

Review Article

Innovativeness in Legislative, Political and Organizational frameworks of Sustainable Land Management in Benin

ABSTRACT

Agricultural lands are increasingly degraded due to various human actions (overgrazing, intensive use of chemical inputs) and the consequences of climate change. In Benin, 62% of agricultural land were degraded in 2017. In this regard, Sustainable Land Management measures are highlighted by various public decisions. This study analyzed the political, legislative, and organizational frameworks of Sustainable Land Management in Benin. It was carried out through content analysis of laws, decrees, and Sustainable Land Management policy documents to highlight the place of innovativeness in institutional and organizational framework in Sustainable Land Management in Benin. Results reveal that the various frameworks analyzed are oriented towards developing practice-based innovations through the implementation of Sustainable Land Management measures, support to actors in the implementation of Sustainable Land Management innovations and the monitoring and evaluation of Sustainable Land Management strategies. The capacity to innovate is also promoted through the strengthening of the technical, institutional, material, and financial capacities of the actors. On the other hand, the propensity to innovate component of innovativeness is hardly addressed in Sustainable Land Management public policies in Benin. It is therefore necessary to direct agricultural policies towards an institutionalization of the strengthening of the propensity to innovate of agricultural producers for a long-term appropriation of Sustainable Land Management measures in Benin.

Keywords: sustainable land management, legislative, political, and organizational frameworks, innovativeness, Benin.

1. INTRODUCTION

Land is a natural resource essential for the development of agriculture, food security and life [1]. However, it is increasingly degraded reducing therefore its availability [2]. The causes of this degradation have anthropogenic origins

(intensive agriculture, misuse of inputs, construction of infrastructure) [3]. These are exacerbated by the effects of climate change (variation in rainfall, drought) [4]. The Ninety percent of the lands has a low to very low fertility level and 62% of degraded agricultural land in Benin [5]. This situation worries actors at various levels such as researchers, land users, and development and political actors [3]. Thus, the government of Benin, through political, legislative, and organizational measures, provided a framework for promoting Sustainable Land Management (SLM) [6].

Institutional environment indeed facilitates or may hindered the adoption of SLM measures disseminated [7]. Indeed, in addition to individual, technical, and managerial factors, political and regulatory factors influence either the adoption behavior of an innovation or the innovation behavior [7], [8]. Innovative behavior could not arise without the intention to innovate. The latter generally depends on the norms and values that govern its environment [8]. These norms and values underlie the coordination between actors and the whole organizational arrangement [9]. The intention to innovate is the tendency to innovate, or the innovation itself [10]. It relates to innovativeness defined as the sum of the tendency or intention to innovate [10], the capacity to innovate [11], the application or praxis of innovation [12].

Depending on the field, innovativeness can be used to assess behavior in term of an innovation or the speed of adoption of an innovation [13]. Innovativeness is defined as the extent to which an individual accepts new ideas and then adopts them [14]. Contemporary studies of innovativeness define it as a determining factor in the adoption of innovations [15]. Indeed, individuals with high innovativeness can effectively adopt the innovations they are exposed to [16]. The adoption of innovations is the decision to accept or reject an innovation and the degree of acceptance of these innovations [17]. In this study, authors define innovativeness as the ability to innovate, the propensity or intention to innovate or the praxis (habit of practicing) of innovation.

Innovation is crucial in agriculture to meet the challenges faced by different systems [18]. It is seen as a key that will open the doors to environmentally sustainable agriculture [19]. Sustainable Land Management measures considered as innovations will be adopted by innovative farmers only, when necessary, incentive and support measures to strengthen farmers' innovativeness are in place [15], [16]. This study therefore aims at assessing the degree to which innovativeness is considered in political, legislative, and organizational frameworks in SLM in Benin.

2. PROBLEM STATEMENT

Benin, like most countries, is facing an environmental crisis. This crisis is expressed by various phenomena including soil degradation [20]–[22]. The degradation and decrease in soil fertility lead to a sharp drop in agricultural productivity in Benin [23]. In response to this phenomenon, the issue of SLM is at the heart of international and national concerns. International and regional policies provide a blueprint for developing countries environmental and agricultural policies. They are generally aimed at improving food security and reducing poverty.

To achieve this security, several objectives promote the sustainable management of natural resources and land in particular. The planned objectives are of a macroeconomic order and target international institutions, technical organizations for sub-regional cooperation, basin management organizations and countries. These goals aim to institutionalize sustainable land management in national policy actions. The Beninese government then adopted policies and strategies for sustainable land management, which translate into actions carried out by several actors (state structures, NGOs, research centers, development projects).

From the 1990s, there has been a succession of political documents, national decrees and the establishment of organizations working to promote SLM measures in Benin. Despite this mechanism, the adoption of SLM measures is barely generalized and the land continues to be degraded. After a study conducted by the Soil Rehabilitation Project, it was revealed that 90% of the land has a low to very low fertility level [6]. Then, 62% of agricultural land is moderately or severely degraded [5]. Moreover, innovativeness is increasingly defined as a factor responsible for the adoption of innovations [15], [16]. This study raises the question of how political documents, regulations, laws and institutions target the innovativeness of producers in order to sustain the adoption of SLM measures.

3. RESEARCH AIM AND OBJECTIVES

The objective of this research is to analyze how the political, legislative and organizational frameworks of SLM in Benin promote innovativeness (through its components propensity, capacity and practice of innovation in order to ensure sustainability of SLM in Benin.

It is more specifically:

- Evaluate the consideration of the components of innovativeness in the political, legislative and organizational frameworks of SLM in Benin;
- Determine the effect of taking into account or not components of innovativeness in the political, legislative and organizational frameworks of SLM in Benin on the sustainability of SLM measures.

4. METHODOLOGY

This study is purely qualitative. Data used for this study come from literature review of official documents from Benin's agricultural public policy between 1999 to 2021. Because it was from 1999 that the SLM measure were promoted in Benin. It consists in collecting and then analyzing political, legal, institutional and program projects documents related to SLM in Benin. The Table 1 below presents the list of documents analyzed in this study.

Table 1: List of documents analyzed

Frameworks	Document titles	Years
Politicy	National Action Plan to Combat Désertification (NAPCD)	1999
	ECOWAS Environmental Policy	2008
	WAEMU Environmental Policy	2008
	Strategic Investment Plan in Sustainable Land Management (SIP_SLM)	2012
	National Plan for Agricultural Investment and Food and Nutritional Security (NPAIFNS)	2017
Organizational	Strategic Plan for the Development of the Agricultural Sector (SPDAS)	2017
	National Action Plan for Sustainable Land Management (NAP_SLM)	2019
	Law N°. 97-029 of January 15, 1999, on the organization of municipalities	1999
	Decree N°. 2017 -101 of February 27, 2017, confirming the approval of the creation of Territorial Agencies for Agricultural Development (TAAD)	2017
	DECREE N°. 2019 _ 071 establishing the powers, organisation and functioning of the Ministry of Agriculture, Livestock and Fisheries (MALF)	2019
Legislative	DECREE N°. 2019 _ 547 OF, DECEMBER 11, 2019, relating to the attributions, Organization and functioning of the Ministry of the Living Environment and Sustainable Development (MLESD)	2019
	Law N°. 87-013 of September 1987 regulating vain grazing, the keeping of domestic animals and transhumance	1987
	Framework law on the environment N ° 98-030 of February 12, 1999	1999
	Law N°. 2007-03 of October 16, 2007, on rural land tenure Republic of Benin	2007
	Law N°. 2010-44 on water management in Benin	2010
	Law N°. 2017-15 of May 26, 2017, amending and supplementing Law N°. 2013-01 on the land and state code	2017
	DECREE N°2019 _ 547 OF, DECEMBER 1, 2019, relating to the attributions, organization and functioning of the Ministry of the Living Environment and Sustainable Development	2019

Source: The authors

Content analysis was the method of analysis used [24]. In analysis of public policies, three categories of variables are proposed, the idea, the interest, and the institution [25]. The analysis of ideas consists of analyzing the different orientations of policies. Through the analysis of institutions, it is necessary to analyze the different measures and rules that define the development of policies. As for the analysis of interests, it involves analyzing the different gains or profits that the actors can obtain after the development of a policy. This study is based solely on the analysis of the literature; this

leads the authors to analyze the rules and policy orientations on SLM in Benin. The authors analyze how the rules, policy documents and organizations that address SLM in Benin, consider the components of innovativeness.

5. RESULTS

5.1 Components of innovativeness in the legislative and regulatory framework of SLM in Benin

Benin's legislative and regulatory framework has started highlighting the measures of SLM after the Rio of Janeiro conference in June 1992. Although there is no law specifically on Sustainable Land Management, the latter draws its legislative framework from the environmental law N°98-030 of February 12, 1999. This law in its article 53, promotes land protection actions against humans' behaviors likely to degrade land, and cause desertification and erosion of agricultural land.

" When the conservation of the natural environment in the national territory is of special interest and that this environment of any human intervention.... The protection of land against desertification, erosion, and the rise of salts, in agricultural land is of public utility. " (Law N ° 98-030 of February 12, 1999, on framework law on the environment in Republic from Benin, pp. 27)

Human actions likely to have an impact on the land are among others, grazing, keeping pets, transhumance. To this end, the Law N°. 87-013 of September 1987 regulating wasteful grazing, the keeping of domestic animals and transhumance is effective for the Sustainable Management of Land.

" The empty pasture is the law for a breeder to graze his cattle on natural and unenclosed spaces of others after the harvest." (Law No. 87-013 of September 1987; pp. 1). *"It is prohibiting to carry out all clearing and cultivation within natural pastures."* (Law No. 87-013 of September 1987; pp. 2)

Law N°. 87-013 of September 1987 recommended the practice of SLM measures through the prohibition of land clearing in natural pastures and the promotion of integration of agriculture with livestock. The breeder, who grazes his cattle in search of pasture but also of water. While law n ° 2010-44 on water management in Benin promotes practice through the promotion of management integrated water resources.

" The purpose of this law is to determine the conditions integrated management of water resources ... To Integrated water resources management is a process of promotion of the development and coordinated management of water, land, and associated resources, with a view to maximizing fair, the well-being economic and social results without compromise the sustainability of vital ecosystems..." (Law No. 2010-44 on water management in the Republic of Benin; pp. 1)

The weak application of the legislative and regulatory texts cited above increases the land tenure insecurity of producers. The land tenure insecurity that has been an obstacle to the application of SLM techniques. Thereby, the Law No. 2007-03 of October 16, 2007, on the rural land tenure system of the Republic of Benin and Law No. 2017-15 of May 26, 2017, amending and supplementing Law No. 2013-01 on the land and public property provide a framework for securing land in Benin.

" The soil, the subsoil and the wealth contained therein are, as non-renewable and/or limited resources, of the protected domain of the State. They are managed in a rational and sustainable manner in accordance with the provisions of this code of the specific texts in force.... All Beninese has an equal vocation to access natural resources in general and agricultural land, without discrimination of sex or social group genius under the conditions provided for by the constitution, laws and regulations." (Law N'2013-01 on the land and state property code; pp. 69)

They offer a common system for rural land management and ensure land security for producers to stimulate investment in production and maintenance of land fertility. Furthermore, the environmental police (under the supervision of the Ministry of the Living Environment and Sustainable Development) is responsible for making producers aware of the existence of the various laws and rules related to Sustainable Land Management. In the event of violations of these rules, it is responsible for making the report and issuing the ticket if necessary.

The legislative framework for SLM is experiencing some difficulties, including ignorance of the various laws by rural populations. This lack of knowledge then contributes to the non-application of the various texts and laws related to

Sustainable Land Management. The population is also not aware of the environmental policy, an institution responsible for disseminating and complying with the rules and laws on Sustainable Land Management.

5.2 Components of Innovativeness in the political framework of SLM in Benin

In Benin, SLM policies are perfectly aligned with environmental policies and agricultural development policies which themselves are inspired by regional and international policy frameworks. Benin is based on the various international agreements and draws up a National Action Plan to Combat Desertification (NAPCD) in 1999. The NAPCD defines the strategic orientations and operational actions at national and local levels in the fight against the causes and impacts of desertification. It proposes strategic actions, which aim to arouse the propensity to innovate in local communities and to raise awareness of local communities.

"...Dongive local communities a better perception of the value of trees, forests and forest lands and of the need to ensure their sustainable management ... Thus, so that the fight against desertification can be a year of success, it is important to involve the various grassroots actors in arousing and by supporting their initiatives " (NAPCD 1999; pp. 50-51)

The NAPCD also aims to strengthen the capacity to innovate of actors through the strengthening the technical and financial capacities of grassroots actors. On the other hand, we also note the strengthening of the praxis of innovation through the promotion of techniques favoring the rational use of natural resources. NAPCD aims to:

" Strengthening the capacities of farmers at the base for food production based on the vocation of the zones ... The Enhancement degraded areas by promoting arid-cultures... The implementation of certain conservation measures and protection of natural resources as provided for in the National Agenda 21 ... Strengthening of reforestation and agroforestry promotion... Contribution to the enhancement of endogenous drought control methods... Contribution to the promotion of alternative activities likely to replace those which are highly destructive of natural resources ... The promotion of techniques favoring the rational use of natural resources ..." (NAPCD 1999; pp. 60)

The NAPCD then aligns itself with the adoption in 2012 of a Strategic Plan for Investment in SLM (SPI_SLM). The SPI_SLM foresees several strategies of propensity stimulation to innovate the actors and the praxis of SLM measures.

" Expand creative capacities and exchange of knowledge on the factors of land degradation and possible solutions technically and technologically; Support the creation of learning spaces and innovation networks within communities with a view to exchanges and dissemination of best SLM practices ; Implement a multi-media communication strategy adapted to the different categories actors and allowing create spaces for learning, exchange and dissemination of best practices in SLM; Strengthen the processes and actions in progress related to SLM and promote pilot protection and rehabilitation actions degraded land; Facilitate the availability and access of all categories of actors involved (men, women, young people) to resources productive upstream of SLM ; Promote the valuation of products resulting from SLM practices." (SPI_SLM 2010; pp. 37)

The implementation of the SPI_SLM is also experiencing difficulties in mobilizing resources. To overcome these difficulties, Benin has so defined its Land Degradation Neutrality (LDN) targets in 2017. Benin therefore wants to achieve land degradation neutrality by 2030. It therefore sets itself the ambition of:

" R restore at least 50% (for example, 1.25 million ha) of degraded land during the 2000-2010 reference period, and limit the loss of non-degraded land (forests and savannas) to 5%, to preserve terrestrial ecosystems and aquatic with a net improvement in plant cover of 12% " (LDN 2017; pp. 17)

Despite all the policies put in place, there is continued land degradation. The National Action Plan for Sustainable Land Management (NAP-SLM) is then drawn up with the aim of changing the SLM paradigm for concrete results. The NAP-SLM contributes through its orientations to the achievement of priority targets linked to the Sustainable Development Goals (SDGs): "Preserve and restore terrestrial ecosystems, by ensuring that they are used in a sustainable manner, sustainably manage forests, against desertification, halt and reverse the process of soil degradation and put an end to the loss of biodiversity". To do this, it provides for the implementation of the SLM paradigm of Benin: " Avoid-Reduce-Restore " through which it will be to avoid the degradation of healthy lands, reduce the degradation of affected lands and restore already degraded lands that still have restoration potential.

" Promote an intensification of sustainable and climate-smart agriculture and the upgrading of the scale of proven and appropriate SLM measures, at the level of the 7 development poles agricultural and for all sectors; promote

land restoration degraded (agricultural land, protected areas, forests natural areas, mangroves and other wetlands); Scale up the farm and throughout the national agricultural territory, as well than on other land use units, good SLM practices ". (NAP-SLM 2019; pp. 13)

NAP-SLM thus promotes application of SLM measures. It also aims to build the capacities of actors. The authors note the strengthening of technical capacities on SLM of actors but also the strengthening of institutional, legislative, and regulatory capacities for the implementation of Sustainable Land Management. In addition, the NAP-SLM is anchored in the Government's Action Program (GAP) (2016-2021) which makes the agricultural sector a priority. To this end, it is also inspired by the Strategic Plan for the Development of the Agricultural Sector (SPDAS) and its National Plan for Agricultural Investment and Food and Nutrition Security (NPIFNS). The SPDAS and NPIFNS globally aim at the implementation of SLM techniques in its component 3.2. Their ambition is to promote the practice of SLM techniques through the large-scale promotion of SLM measures. This translates to objective of promoting agroforestry, integrated management of soil fertility, implementation of Conservation of Water and Soils (CWS) measures and integrated management of water resources. Institutional capacity building is also aimed in the 2025 SPDAS through the creation of a political, institutional, legal, and political framework conducive to the engagement of all stakeholders and the implementation of SLM actions.

Sustainable Land Management policies in Benin want to improve the implementation of SLM measures by stakeholders. They aim to adopt the SLM paradigm, implement SLM measures, strengthen the institutional and regulatory framework and then mobilize resources for financing Sustainable Land Management. To do this, these policies therefore improve the practice and ability of actors to innovate to the detriment of their propensity to innovate. After the analysis of the policies put in place, it is advisable to look at the operationalization of the different strategies and actions proposed by SLM policies through the analysis of the different organizations in charge of actions on Sustainable Land Management.

5.3 Components of innovativeness in the organizational framework of SLM in Benin

SLM in Benin is characterized by the intervention of several categories of actors. The authors note organizations from public, private, and civil society sectors.

In the public sector, the Ministry of the Living Environment and Sustainable Development (MLESDD) houses the technical departments (General Direction of Environment and Climate, General Direction of Water, Forests, and Hunting) and supervised structures (Benin Environment Agency, National Environment and Climate Fund, National Center for the Management of Wildlife Reserves, National Center for Remote Sensing and Ecological Monitoring.). These departments are supported by the National Commission for Sustainable Development, the National Committee on Climate Change (NCCC), and the National Committee to Combat Desertification to work towards Sustainable Land Management.

"The mission of MLESDD is to develop and ensure the implementation as well as the monitoring and evaluation of the State's environmental policy and strategies, management of climate change, reforestation, protection of natural and forest resources, preservation of urban planning ecosystems, protection of banks and coasts, land and estates. This ministry facilitates the implementation as well as the monitoring and evaluation of the policy and strategies of the State in matters of natural land resources and the securing of these lands." (DECREE N°2019 547 OF, DECEMBER 11, 2019 related to the attributions, organization and functioning of the Ministry of the Living Environment and Sustainable Development); pp. 4)

In addition, the coordination of the Ministry of Agriculture, Livestock and Fisheries (MALF), the Ministry of the Living Environment and Sustainable Development (MLESDD), the Ministry of the Sustainable Development Plan (MSDP) coordinate the implementation of the various SLM actions. It ensures the mobilization of the necessary resources but also the monitoring and evaluation of planned SLM actions. This with the support of the Ministry of Foreign Affairs and Cooperation (MFAC) which coordinates exchanges and partnerships with international and regional institutions on the issue of SLM. Ministry of Water and Mines (MWM) and Ministry of Energy (ME) also support in the sustainable management of land through the control and monitoring of activities that contribute to land degradation.

At the regional level, it is the TAAD which ensure the coordination and supervision of SLM promotion activities in Agricultural Development Poles (ADP).

"The Territorial Agency for Agricultural Development is responsible for... facilitating the access of sector actors to information and innovations, as well as to agricultural advice; closely follow the actors in the effective application of the innovations introduced; coordinate the development projects of the agricultural sectors involved in the ADP..." (Decree N°2017 -101 of February 27, 2017 noting the approval of the creation of TAADs; pp. 3.)

At the municipal level, the town halls have clear powers in land use; the establishment of hydraulic infrastructure and hydro-agricultural facilities; and maintenance of plantations and protection of natural resources. Within the communal Council, There are Communal Forest Management Commissions with Village Sections of Foncier Management as branches to ensure land management. The municipalities through town halls also participate in capacity building by setting up hydraulic infrastructure and hydro-agricultural facilities or even the maintenance of plantations and land protection.

" The municipality takes care of the protection of natural resources, in particular forests, soils, fauna, hydraulic resources, groundwater and contributes to their better use ... The municipality gives its opinion each time the creation is considered. on its territory, any project likely to harm the environment. It takes into consideration the protection of agricultural land, pastures, green spaces, the water table, surface water bodies and rivers in the establishment of the various public or private projects." (Law No. 97-029 of January 15, 1999; pp.21)

In the private sector, we note the indisputable support of International, Regional and National non-governmental Organizations which provide technical and financial support through projects and programs (For example Degraded Soils Protection and Rehabilitation Project to improve food security (DSPRP), West Africa Agricultural Productivity Program (WAAPP), Agricultural Adaptation to Climate Change Project (PACC)...). The latter initiate consultation frameworks with all stakeholders to facilitate the implementation and coordination of SLM actions. The main projects and programs working for SLM aim to strengthen producers to implement efficient soil practices. These projects and programs provide producers with agents specializing in SLM who are responsible for supporting producers in putting into practice the various SLM measures disseminated. While in some cases these agents are not available, and the producer must tap into his knowledge to find a solution to his land degradation problem.

There are several concrete actions to disseminate and scale up SLM techniques through national and international projects and programs. For example, DSPRP has trained and supervised more than 34,000 producers in the implementation of SLM measures. The provision of 462 agricultural technicians and advisers previously trained in SLM by DSPRP, consists of capacity building in human resources. Technical capacity building is supported by building the material and input capacities of producers. These include, among other things, the distribution of seeds for improving plants, hoes, tricycles, boots, or financial resources.

There are many actors in charge of the design, coordination, implementation, and financing of SLM actions in Benin. It is important to ensure the synergy of these actions through regular consultation of all stakeholders. The implementation of the various planned actions generally encounters a problem of delay due to the politicization of all actions and administrative slowness. We must not forget the low mobilization of the necessary resources which hamper the implementation of the various plans. The establishment of a multi-actor financing mechanism is essential to support the SML in Benin. In addition to the funding, which is essential for the operationalization of SLM actions, it is necessary to take a critical look at the rules and laws that govern sustainable land management in Benin.

5.4 Components of innovativeness in the legislative, political, and organizational frameworks of SLM in Benin

The legislative framework for SLM through laws and regulations is the one that sets out the rights and duties of the population on issues related to SLM in Benin. It guarantees populations the right to rational land management through the promotion of actions likely to protect and restore land and the application of SLM techniques/measures in Benin. This framework under the control of the environmental police also prohibits users from any action likely to degrade the land. We note then that the legislative aims, through these various elements, to develop the praxis of innovation by the different users of the land. Thus, the Government of Benin proposes policies, action plans, national strategy... to serve as a guide in the interpretation and application of the laws and regulations developed.

Beyond the development of the praxis of innovation by actors, the SLM policy framework also aims to develop capacity (establishment of the inputs necessary for the application of SLM measures) and the propensity to innovate of the actors. Indeed, policies adopt a sustainable vision of SLM with long-term objectives because they are designed to be implemented over several years. Operationalization of the different strategies and action plans developed by the politicians goes through different organizations.

The organizational framework for SLM in Benin mainly targets the application of SLM measures. To do so, the various organizations are responsible for disseminating SLM techniques/measures but also for putting in place the various inputs necessary for the application of these SLM measures. Since organization's objectives are to obtain immediate results, they will focus on promoting the praxis of innovation to obtain immediately measurable results.

It should be kept from this analysis that there is not a perfect alignment between the ambitions of the legislative framework, the political framework, and the organizational framework of SLM in Benin. These three frameworks all aim at the praxis of innovation of actors through the promotion of the application of SLM measures. The political framework for its part also gives a place to the promotion of the propensity to innovate of the actors (development of the curiosity of the actors on SLM, encouragement to the spontaneous search for solution) and the reinforcement of the capacity to innovate (Implementation place of inputs). The reinforcement of the capacity to innovate is also advocated within the organizational framework. The main ideas observed by component of innovativeness are presented in the Table 2.

Table 2: Ideas by component of innovativeness

Variables	Components	Ideas
Innovativeness	Propensity	Encouraging spontaneous search for a solution
		Development of curiosity
	Capacity	Capacity building to find solutions
		Setting up inputs
	Praxis	Diffusion of innovations of SLM
		Prohibition of actions likely to degrade the earth
		Promotion of the application of innovations
		Promotion of SLM actions

Source: The authors

Figure 1 presents a summary of the distribution of the components of innovativeness in the legislative, political, and organizational frameworks of SLM in Benin.

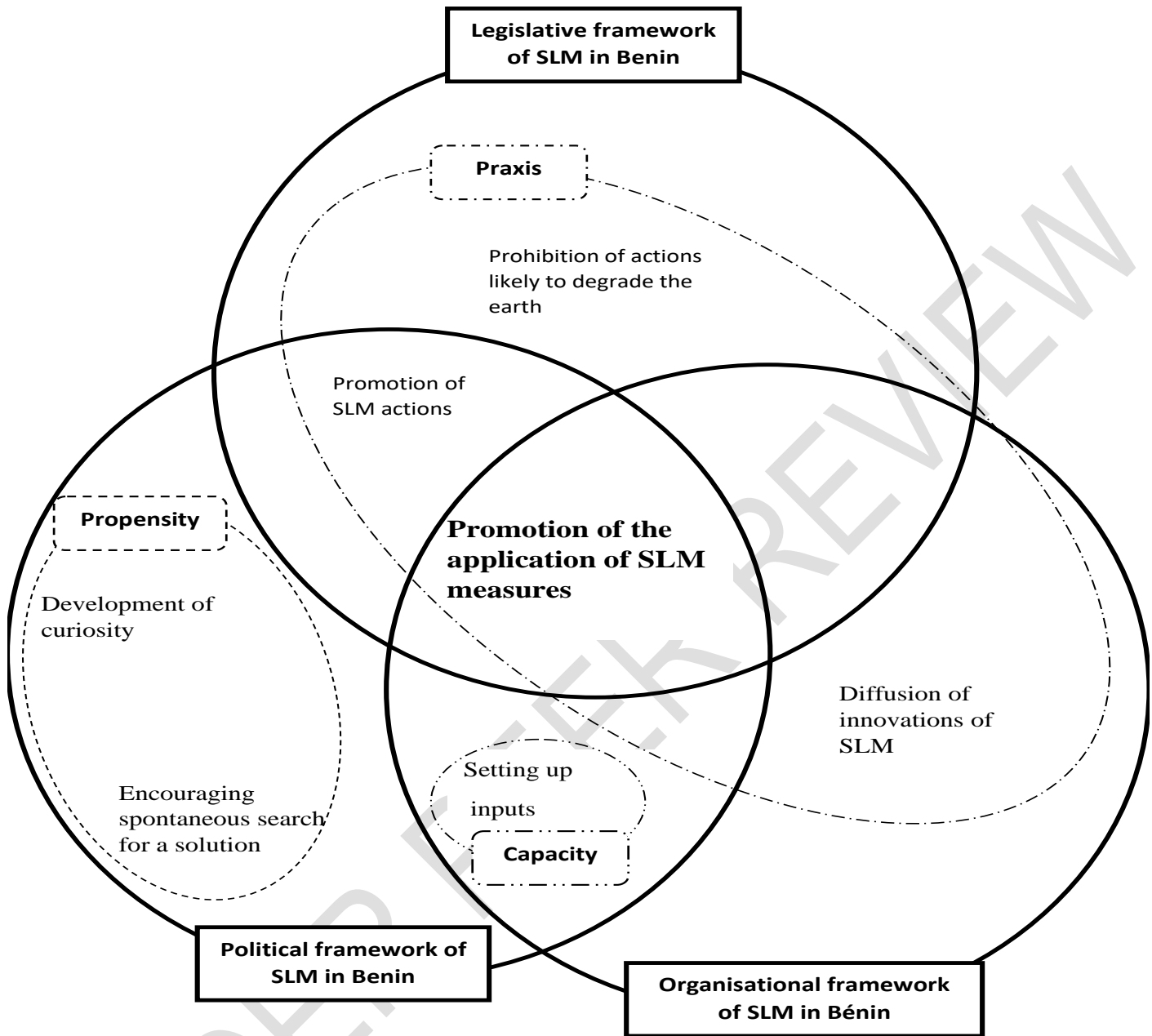


Fig. 1. Distribution of the components of innovativeness in the legislative, political and organizational frameworks of SLM in Benin (Source: the authors)

6. DISCUSSIONS

Public policy decisions increasingly influence the behavior of individuals [26]. Thus, the development of agricultural activities is influenced by all public policies influencing agricultural production. The authors also noted the introduction of agricultural innovations for the development of the sector. It was then that SLM measures were introduced to producers with the aim of mitigating the effects of climate change on Benin's agriculture.

In general, the adoption of an innovation is conditioned by the characteristics of the individual, while these are themselves influenced by institutional factors [27]. More specifically, the policy, institutional and legislative framework for SLM

facilitates the adoption of SLM measures [6]. This through policies and regulations related to land tenure security, the dissemination of SLM techniques, the implementation and funding of SLM actions [27], [28]. Also, financial capacity building policies and land insecurity hamper the adoption of innovations [7]. This relationship is on the other hand nonlinear because innovativeness plays a mediating role between the factors and the adoption of innovations [29]. Innovativeness is a variable made up of the propensity to innovate [10], the capacity to innovate [11], and the praxis of innovation [12].

Sustainable Land Management policies aim to improve the praxis of disseminated innovations and provide producers with the necessary resources to develop their capacity to innovate. On the other hand, the propensity to innovate is neglected in these policies. Whereas the propensity (intention) to innovate is an essential factor in the process of adopting innovations [15]. It conditions the adoption behavior of innovations [30]. The propensity to innovate allows the producer to draw on his knowledge acquired during praxis and use his capacities to innovate to solve problems []. Because faced with environmental and social changes, the producer must innovate [32]. This propensity component of innovativeness depends on the institutional environment that can promote policies to encourage innovation. Legislative, policy and organizational frameworks should promote the propensity to innovate as much as the ability to innovate and the practice of innovation. Because it is a combination of these three components of innovativeness that could facilitate the adoption of agricultural innovations [33].

7. CONCLUSION

Benin's political, organizational and legislative frameworks on agricultural production deal with Sustainable Land Management. Indeed, the state plays a leadership role by adopting policies and strategies that are translated into actions on the ground, and the latter carried out by several organizations (public organizations, non-governmental organizations, research centers). Their goal is to develop appropriate policies, promote and implement SLM measures, strengthen the institutional and regulatory framework and then mobilize the financial resources necessary to carry out these actions.

Innovativeness, an important variable in the adoption process of SLM measures, is considered in these different frameworks. The researchers note the consideration of the praxis and the capacity to innovate by the legislation, policies, and organizations. On the other hand, the propensity to innovate is only addressed in SLM policies. This situation facilitates the implementation of SLM measures but not an appropriation of these measures for long term usage. It is the appropriation of SLM measures that will facilitate the sustainable adoption of SLM measures by stakeholders. That implies that beyond reinforcement the capacity of actors and the promotion of SLM measures, policies and laws should trigger curiosity and creativity of actors in testing and sustainable adoption of Sustainable Land Management.

REFERENCE

- [1] Motib I., Batchi M., et Fatah F. Conservation of natural resources for sustainable food security in Morocco. ESJ16. 2020 ; 240(9) : 240-60. French.
- [2] Djohy G L., et Edja A H. Effect of climate variability on water resources and adaptation strategies of breeders and market gardeners in North Benin. Faculty of Agronomy, University of Parakou. 2019 ; 8(2) : 83-91. French.
- [3] ADJAKPA T T. Human activities and degradation of wetlands in the Municipality of Bonou in Benin. Africa SCIENCE. 2020 ; 17(4) : 125-138. French.
- [4] Sissoko P., Gry S., Sidibé M., Diarra Y M., Konaté L., Traoré F., et al. Peasant perceptions of the impacts of climate change on resources and production systems: the case of the Yélimané circle in Mali. Institute of Rural Economy (IER), Bamako, Mali, 2020. Accessed on: Feb. 24, 2021. [Online]. Available at: <https://nmbu.brage.unit.no/nmbu-xmlui/handle/11250/2687718> French
- [5] Stiem-Bhatia L., Doubogan Y O., et Savi A B. Sustainable land management practices in Benin: a gender analysis. IAAS. 2017 ; p 24. French.
- [6] Baba C A K, Stiem L, et Lanouette P. Experiences in Sustainable Land Management in Benin: what lessons can be learned for future directions? IAAS. 2016; p 48. doi: DOI: 10.2312 / iass.2016.020. French.
- [7] Bouzid A., Boudedja K., Cheriet F., Bouchetara M., et Mellal A. Factors influencing the adoption of innovation in agriculture in Algeria. Case of two strategic crops: durum wheat and potato. Cahiers Agricultures. 2020; 29:15. doi: 10.1051/cagri/2020013. French.
- [8] Ajzen I. The theory of planned behavior. Organisational Behavior and Human Decision Processes. 1991; 50(2) : 179-211. doi: 10.1016/0749-5978(91)90020-T.
- [9] Hodgson G M. What Are Institutions? Journal of Economic Issues. 2006; 40(1) : 1-25, doi: 10.1080/00213624.2006.11506879.
- [10] Ahlafi H., Ettahir N., Khohmimidi A., et Bahoussa A. From innovativeness / Business to innovativeness / Consumer: An attempt to develop a structural model. 6th edition of the International Colloquium of the Maghrébine Marketing Association "Customer relations in the digital age: Can we do without humans?" Hammamet, Tunisia. 2017; p. 26. French.
- [11] Deltour F., et Lethiais V. Innovation and performance of SMEs: an approach by the contribution of information technologies. XXIII International Conference on Strategic Management. Rennes 2014; p. 27. French.
- [12] Alcouffe S. Research on managerial innovations in accounting and management control. Proposal of a theoretical model integrating the perspectives of diffusion, adoption and implementation of innovation. Standards and Globalization, May 2004, France. pp. CD-Rom. ff halshs-00587823 ff. French.
- [13] Rogers E M., and Shoemaker F F. Communication of Innovations; A Cross-Cultural Approach. The Free Press, 866 Third Avenue, New York, N. Y. 10022. 1971.
- [14] Midgley D F., and Dowling G R. Innovativeness: The Concept and Its Measurement. J Consum Res. 1978; 4(4) : 229-242. doi: 10.1086/208701.
- [15] San Martín H., and Herrero A. Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework. Tourism Management. 2012; 33(2) : 341-350.
- [16] Chkoniya V., Madsen A O., and Bukhrashvili P. Anthropological Approaches to Understanding Consumption Patterns and Consumer Behavior. Advances in Marketing, Customer Relationship Management, and E-Services. IGI Global; 2020.
- [17] Roussy C., Ridier A., et Chaib K. Adoption of innovations by farmers: the role of perceptions and preferences. SMART-LERECO working paper. 2015; 15 (03): p. 37. French.

- [18] Hussein K., et Harizi K E. Chapitre 9. Policies to promote innovation, the case of the Mediterranean. Editions Quæ, 2012. Accessed on: Dec. 14, 2019. [Online]. Available at: <https://www.cairn.info/apprendre-a-innover-dans-un-monde-incertain--9782759218585-page-175.htm>. French.
- [19] Goulet F. Innovation in agriculture, land of alliances and controversies. Looks on Earth. 2014. URL / innovation-en-agriculture-terre-dalliances-et-de-controverses (accessed Oct. 15, 2018). French.
- [20] Boko M., Kosmowski F., et Vissin E W. The challenges of climate change in Benin. Konrad Adenauer Stiftung; 2012. doi: 10.13140/RG.2.1.2825.4808. French
- [21] Niang I., and al. Africa Climate Change 2007: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. 2008. Consulté le: oct. 19, 2018. [En ligne]. Disponible sur : <http://repository.udsm.ac.tz:8080/xmlui/handle/123456789/913>
- [22] Yabi I., et Afouda F. Extreme rainfall years in Benin (West Africa). Quaternary International. 2012 ; 262 : 39-43. doi: 10.1016/j.quaint.2010.12.010.
- [23] Adebisi K D., Maiga-Yaleu S., Issaka K., Ayena M., et Yabi J A. Determinants of the adoption of good sustainable land management practices in a context of climate change in North Benin: the case of organic manure. International Journal of Biological and Chemical Sciences. 2019 ; 13 (2). 998-1010. French.
- [24] Courbières C. Documents, signs and knowledge: return to documentary analysis. In Mediation and representation of knowledge. Lyon, France. 2003. 159-170. Consulté le : oct. 07, 2021. [En ligne]. Disponible sur : <https://hal.archives-ouvertes.fr/hal-01246918>. French.
- [25] Palier B., et Sural Y. The "three I's" and state analysis in action. French Review of Political Science. 2005 ; 55 (1): 7-32. French.
- [26] Hall P A., et Taylor R. Political science and the three neo-institutionalisms. French review of political science. 1997; 47 (3): 469-496. doi: 10.3406 / rfsp.1997.395192. French.
- [27] Hassenteufel P. Introduction. Introduction. In: Political sociology: Public action. Edited by Hassenteufel Patrick. Paris, Armand Colin, "U", 2011, p. 5-28. French. DOI: 10.3917 / arco. hasse.2011.01.0005. URL: <https://www.cairn.info/sociologie-politique-l-action-publique--9782200259990-page-5.htm> French.
- [28] Montcho M., Babatounde S., Aboh A B., Houndonougbo A M., et Chrysostome A M C. Perception and adoption of technical innovations in ruminant feeding in Benin. 2018; 30 (1): 31-45. French.
- [29] Moumouni I., Baco M N., and Idrissou L. Towards a Re-Conceptualization of the Pathway of Agricultural Technology for a Better Impact Assessment. International Journal of Publication and Social Studies. 2019 ; 4(2) : 123-131.
- [30] Ahlafi H et Bahoussa A. The Mediating Role of Innovativeness Between Attitude Toward Green Advertising and Adoption of Green Products. IOSR Journal of Business and Management (IOSR-JBM). 2018; 20 (4): 36-42. doi: 10.9790 / 487X-2004083642. French.
- [31] Ajzen I. From Intentions to Actions: A Theory of Planned Behavior. In Action Control: From Cognition to Behavior, J. Kuhl et J. Beckmann, Éd. Berlin, Heidelberg: Springer Berlin Heidelberg. 1985: 11-39. doi: 10.1007/978-3-642-69746-3_2.
- [32] Dugué P., Mathieu B., Sibelet N., Seuge C., Vall E., Cathala M., et al. Farmers innovate, what do agronomists do? The case of cropping systems in the cotton zone of Cameroon. Agronomists and innovations: 3rd edition of the Pradel interviews. Proceedings of the colloquium of September 8-10, 2004. 2006. <http://agritrop.cirad.fr/531314/> (accessed Oct. 15, 2018). French.
- [33] Gouroubera, M. W., Idrissou, L., & Moumouni, I. M. (2020). Political Innovations for ICT Institutionalization in Benin Agricultural System. Asian Journal of Agricultural Extension, Economics & Sociology, 38(11), 264-277. <https://doi.org/10.9734/ajaees /2020/v38i1130475>

UNDER PEER REVIEW