having been the very basis of the disappearance of aquatic fauna. *"In any case, it's all*

our fault" A Y, a former fisherman, 82 years old. Thus, the introduction of innovations is seen as a culmination of what " *the work of man has done* ". (K. D, fishmonger, 41 years old). Man has lost control by wanting to dominate nature at all costs. It has lost the control that is embodied in the introduction of innovations.

4. DISCUSSION

The literature on the different logics in the context of the introduction of innovations is very rich and varied. However, those related to extensive fish farming systems are not specific. It is therefore not easy to compare the results obtained in this research with others in the field of fish farming. However, it is possible to compare the results at certain points of similarity with other research.

It is not uncommon to hear that work liberates man, gives him a certain dignity and preserves him from vice. Indeed, there is no guarantee that what is offered to someone can be considered sufficient to satisfy his or her vital needs, as pointed out by P. É. Vandamme, (2014, p 29), who demonstrates the material obligation to work to meet his or her basic needs. Similarly B. Sophia et al, (2012) added to this the satisfaction of a job well done by oneself and the esteem of oneself and others. These are all reasons that, according to J. – H. Izabelle, (2013, p69) help to confirm that man, although sociable, derives more joy from working and eating by the strength of his arms or his intelligence.

The statement that teaching someone to fish is better than giving him fish finds its full meaning in a socio-religious fact when we read in the book of Genesis 3:17-20 where God expressly commanded man to eat by the sweat of his brow. There is, therefore, a social and religious basis for the exercise of intellectual, physical or manual work by man in order to provide for himself and, by extension, for his family.

The in-depth analysis of logics has been linked to the research of L. Saliou (2018 p) and has made it possible to identify logic as a value and innovation as a moral duty for all.

5. CONCLUSION

The results of field research show that the topic of introducing innovations is not only about innovations. Indeed, if it is a scientific fact that also intertwines with other fields (social, political, economic) that should not be neglected. Through the conduct of this research, the focus has been on representations, patterns, ways of thinking, perceptions in the context of fish farming innovations. Stakeholders from different fields of activity revealed their views on the issue of innovations in the Ouémé Delta. By conducting research on the social logics around innovations in the Ouémé Delta, it was therefore possible to observe that these logics are very complex. This complexity can be observed on the one hand in the fact that logics can be built from multiple elements. Representation can exert a great influence on logics. Similarly, logics can influence fish farmers' decision to adopt or abandon innovations. Indeed, logics are numerous and multiple, and a logic can contain other sub-logics.

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