

Pastoral adaptation and policy environment

How discourses shape knowledge, policy and adaptation

Working Paper No. 225

CGIAR Research Program on Climate Change,
Agriculture and Food Security (CCAFS)

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Todd A. Crane



RESEARCH PROGRAM ON
**Climate Change,
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Abstract

The purpose of this paper is to analyze how the policy environment in Senegal influences pastoral climate change adaptation. The analysis of the link between policy environment and pastoral adaptation is based on a case study in the Ngnith municipality of the Senegal River delta and other localities in the delta. We argue that past policies have both changed the ecological and social systems and also changed the viability of livelihoods, especially by integrating national and international markets supported by national policies and leading to land competition, increasing the pastoral vulnerability. The present policy environment shapes the pastoral adaptation because policy processes lead to new power relations that marginalized pastoralists. Changes in the stakeholders and their uneven distribution of power leads to inequalities in terms of land allocation opportunities and limitation of the flexible livelihoods access which is primordial of pastoralism resilience. In conclusion, we argue that unpacking the political dimension of social-environment interactions is helpful in understanding the evolution of pastoralists' capacity to adapt to climate change.

Keywords

Pastoralism, climate change adaptation, Senegal, political ecology, policy

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Acronyms

AfDB	African Development Bank
ANGMV	National Agency of the Great Green Wall
APIX	The Investment Promotion and Major Projects Agency
CERFLA	Centre for Studies on Research and Development of African Languages
CICODEV	Pan African Institute for research, training and action for Citizenship, Consumer and Development in Africa
CNCR	National Council of Concertation and Cooperation of Country Person
CONGAD	Council of Non-Governmental Organizations for Development Support
CRAFS	Framework for Reflection and Action on Land Matter in Senegal
FONGS	Federation of Non-Governmental Organisation of Senegal
GEF	Global Environmental Fund
GGW	Great Green Wall
IPAR	Agricultural and Rural Prospective Initiative
ISRA	Senegalese Agronomic Research Institute
IUCN	International Union for Conservation of Nature
MAER	Agriculture and Rural Equipment Ministry
MAER	Ministry of Agriculture and Rural Equipment
OLAG	Guiers Lake Office
OMVS	Organization for the Development of the Senegal River
PDIDAS	Sustainable and Inclusive Agriculture Project
POAS	Occupation and Allocation Land Plan
PRACAS	Acceleration of the Pace of the Senegalese Agriculture Program
PREFELAG	Socio-ecological Functions Restoration of the Guiers Lake Project
PREFERLO	Project for Strengthening the Resilience of the Ferlo Ecosystem
PSE	Senegal Emergent Plan
RSAN	Special Avifauna Reserve of Ndiael
SAED	Planning and Exploitation Company of Delta Lands
SCA	Accelerate Growth Strategy

UGB Gaston Berger University

WB World Bank

Introduction

This report focuses on the discourse dimension in policy-process and the way by which it shapes knowledge production and pastoral adaptation. Adaptation can be conceived as practices, but we chose a broader definition in order to fill the policy gap (Eguavoen et al. 2013). Adaptation is context-dependent, “a social process wherein social and political relations shape the simultaneous management of diverse changes, many of which are not driven directly or consciously by climate change” (Eriksen et al. 2015) “shaped and constrained by social, political, historical and economic processes” at different scales (Smit and Wandel 2006 p. 284). The political ecology approach (Benjaminsen 2009; Bryant 2015; Robbins 2012) underlines some interesting tools to unpack the political dimension of adaptation, for example, historical, network or power approach.

Our purpose here is focused on discourse dimensions concerning two relevant programs in the delta of Senegal River: The Sustainable and Inclusive Agriculture Project (PDIDAS) and the Socio-ecological Functions Restoration of the Guiers Lake Project (PREFELAG). They are relevant because they directly affect the land tenure and resources availability, so they have consequences for pastoral adaptation even if they don't directly target pastoral adaptation. For political ecology, discourse – with knowledge and power – is one concern drawing from poststructuralism (Watts 2003 p. 263). The discourse lens helps us to explore “multi-level connections between global and local phenomena [...] in decision making and hierarchy of power” (Adger et al. 2001 p. 682). Global discourses are often based on shared myths and blueprint of the world and the “following prescriptions flowing from them are often inappropriate for local realities” (2001 p. 683). Discourse can be broadly defined as a knowledge regimes (*ibid.*), but we use Peet and Watts' definition of discourses as “frameworks that embrace particular combinations of narratives, concepts, ideologies and signifying practices, each relevant to a particular realm of social action” (Peet and Watts 2002 p. 14). So, discourses are a way to frame knowledge in policy process by shaping “actors' interpretations of information, as well as inform their action choices” (Robinson and Crane 2016 p. 4).

The PDIDAS program is one of the most important programs in the Senegal River delta. Although it is explicitly focused on land tenure reform for agricultural development (with no reference to climate change adaptation), PDIDAS has important implications for pastoral adaptation. Because climate change adaptation is not a systematic response to climate change effects alone (Smit and Wandel 2006 p. 289), adaptation processes, at the local level, are not only related to climate change or adaptation policies (Eriksen and Lind 2009). Instead, climate change adaptation in pastoral systems inevitably interacts with other non-climatic features (Niang et al. 2014 p. 1202). There are many other risks and pressures for herders - like market integration and trade expansion or political frameworks that engender a land fragmentation - which affect pastoral flexibility, an important pastoral adaptation feature (Touré 2010). The social and material dynamics of household adaptations are affected by large programmatic interventions such as PDIDAS and PREFELAG, interventions which are in turn supported by strategic use of particular discourses. PDIDAS aims to develop agribusiness in the Senegal River Delta and PREFELEAG support environmental actions for the Ndiael reserve. Distinct in appearance, they have some shared discursive usages about. Also, the discursive analysis allows to identify their blueprint which reveals how it could impact pastoralists practices.

Methodology

To achieve the understanding of the policy influence on adaptation through discourse, we use a political ecology (PE) approach and especially PE tools for discourse analysis, which arise from the poststructural approach developed by Foucault. One core question is “how certain taken-for-granted notions of the world are formed through discourse and how certain social systems and practices make them ‘true’” (Robbins 2012 p. 70). Indeed, some ideas can limit and direct what is taken to be true and possible by locking the imaginations of the public, decision-makers, planners and scientists (*ibid.*).

Discourses are ways to both perceive and present a particular issue which is shared by different people and are created and maintained by social actors (Benjaminsen and Svarstad 2012 p. 112). Political decisions can include traces of certain discourses, and by unpacking them, we can unpack the power that discourses have (Svarstad 2012 p. 138). Discourse

analysis is helpful to highlight power relation structure in a multilevel perspective. This methodology is also helpful to show how discourse shapes knowledge production or expertise because dominant discourse used as a policy imperative can influence the policy implementation through the expert interpretations of concepts which constitute the discourse (Wesselink et al. 2013 p. 3). This discourse analysis study is drawn from two main data collections, the first step of our methodology:

- First, with selected interviews from 74 semi-structured interviews realized in Senegal in 2016 and 2017. We focused on actors like state agencies, decentralized state services, Non-Governmental Organization (NGO), stakeholders involved in the two mentioned programs, PDIDAS and PREFELAG. One interesting feature is their involvement in environmental resource management, but also their actions in the programs and how they conceive the implementation, the area selected, how they perceive and integrate the pastoral activities and the pastoral space occupation.
- Secondly, we have worked with data from other sources pertaining to collect produced discourses which are oral and written statement (Benjaminsen and Svarstad 2012 p. 112). It encompasses a report review, newspapers articles and videos collected which show why actions are undertaken. Videos are stakeholders' production or journalistic production. Videos from press allow us to have more discourse with some people we hardly can meet. All data were collected in order to have information on what they do, how they justify it, how they perceive the area of their intervention. For example, we have collected official video presenting actions by the organization itself, what offers a strong discourse analysis opportunity.

Then, interviews were transcribed when interviewees did accept recording and analysed with SONAL software¹, a qualitative tool. For both data sources, we have highlighted some language production useful to describe and Identify discourse (Svarstad 2012), for example, the way by which they speak about pastoralism, how they perceive it. Such elements are helpful to understand the level interaction of discursive power, power being “partly a matter of ‘winning the battle of ideas’ over human use of the environment” (Bryant and Bailey 2005 p. 40). To achieve that, we analyse which actors share the same language usage, what usage it implies and how it can be coherent or not with the pastoral practices.

¹ <http://www.sonal-info.com/>

To begin our results presentation, we start with a presentation of the programs, their goals, organisation, the actors involved and a first focus on relevant discursive elements. Secondly, we will concentrate on the sources of these discourses, then show which concepts and blueprint for societies are supported.

PDIDAS and PREFELAG programs: which discourses?

Programs presentation

The Sustainable and Inclusive Agribusiness Project (PDIDAS)

PDIDAS program has officially started in 2014 for six years. World Bank (WB) and Global Environmental Fund (GEF) are financing this project which aims to “develop commercial and inclusive farming and sustainable land management. It concerns two regions of the Senegal River delta: Saint-Louis and Louga in the Guiers Lake and Ngalam areas. This program is enshrined in the national policy framework, the Senegal Emergent Plan (PSE) and the agricultural component, the Acceleration of the Pace of the Senegalese Agriculture Program (PRACAS).

The PDIDAS program is under the administrative supervision of the Agricultural and Rural Equipment Ministry (MAER) and is formed by a Steering Project Committee (CPP), a Coordination and Management Unity (UCP) in charge of daily management – both at national level, and Local Appropriation Committees and executive agencies. These executive agencies are the planning and exploitation company of delta lands (SAED), the Investment Promotion and Major Project Agency, the National Agency of the Great Green Wall (ANGMV), the Gaston Berger University and the Accelerate Growth Strategy (SCA). The CPP regroups several organizations among which officials from ministries, SCA, Guiers Lake Office (OLAG), Organization for the Development of the Senegal River (OMVS); Mayors; civil society officials from Council of Non-Governmental Organizations for Development Support (CONGAD), National Council of Concertation and Cooperation of Country Person (CNCR), Federation of Non-Governmental Organisation of Senegal (FONGS), Agricultural and Rural Prospective Initiative (IPAR). There are also observers from the national land commission reform, The Investment Promotion and Major Projects Agency (APIX), Gaston Berger

University (UGB), National Agency of the Great Green Wall (ANGMV), Senegalese Agronomic Research Institute (ISRA). There are 41 people in the CPP.

The program is executed through three components: (i) value chain development, (ii) irrigation infrastructure development and natural resource management enhancement, (iii) coordination, management, evaluation and communication.

PREFELAG

The Socio-ecological Functions Restoration of the Guiers Lake Project (PREFELAG) was launched in 2014 and is scheduled to end in 2018. This program is funded by the African Development Fund (ADF) of the African Development Bank, the GEF and the State. As an environmental restoration project, PREFELAG aims to recreate optimal water conditions of Senegal River to Guiers Lake in order to increase the water capacity from 1.2 to 2.1 billion cubic metres per year and rewetting the Ndiael reserve. In political terms, PREFELAG aims to remove the Guiers Lake from the Montreux Record - an endangered list - in which Ndiael has been listed since 1990². The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance and is a part of the Ramsar List for which Ndiael is also a site since 1977. Ramsar Convention is the name used for the Convention on Wetlands launched in 1971 in Iran. It's an intergovernmental treaty that embodies the commitments of its members to maintain the ecological character or their Wetlands of International Importance.

The program encompasses different organizations: OLAG, International Union for Conservation of Nature (IUCN), Ministry of Environment and Sustainable Development (MEDD), RSAN. OLAG is the lead organization and has signed convention with other institutions in order to receive expertise support. IUCN is in charge of planning and restauration branch. According to the prime minister³, PREFELAG is coherent with the water policy and the PSE.

² The listing of Ndiael shows that the ecological conditions of this area have been significantly weakened.

³ Prime Minister discourse during the PREFELAG launch in 2014 available on:
<https://www.youtube.com/watch?v=ZXXpe3-zhYI>

Discourses: a first approach

PDIDAS

Discourses are oral or written productions and encompass report, official discourses, interviews, video, etc. Our first approach to the PDIDAS discourse study uses reports, journalistic interviews, and videos in order to understand what are the main concepts it draws on to justify its interventions and how discourses draw a specific representation of reality which can shape practices.

First, the official presentation video⁴ of the PDIDAS - which can find on their website - offers us a good lens for understand the blueprint of the program and how the representation offered can be contradictory with reality. It starts with a voice-over saying that PDIDAS wants to “increase agriculture production and promote direct investment in the farming sector”. It continues by saying that “large areas of fertile land remain unexploited despite favourable weather and nearby water”. This sentence frames well the contradiction of such program. The delta area is historically a pastoral zone (Michel and Sall 1984) and this kind of characterization reveals either a miscomprehension (which we think unlikely) or a deliberate refusal to recognize pastoral activities as a mode of land use. The discourse of pastoral areas as "unexploited land" effectively justifies the marginalization of pastoral activities in the implementation of PDIDAS.

Then, the video shows local farmers and the last explains that he can't exploit all his land because he has weak resources. This figure of local people saying that they need help is used to introduce the agribusiness actions by explaining that they already produce high value crops in the same area. As it continues, a senior agricultural economist of the World Bank explains that they will finance infrastructure in order to “make sure that those lands that are actually not being used can now be fully exploited”. The pastoral use of the area is entirely absent and the video brings other arguments for the program's implementation. The voice-over explains that PDIDAS will “facilitate private investment to ensure that foreign investors have an entry point and access to land”. Then, a secretary from the Ministry of Agriculture and Rural Equipment (MAER) says that PDIDAS will bring innovation in order to allow Senegal to be

⁴ Video untitled “PDIDAS : un projet soutenu par la Banque Mondiale”, also available on:

<https://player.vimeo.com/video/82338182?width=600&height=425&iframe=true>

self-sufficient and to create wealth. They again justify this last feature with a local farmer. They speak also about the land attribution process, both the World Bank and MAER officials before supporting their argument through the voice of a local farmer. This process, presented in the video as being participatory and inclusive, has actually be sharply contested. Civil society organizations initially spoke up to ensure that local people would be more included in the process. CNCR and CERFLA did a critical report on the initial framework. According to a CNCR national member, this action has led the WB to integrate civil society. A report was written with the CRAFS support after some workshops to share the initial WB memo on PDIDAS. However, despite these palliative measures the overarching approach of PDIDAS remains the same.

The narrative presented in the PDIDAS video is premised upon the notion that the Senegal River delts is unexploited, presents a narrative highlighting a part of the program network and the logic that is underpinned: develop agribusiness, in an area described as unexploited, in order to allow self-sufficiency and increase wealth (the growth), and to achieve that, built infrastructure and change the land access.

This aim is also perceptible through newspapers. The agricultural monthly newspaper focused on agriculture, livestock and environment called Agropasteur offers some insight. In the Agropasteur n°96 (“Agropasteur N°96,” 2016), the program coordinator told that PDIDAS aims to “develop agribusiness” and “implement a land schema in order to secure investors as well as small farmers”. She underlines the land dimension of the program by stressing that PDIDAS is a “laboratory for the National Land Reform Commission”.

What is important for us here is that a program with international aims to develop agribusiness and cash crops and drawing a land schema which could be a model for the national land reform. The PDIDAS program has discursively removed pastoralism from consideration in rural development with substantial social and material consequences. If the model for rural development in Senegal prioritizes agribusiness expansion while effectively ignoring the existence of pastoralism and its importance for national food and nutritional security, then there will be also consequences for pastoral adaptability. The pastoralism should be integrated through POAS (Occupation and Allocation Land Plan), both existing and those which will be update. POAS should protect pastoral lands and ways, such protection being a part of a way to pastoral adaptation. Nevertheless, POAS are not always well

respected and have some limits (Bourgoin 2014; Touré 2011). In this context, pastoral adaptation is not necessarily allowed and supported.

Moreover, this discourse analysis reveals what knowledges are used by experts - how experts conceive the land occupation and which practices are implemented - who shape the program conception.

PREFELAG

The environmental restoration project, PREFELAG draws on a different set of discourses when framing its interventions. First IUCN has a local office in Saint Louis and the interview has stressed that local action is embedded in specific agreement. IUCN conceives special facilities which need to be implemented in the Ndiael area according to RAMSAR convention. Because it's a RAMSAR site, it "need to be preserved". For their local actions, they work with AIV (Inter-Villages Association of Ndiael). In 2016, we have met one AIV local leader and he said that "their activity is to preserve and find funding in order to reviving the Ndiael through a reserve vocation" (Translation, 24/04/2016). He has also spoken about his pastoralism vision. For him, the extensive herding, i.e. the pastoralism, is a "bygone past" (*ibid.*) and pastoralists should stay in the pastoral area defined by POAS. However, those are quite occupied by Senhuile company in the Ngnith municipality. This perception of pastoralism echoes those met in the PDIDAS case. Nevertheless, it's the environment conservation discourse which is quite present and differs from PDIDAS discourse.

From local to international level: discourses and level interplays

PDIDAS

The Senegal delta: exploit lands for which pastoralism consideration?

At the delta level, the PDIDAS implementation area, the program networks illustrate the main discourse highlighted. SAED, the organization in charge of the development of irrigation facilities, is an execution agency. Interviews reveal that the similar consideration of the delta activities are present. In fact, one official said that there are no more pastoralists in the delta, but some estimations of regional herding service state that there are approximately 17 000

bovines and 22 000 small ruminants in the Ndiael (Lo and Touré 2016 p. 4). This consideration can appear logical in the sense where their work is to develop irrigation, and so pastoralism is seen as a “constraint”. In the same way, OLAG's priority is the water supply for Dakar, pastoralism is not in their activities.

We have seen more pastoral awareness at the communal level. A PDIDAS focal point underlined that the block of 500 ha wanted by the program and the consequences for pastoralism. He underlined that such area for agribusiness will decrease the pastoral land, i.e. the grazing land. Moreover, the focus on the land selected for PDIDAS (Bourgoin et al. 2016) shows possible significant impacts for pastoral mobility and for resource access if we also consider that the Ndiael reserve is theoretically forbidden for pastoralists. We also need to underline that there are others agribusiness implantation projects in the delta apart from PDIDAS⁵. Agribusiness project in the Dieri are more oriented toward horticulture because of the soil conditions. This environmental argument reveals that agronomic aspects for agriculture and agribusiness development tend to overtake on pastoral realities: Dieri is mainly a grazing area because of the ecological conditions. But today, a powerful discourse prioritizes other interest for those characteristics A cartography of land identified by PDIDAS (Bourgoin et al., 2016) shows this fact, even if lands will be delimited by the program.

Concerning the argument of “unexploited land”, this discourse is also present in the three-year document of action of the Ngnith commune. This document stipulates that there are great potentialities in the farming sector because fertile lands are unexploited and favourable to market gardening and horticulture. In the commune of Gandon, the local development plan stresses similar feature. Even if it presents herding as a fundamental activity favoured by large grazing area, the document speaks about a strong farming potential because there are large areas of arable land that are not farmed (Commune de Gandon 2015).

Concerning the land dimension, PDIDAS wants to be a kind of model for the national land reform. The subcomponent 1.3 includes a land reform support, “in order to facilitate the adoption of legislative text”. In the delta, the agribusiness stakeholders seem to be quite interested by the PDIDAS position. Indeed, companies implemented in the delta have created an association (without Senhuile). The official president of this association has affirmed his

⁵ For example, a Moroccan project in the Ngnith commune according to interviews.

satisfaction of the possible implications concerning the land dimension (Ndarinfo, 2016). He said, for example, that a balance is needed in order to “assure investors that he may access land, a real right”. He also stresses the need for the local farmers’ recognition, as it is similarly constructed in the PDIDAS program.

The national and regional level: PDIDAS echoes the main policy framing

How the previous elements emerge from national discourses or are reinforced? Some language usages highlight the prevalence of the development discourse and local transcriptions.

The national government has a direct hierarchy relation with PDIDAS: UCP shares a report every week on the project realizations to the PSE, the national political framework. Moreover, PDIDAS is a part of the PRACAS, the agricultural program of PSE. Some PRACAS indicators are PDIDAS goals, like the implementation of the land schema (République du Sénégal 2014a). This schema is conceived as a way to mitigate land risks, by a responsible governance (2014a p. 76). PSE is composed by pillar: (i) structural transformation of economy and growth, (ii) human capital, social protection and sustainable development and (iii) governance, institutions peace and security. A central concept in the PSE is the “emergence” which refers to the development narrative and historicoeconomic model of Rostow theory which assume that all countries go through a linear path of stages in their transition to modernity (Escobar 1995 p. 76). The PSE draws directly on this theory by targeting to be an emergent State which refers to the "take-off" stage. It also aims to modernize agriculture. The environmental features are quite sparse. In the challenge list, there is no mention of climate change or adaptation, just a mention of “the environment protection and the guarantee of a sustainable management of natural resources”.

The strategic PSE orientations are embedded in the development narrative. It's reflected by the way which Senegal is compared to other countries, “countries now developed or emerging” (République du Sénégal 2014b p. 55). Another key is “inclusion” or “inclusive”, a word used by PDIDAS. The inclusion is hoped in order to make a growth more evenly distributed: “the development of projects and programs in the driving force of growth and social inclusion will be translated into the distribution of additional income for more

households” (2014b p. 56). The Foreign Direct Investment (FDI) attraction is also an important feature, a vision supported by PDIDAS which target foreign companies’ implementations. In the PSE report, strategic orientation for pillar 2 and 3 are not as detailed as pillar 1. For pillar 2, there is a climate change mention. For PSE, the sustainable development goals consist to reduce vulnerability related to climate change but also to preserve resources for a strong and long-term growth.

Concerning agriculture, PSE establishes that “agricultural modernization is an essential component of economic structure transformation”. The modernization idea follows the development narrative. In the 10 years vision, agriculture and food sector are conceived as a driving force of a doubled growth. In the pillar 1 strategy, livestock have a little focus, but it’s crop farming that has more attention. In a certain way, livestock is conceived as a way to increase growth, but always considered with agriculture - in the broad sense. The strategic orientations assert that the development of agriculture, livestock, fishing, agribusiness respond to (i) the reinforcement of food security the rebalancing of the commercial balance, (ii) the development of high-value-added and competitive integrate chain (p. 57). So, the PSE doesn't really seem to pay attention to livestock which is mixed with agriculture, fishing or agri-food industry. This weak consideration could be connected with the discourse on unexploited pastoral lands.

Environmental topic deserves attention. ANGMV is engaged in the PDIDAS through a GEF funding. This involvement is related to the Sahel and West Africa Program⁶ (SAWAP) program funding by WB and GEF which aims to support the Great Green Wall (GGW). It’s more precisely a sub-project, the Building Resilience through Innovation, Communication and Knowledge Services (BRICKS) which has chosen PDIDAS for the Senegal involvement in this project (one project was chosen in each country). This feature stresses connections between agriculture development - agribusiness - and specific environmental goal, connections which can appear contradictory. We can hypothesize that is a kind of “green washing” because even the place agriculture can be seen as a way to respond to GGW initiative. Indeed, in a report done for GGW, “the best green dam is composed by human implantation built through prosperous agriculture with irrigation and pastoral rangelands

⁶ <https://www.sawap.net/>

developed and managed in a sustainable way” (Initiative Grande Muraille Verte du Sahara et du Sahel et al. 2008 p. 11). The strategic position of WB is a specific aspect that could have led to this connection according to interviews. Nevertheless, references to sustainability are quite weak in PDIDAS report. For example, in the 2016 report, the description of the first component mentioned that: “the local communities will benefit from a technical support in the negotiation of agribusiness agreement respectful of land and water sustainable management” (PDIDAS 2016 p. 6). Programmed actions of ANGMV are oriented to the management of classified forest and natural reserves. The ANGMV director has stressed during an interview that agriculture and horticulture degrade lands, one interesting thing knowing that PDIDAS speak about sustainable agriculture. It has also underlined that is important to manage classified forest because after all expected implementations, those areas will be the only space for grazing. So, in a context of environmental change intensified by climate change, the agriculture development could engender limits for pastoral adaptation by decreasing the grazing area, and so the pastoral flexibility for resource management. The fact is for GGW that the agriculture development imperative seems to have the upper hand on environmental issues.

Both discourses of government through PSE and ANGMV are helpful to understand why PDIDAS declares its aim to “develop commercial and inclusive farming and sustainable development”. But the commercial issues are more present in discourse and actions. Commercial refers to the willingness to rebalance the commercial balance and sustainable refers to the involvement of FEM through ANGMV. But PDIDAS is more involved with government for PSE than with ANGMV for environmental action. PDIDAS has participated in meeting on PSE flashing project, the cereal corridor development and the implementation of 100-150 project on high-value-added sector (PDIDAS 2016 p. 11). The discourse highlighted previously emerged and are reinforced by national discourses. Moreover, similar elements arise from the African level. The African Development Bank (AfDB) is involved in the spreading of a narrative which promote the agribusiness development for an inclusive growth. Akinwumi Adesina, AfDB president since May 2015 participates to narrative diffusion. Just before his election, he promoted agribusiness, private investments and agricultural development by stressing that Africa has 65 % of the world arable land (Antoine 2015). Moreover, the AfDB strategy for agriculture transformation in Africa for 2016-2025 is

very similar deals with inclusive growth and a progressive transformation toward green growth (Banque Africaine de Développement 2016 p. 8).

International level: track the PDIDAS discourse basis

Who exerts a discursive power on PDIDAS across levels? For what purpose and blueprint this power is employed? The first study of local and national level lead us to emphasize the World Bank's role. WB is the main actor exerting a discursive power which shapes the narrative of economic and social development as well as the human-environment interaction and the prioritisation of environmental problems. We argue that because, even if others arguments from research contradict them, PDIDAS who support WB blueprint, continues to avoid pastoral integration, or at best integrates pastoralism only nominally, and pursues agribusiness development.

Some reports from World Bank underline similarities with arguments used at the local level. In 2011, WB found advantages to implement the program near the Guiers Lake as a “strong demand from private sector as agro-ecological conditions are highly suitable for horticulture”, because of there are sandy soils (pastoral lands and rainy farming) (World Bank 2011). Some PDIDAS report lead by social scientists have underlined that it could marginalize pastoralists (Patrick and Seck 2013) which threatens the goal social resilience. The same WB report stresses that the project focuses in the Saint-Louis region because it’s “has been identified as among the best areas for agribusiness, horticulture in particular in Senegal.” This report doesn’t reveal the basis for argument, but it underlines again the pastoral eviction. It also speaks about more than 40 000 ha of land around the Guiers Lake, an ambiguous point of view according to the pastoral activities. This fact shows that the weaknesses of pastoral land security don’t allow them to be recognized as a real activity with a territorial control. This feature illustrate PE as defined by Stott and Sullivan like “politically located ideas of environment and of the ‘right’ relationships of human to and within ‘it’ (2000 p. 2). This conception of the environment occupation stresses that environment is a political concern and tends to marginalize pastoral communities.

Moreover, the land dimension through incentives to reform land tenure are present in different WB reports on Senegal. In a 1994 report, WB underlined that “pastoralism is not recognized as a land use conferring land rights”. Even if there are some elements which tend to support livestock, this report called for a strengthened power of rural communities, a strategy which

conceived as a way to improve the sustainability of land and natural resources (World Bank 1994).

In 2013, two eloquent reports offer a view of WB discourses on agriculture and land, both aspects with potential consequences impacting pastoral adaptation: *Growing Africa. Unlocking the Potential of Agribusiness* (The World Bank Group 2013) and *Securing Africa's Land for Shared Prosperity: A Program to Scale Up Reforms and Investments* (Byamugisha 2013). In the first report, opportunities for agribusiness are asserted that “Africa has more than half of the world’s agriculturally suitable yet unused land, and its impressive water resource have scarcely been tapped” and about the rice development in the Senegal River Valley that “any expansion in competitiveness is held back, however, by the difficulty of accessing secured, tradable land rights, which discourage private investments in irrigation systems”. Those sentences illustrate the general narrative: the growth will be pursued by investments in agricultural modernization and new rules for land rights, ideas which are reflected by both the PSE and the PDIDAS. Livestock conceived as a part of agriculture and when there is a special mention of livestock, it's in terms of yields or productivity and competitiveness. One model cited is the Zambeef company in Zambia (The World Bank Group 2013 p. 67), an agribusiness, but this kind of model doesn't take account of the reality of pastoralist. All countries are compared in order to be more modern and competitive, but they have not the same resources, ecosystems and history which shapes the present capabilities. The second report states that Sub-Saharan Africa is well endowed with agricultural land and other natural resources and those lands have not been leveraged for reducing poverty. It also speaks about inefficiency of land administration. The narrative is quite the same and report calls for a shared and sustained growth.

In 2014, in a report on Senegal’s economic situation, it was affirmed that PDIDAS is a step further than PDMAS, but it depends on innovation in land management for local authorities and local and foreign investors (Groupe Banque Mondiale 2014 p. 20). Land dimension are also quite present in the WB report *Enabling The Business of Agriculture* (EBA) and *Doing Business* (The World Bank Group, 2017; World Bank, 2017a) which provide a global rank with indicators for different topics such seed, fertilizer, machinery, finance, markets, etc. For example, indicators for markets are distributed among three sub-groups: producer organizations, plant protection and agricultural trade. An example of indicator for the last is:

“Are exporters required to obtain a trader-level export license to export the selected product or agricultural products more generally to the selected trading partner?”. Also, the 2017 Doing Business Report asserts that “the Sub-Saharan Africa region continues to be home to the economies with the least business-friendly regulations on average” (World Bank 2017a p. 6). The PSE goal of improving the business environment is aligned with that purpose.

Land access facilitation is seen as a way to enhance investments, and so increase wealth and decrease poverty. There is also environmental connection between land secure and sustainability (World Bank 2017b p. 109). Civil society groups have mainly criticized these reports at the international scale, especially by The Oakland Institute (Martin-Prével 2004), but also with co-working with national NGO like CICODEV⁷ (Kanouté and Martin-Prével 2015). According to them, *Doing Business* ranking more leads to the liberalization of economy, a state withdrawal from public and social action (*ibid.*). Indeed, this framework is quite appropriated by the Senegalese State. The PSE affirms, for example, that reforms will be engaged according to the Country *Doing Business* ranking (République du Sénégal 2014b p. 100). Others links between the PSE logic and the *Doing Business* ranking are stressed by press (Euronews 2014; Réussir 2014).

The use of global indicators as strategic targets could have consequences for policy implementation. Indicators are a specific knowledge production, produced by situated people and they are a way to support a specific blueprint. Indeed, global framework used with indicators which are constructed in an occidental way of thinking condition the understanding of the world as Sarr (2016 p. 17) explains it. According to him, they more project occidental myths and don't successfully integrate dynamics in Africa. So, if PDIDAS emerges from such framework, can it take the local realities of communities into account? Furthermore, it calls into question the degree to which the discourse of "inclusivity" is a means of whitewashing predetermined goals of agribusiness expansion.

⁷ CICODEV : Pan African Institute for research, training and action for Citizenship, Consumer and Development in Africa

PREFELAG

Ndiael reviving: another land competition for pastoralists?

How discourses at local level reveal land planning conception and consequences for pastoralists? As we quickly describe before, in the delta some institutions discourses provide answers.

First, the AIV received a funding from the GEF Small Grant Program (SGP) through the COMPACT⁸ program which targeted the enhancement of population capacities of protected areas considered as a “world heritage”. This goal was motivated by the Transboundary Biosphere Reserve of Senegal Delta classified in 2005 by the United Nations Educational, Scientific and Cultural Organization (UNESCO). AIV is a kind of product of cross-level interactions between global (GEF) and local level bypassing the national level. The GEF support and influence can be discerned in the AIV discourse as we mentioned before with one AIV leader: the preservation of the Ndiael appears as a central concept. For pastoralists, the classification of Ndiael could had consequences in terms of pastoral mobility but the restrictions were not very respected and the customary law was respected (Lo and Touré 2016 p. 19).

Nevertheless, pastoralism is construed as an inappropriate practice. We have perceived that through AIV discourse – pastoralism as a bygone past, and through the OLAG discourse. This last feature is perceptible in an official video of PREFELAG presentation⁹ (OLAG 2016a) which offers few pastoral aspects, mainly in terms of water access for herds, even if the video doesn't mention the health issues for cattle. In contrast, the video stresses the impacts in terms of agricultural development. One local farmer explains that before facilities implementation, they cultivated 50 to 70 ha and now, 3 000 ha are developed. With a more holistic regard, this fact shows an increase of land competition on pastoral land while PREFELAG speak about a sustainable development. This kind of land development can trigger more conflicts and less grazing areas for a flexible mobility, i.e. adaptation. In Ngnith, pastoralists met during the field work often speak about the weak grazing area. Even if crop residues should be available

⁸ <http://www.sgpcompact-senegal.org/>

⁹ Video untitled “Le Lac de Guiers : pôle de croissance économique” : https://www.youtube.com/watch?v=u_g_u_sqZ78&t=333s

for them, the increase of plots for cash crop as sweet potato lead to more competition and give more economic value to crop residues. But OLAG mentions that “bringing water back to the Ndiael who have positive and significant effects on the conservation on biodiversity and the fight against climate change¹⁰” (OLAG 2014a).

This video also highlights the willingness to develop tourism but says nothing about how pastoral adaptation will be facilitated if Ndiael area will more restrictive.

State involvement and national extension

The Senegalese state is involved through the hydraulic and sanitation ministry - or water ministry - in charge of OLAG. During the launching meeting, the prime minister has underlined some specific feature of PREFELAG which respond to PSE. She has declared that this program is coherent with the sectorial water policy and strategic orientations defined by PSE and that “the implementation will lead to restore the socio-ecological balances of the Lac” and “reduce the hydro-system's vulnerability to climate change” (OLAG 2014b). She has also declared that PREFELAG “will contribute to poverty reduction by optimization of water resources (...) in order to satisfy the needs of users for self-sufficiency”.

So, if there are environmental and climate change features, the discourse doesn't stress a real pastoral concern. The “water resource optimisation” argument could lead to development of irrigated farming in the lake area, thus accentuating pressure on pastoralism and pastoral adaptation.

For the Senegalese government, PREFELAG will be pursue by the Project for Strengthening the Resilience of the Ferlo Ecosystem (PREFERLO) which will be led by the Lakes and Rivers Office (OLAC) the new OLAG and supported by AfDB. PREFERLO targets ecosystem resilience, so it could be a positive prospect for pastoral adaptation. But it also aims to develop agriculture and agribusiness through the development of agricultural corridor as expected in PSE. PREFERLO aims to create a water pipeline from the Guiers Lake to the Ferlo. For that the project use the “water availability created by PREFELAG” (OLAG 2016b). But Ferlo is the most pastoral region in Senegal and this kind of development could generate an added land competition and a fragmentation of pastoral space.

¹⁰ Video untitled “Ndiael. The restauration of hope”: <https://www.youtube.com/watch?v=jLwGq4iPHf0>

International relation for PREFELAG and extension

The willingness to rewet the Ndiel is partly due to international agreement as we have described before. The Ramsar classification and the Montreux record lead UICN to support and be involved in this program. Ndiel “need to be preserved” as we mentioned. The environment conservation narrative is quite present.

Nevertheless, for the extension, the PREFERLO, a change is seen because PREFERLO echoes the main economic narrative as PDIDAS on agricultural development and with an emphasize on climate change, even if we cannot know what will be the concrete implementation.

Conclusion

This report, by emphasizing a political ecology approach through the discourse analysis, underlines that specific discourses frame the main policy in Senegal. Analysis of policy implications for adaptation requires addressing policies that are not explicitly focused on adaptation, but affect the resource base and economic environment within which adaptation practices are situated.

Here we have focused on two major development programs with significant governance or policy processes: PDIDAS and PREFELAG. Discourses reveal that PDIDAS is shaped by a specific conceptualization of the delta and a specific blueprint. At the international level, World Bank discourse emphasizes agribusiness development, investments facilities, growth increase and others related topics like land security. This discourse is spread to other level which used some WB framework as *Doing Business*. African Development Bank is another institution which diffuses this narrative. In Senegal, the national policy framework, the PSE, a central key word is "emergence". This concept is directly connected to the WB and ADB framework, the central goal of which is to promote agribusiness as the engine of national economic development, until Senegal can be considered an "emerging economy". Aspects related to climate change adaptation are quite weakly addressed in this framework, although some goals have direct implications for pastoral adaptation. In particular, facilitation of investments in the agricultural sector will clearly affect land tenure and access to pastoral resources, the core of pastoral adaptation.

The call for changing land and resource management to facilitate agribusiness development has been around for a long time, even since 1994, when a WB report made a recommendation to “strengthen the land and natural resources management capabilities of rural councils” (World Bank 1994). This tendency has next been present in the national policy until today with the PDIDAS. The discourse analysis reveals also that some assumptions are spread and shared: the portrayal of pastoral resources in the delta as unexploited lands is the most significant shared idea which lead to pastoralists' exclusion from actions implemented on the ground. As we have shown, this assumption is present from international to local level and the agricultural development imperative is more powerful than a real pastoral integration. The recurrent call for an emergent country reveals that the policy is enshrined in a neoliberal approach which had proved limits (Dimé and Ba 2016) and will have substantial consequences for pastoral adaptation.

Most importantly, by portraying pastoral lands as "unexploited", these discourses facilitate pastoralists' exclusion of policy process. Moreover, by exclusively focusing on the necessity to develop agriculture, this discourse promotes greater land competition. Those features generate barriers to pastoral adaptation because pastoral adaptation is a flexible resource management and requires mobility in order to access to those resources (grazing area, water). First, the agribusiness development does not have the same spatial extent as smallholder agriculture. The landscape fragmentation engendered by agribusiness has more impacts, for example by taking over grazing land near a pastoral way for water. Also, the power relations are not comparable. With local farmers, pastoralists' can more easily construct arrangement, but with agribusiness companies, the negotiations are more challenging and complicated. Pastoralists are not necessary directly represented during the negotiations because rural (agricultural) communities don't always offer meaningful pastoral representation, further undermining the pastoralists' capacity for direct engagement.

An important first step toward better pastoral integration into rural development would be for policymakers and international development organizations to take pastoralism seriously as an important part of national economic development and food security something not currently in evidence. Practically speaking, this would imply that agribusiness implementation would need to be negotiated with organizations that legitimately represent pastoralists' interests, not

only with agricultural communities and villages. It could regroup stakeholders integrated because of their land dependence.

The consequences of PDIDAS in terms of pastoral adaptation could also offer insights on the potential consequences of the PREFERLO program, which aims to irrigate the Ferlo Valley in order to both implement agribusinesses and enhance pastoral adaptation by the resilience of ecosystems. The agribusiness implementation is related to a specific goal of PSE: the development of agricultural corridor. Corridor is an emerging concept for agricultural development which has been promoted by FAO (Nogales 2014) one that could integrate pastoral activities if there were political will to do so.

Finally, in all of these cases, power relations shapes adaptation in that some actors are able to control how other actors interact with the environment, constraining pastoral adaptation capacities. We have used a discourse analysis approach to unpack the various ways by which power is exerted. In this sense, WB exert a discursive power over the prioritisation of environmental projects and problems by supporting the blueprint that, in a country where previous growth hasn't succeeded in reducing poverty and increasing food supply, a new model is needed. According to the WB discourse, this new model for growth is based on agribusiness investment, which requires land tenure reform. This narrative frames the national blueprint and the PDIDAS program in Senegal.

In Sub-Saharan Africa, and in West Africa, this kind of hegemony can have a massive impact on pastoral adaptation because it could drive a fragmentation of the pastoral landscape, constraining and limiting the flexible mobility which is the cornerstone of pastoral adaptation in the Sahel. Also, by minimising the pastoral occupation of a territory, this kind of discourse facilitates new land competition and a decrease of grazing area and watering points. Moreover, it could marginalize pastoral communities from the national investments for their livelihoods and make them poorer.

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