The dichotomy between state- and market-oriented agricultural development narratives: Beyond the rational choice explanation?

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While there is renewed interest to promote agricultural development, there is a lively policy debate on the appropriate instruments to achieve this goal. While some actors argue that agricultural development requires strong government support and input subsidies, others criticize those state-focused instruments and favor market-oriented approaches. This paper aimed at contributing to a better understanding of the prevailing policy narratives in the agricultural policy making landscape, using Senegal as a case study example. Transcripts of in-depth interviews conducted with policy stakeholders in Senegal are the primary data source. The empirical analysis reveals that, there are two main coalitions with opposing policy narratives; "agricultural support" narrative coalition and "agricultural support critique" narrative coalition. The story-line of the agricultural support critique emphasizes that, the government provision of input subsidies is ineffective while story-line of the proponents of such policies consider support essential to promote agricultural development. The analysis of the narratives suggests that, the agricultural support coalition has a story-line with a beginning (low productivity caused by lack of inputs), middle (providing subsidized inputs) and end (increased productivity). In contrast, the agricultural support critique essentially presents "non-stories" and "counter stories" (focusing on alternative storyline of what should not be done).

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1   Introduction

Since the 2000s, there has been a renewed interest among African governments, donor agencies, civil society, and the scientific community to promote agricultural development in Africa. Such renewed interest is evident in the Comprehensive Africa Agriculture Development Programme (CAADP), the Alliance for a Green Revolution in Africa (AGRA) and the New Alliance for Food Security and Nutrition initiatives. Yet, there are disagreements regarding the policy instruments that should be used to promote agricultural development in Africa. This remains a long standing unresolved contested debate among policy makers (see Harrigan, 2003; Jayne, Govereh, Mwanaumo, Nyoro, & Chapoto, 2002). In Malawi, Harrigan (2003) examined agricultural reform policies and found shifting in policy positions regarding input subsidies between donors and domestic policy makers, which she describes as "U-turns". Harrigan 2003 described another phenomenon as "full circles", representing instances when the government of Malawi moved back to its interventionism of the 1970s, and principal donors; particularly the World Bank, retreated toward state minimalism of the 1980s (Harrigan 2003). The return to the establishment of parastatals organizations in African agriculture and the resurgence of input subsidy policies indicate the current state of affairs. As Jayne & Rashid, (2013) observes, the use of input subsidies in agricultural development is likely to remain into the foreseeable years. The fertilizer and seed input subsidy program in Malawi is a well kwon example. In Ghana, examples include government-sponsored agricultural mechanization service centers, Block Farming Program, national buffer stock program and fertilizer input subsidy programs, which are all driven by the government. The maize market intervention program of the Zambia Food Reserve Agency and the Prosperity for All programs in Uganda also reflect widespread policy preferences for government intervention. The current popularity and implementation of these policies among Africa governments have been received with mixed reactions and also the political economy literature on agricultural policies is sharply divided (Jayne, 2002).

The dominant political economy analysis, both quantitative (de Gorter & Tsur, 1991) and qualitative approaches (Bates, 1981; Van De Walle, 2001), apply the rational choice approach. Studies based on the rational choice paradigm often attribute policy outcomes to efforts to gain political support (Swinnen, 1994), influence of lobby groups (Bates & Block, 2010) and neo-patrimonial interpretations (Van de Walle, 2001). Although these studies have generated

significant results to explain the aggregate effect of different policy instruments on the economy, they are limited in highlighting the policy narratives and resolving the long-standing contested debates of agricultural development policies. These studies have largely neglected the policy contexts that are important to understand why certain policies are adopted in society. This study aims to contribute to an understanding of the contested agricultural development policy debates through a narrative policy analysis approach. The study also aims at going beyond the current rational choice explanations and highlighting other non-material motives (e.g. beliefs and ideology relating to food systems and food sovereignty) and how they influence policy choices. The study argues that a better understanding of the underlying agricultural policy narratives are extremely important to find strategies that can contribute to resolve the controversies regarding use of certain policy instruments in developing country agricultural policy making.

The empirical analysis is based on the Narrative Policy Analysis approach (NPA) (Roe, 1994). This approach have been used in studies on public policy, environmental policy, management and law (Feldman, Skoldberg, Brown, & Horner, 2004; Hampton, 2009). In the context of the agricultural sector, Feindt & Kleinschmit, (2011) analyzed frame elements and policy actors in the media coverage of the BSE (mad cow disease) crisis in Germany. A recent study on European Union agricultural policy has applied critical discourse analysis to examine public texts on common agricultural policy (Erjavec and Erjavec, 2009). Despite the diverse applications of the narrative policy analysis approaches in analyzing contested policy issues in developed countries, there is limited empirical research in developing country context, especially in the field of agricultural development policies. This study uses transcripts of in-depth interviews conducted with government ministries and agencies, donor and civil society organizations, research organizations and think tanks involved in the Senegalese agricultural sector. The study combines a quantitative cluster analysis technique to identify policy narrative coalitions and a qualitative analysis to examine agricultural policy narratives. The study is structured as follows. The next section presents the narrative policy analysis concepts. Sections 3 highlights the data collection and analytical approaches. Sections 4 and 5 present the policy narratives from in-depth interviews and discussions respectively.

2   The Narrative Policy Analysis

Narrative policy analysis is concerned with the study of stories which is part of everyday life and how discourses shape society (Pinnegar & Daynes, 2006). Narratives are one of the basic human ways to explain the often complex world in everyday discourse and in argumentation (Berg & Hukkinen, 2011; Van Dijk, 1997). The field of narrative policy analysis is broad and derives from literary arts, linguistics, and psychology (Bridgman & Barry, 2002; Hampton, 2005; van Eeten, 2007). Narrative policy analysis draws on literary theory that focuses on analyzing language use. The narrative policy analysis methods including other linguistic analysis approaches captures the political, economic, social, and cultural realities requiring explanation by policy analysts (Fischer, 2003: vii-viii).

A comprehensive review of the narrative policy analysis literature is provided by van Eeten, (2007) and Jones & McBeth (2010). The literature highlights two main methodological orientations in narrative policy analysis: a positivist and a poststructuralist. The positivist orientation to narrative policy analysis applies a systematic analytical approach and often formulate a set of testable hypotheses (Jones et al., 2013; McBeth et al., 2007; Shanahan et al., 2011). In these studies, narratives are characterized by (i) the context or setting where the policy problem is defined; (ii) the plot or sequence of events; (iii) characters or policy actors; and (iv) policy solutions or the moral of the issue (M. Jones & McBeth, 2010; Prior, Hughes, & Peckham, 2012). Until recently, narrative policy studies have often taken a poststructuralist orientation based on language use as the unit of analysis (Frank Fischer, 2003; Van Dijk, 2004). The poststructuralist school of thought includes interpretative narrative analysis (Feldman et al., 2004; Yanow, 2000), the narrative elements approach (Stone, 2012), discourse analysis (Hajer, 2005) narratives as frames and reframing (Schöne & Rein, 1994), and narratives as stories and non-stories (Roe, 1994). The commonality in the aforementioned studies is the interpretative policy analysis orientation. For example, studies on environmental discourses analysis (Dryzek, 1997; Hajer & Versteeg, 2006; Hajer, 1995). Roe, (1994) interpretative narrative policy approach has also been applied extensively. The narrative analysis approach has been employed in a broad range of studies. Bridgman & Barry, (2002) applied the narrative policy analysis approach to the implementation of telephone number portability in New Zealand and demonstrated how particular policy stories come to dominate the policy process. In another study, Berg & Hukkinen, (2011)

applied a narrative policy analysis approach to interviews with members of Finland's Committee on sustainable consumption and production. Hampton, (2009) employed a narrative policy analysis to identify and present public preferences on environmental quality in New South Wales, Australia.

This study follows a similar narrative policy analysis path applied by the aforementioned studies based (Roe, 1994). Policy stakeholders generally express their policy positions through the form of public discourses, written documents, newspapers, internet blogs, social media, videos etc. (McBeth, Shanahan, Arrandale Anderson, & Rose, 2012). As Shanahan, Jones, & McBeth, (2011:536) observe, "stakeholders use words, images, and symbols to strategically craft policy narratives to resonate with the public, relevant stakeholders and governmental decision makers, with the aim of producing winning coalitions." The narrative policy analysis approach serves a critical purpose of unveiling the perceptions, goals, and value of policy actors. Thus narrative policy analysis is particularly useful for policy problems characterized by uncertainty, complexity and polarization. Complexity follows from the intricacies of the problem and the interrelatedness of the policy issues, while polarization refers to the concentration of groups around the policy issues (Roe, 1994). These attributes justify the use of narrative policy analysis and contribute to identifying "stories", counter-stories and "non-stories" as constructed by contending policy actors (Roe, 1994; Yanow, 2000). "Stories" are characterized by a beginning, middle and end, while "non-stories" are the opposite of the later and "counter stories" run opposite to stories (Roe, 1994). Non-stories can be considered as criticism of the main story and counter stories can be considered as providing an alternative form to the main story with its own beginning, middle and end. In Emery Roe's systematic approach (Roe, 1994); first the analyst identifies the main story of the policy problem. Second, the analyst identifies the counter stories and non-stories. Third, the analyst compares the stories, with the non-stories and counter stories to determine if there are meta-narratives that help to reconcile or accommodate conflicting perspectives. The meta-narratives recast the policy problem to make it more amendable to policy making. Based on the proposition that a more consensus-oriented approach will ultimately lead to more effective agricultural policies, the study explores deliberative approaches to achieve a "discursive turn". Deliberative approaches aim at creating a forum for actors (citizens, policy makers, and leaders) to discuss societal problems and to reach a consensus for practical action (see Gastil and Levine, 2005; Habermas, 1984, 1996). Deliberations place emphasis on collective decision making to reach a legitimate policy outcome that is acceptable to the

deliberators and based on mutual understanding (see Gastil and Levine, 2005; Gutmann and Thompson, 2004; Weeks, 2000).

3   Data collection and interview approach

To examine the underlining narratives of the contested agricultural policy debates, using Senegal as a case study, in-depth interviews with policy stakeholders was conducted. The actors involved in agricultural policy making were identified through a stakeholder map and categorized into interest groups, think tanks, knowledge providers, donors and government policy-makers. The interviewees were selected based on policy actors involved in the agricultural policy process in Senegal. Based on this approach, a total of 27 formal in-depth interviews (see Table 1), eleven informal interviews, and two participant observation workshops were undertaken. Additional respondents were identified based on the qualitative research principle of 'completeness' (covering the broad spectrum of actors) and 'dissimilarity' (respondents with diverse perspectives) (Blee & Taylor, 2002). Data triangulation was employed to check internal validity and to select additional respondents (see Golafshani, 2003).

The in-depth interviews with stakeholders were conducted using a semi-structured interview approach. This follows the recommendation of Roe, (1994:158-62) to use open ended questions and without prompting the respondents to facilitate free expressions. The interview questions comprised of five broad initial questions framed around challenges affecting the agricultural sector, opportunities existing in the sector, vision of the agricultural sector, policy instruments and the role of policy actors. All formal in-depth interviews were recorded with the consent of the respondents. The interviews lasted for an average duration of one hour, and the majority of interviews were conducted in French and few in English. All recorded interviews were transcribed verbatim for further of the transcripts analysis. All interviews were conducted between January 15 and March 6, 2014 in Senegal.

Table 1: Interviewed stakeholders

Type	Senegal
Government agencies (Agriculture policy unit, extension and finance)	6
Academic (Agricultural Economics and Political science)	3
Research and think tanks	5
Donor agencies and IFI[a]	4
Political party representatives and Parliamentarians	2
Interest groups (civil society organization)	5
Local government	2
Total	**27**

[a]International Financial Institutions.

Source: Authors' compilation.

3.1 Data analysis

The data analysis process consisted of a content analysis of the transcripts, a two-step cluster analysis and interpretative narrative policy analysis. The analysis aimed at examining the narrative polarizations through cluster analysis, and applying content analysis to determine the stories, non-stories and counter stories.

3.1.1 Content analysis of transcripts

All transcripts were uploaded into the NVivo 10 software for a detailed content analysis of each transcript[1]. The five broad interview questions were used to guide the content analysis. Two independent teams, who had regular discussions during the coding process to check for inter-coder reliability, conducted this phase. The categories consisted of challenges affecting the agricultural sector, vision of the agricultural sector, role of the actors and the policy instruments. Total of 25 policy themes relating to the contested agricultural policy debates were identified in the transcripts of the respondents. As indicated above, the respondents identified those themes without prompting or using lead questions (Appendix 1).

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[1] The analysis was based on only 23 transcripts; the remaining four interviews were not recorded.

3.1.2 Quantitative data generation and cluster analysis

Transformation of the qualitative data into a quantitative data set was necessary to identify the policy narrative polarization and policy actors. To transform the data, the study followed an approach designed by Mockshell & Birner, (2015). In this approach, each policy theme identified through the content analysis was assigned a binary value (where 1=Yes if the policy theme appeared in the policy narrative of a particular respondent without prompting and 0=No if otherwise). A total of 23 transcripts were coded to generate a spreadsheet data set using the Statistical Package for Social Sciences (SPSS) software.

A two-step cluster[2] analysis was conducted to explore how the policy actors' cluster around the policy themes identified from the in-depth interviews. The cluster membership was determined and cross-tabulated with a policy actor identification variable from the data set. The cluster analysis is useful for identifying the number of groups and the group composition, and represents the different narrative coalitions based on the policy themes.

3.1.3 Examining the policy story-line

After determining the policy narrative coalition and policy actors, the policy narratives were determined following Roe's (1994) approach of identifying policy narratives. An interpretive narrative policy analysis approach was employed to identify the stories, non-stories and counter stories of the policy actors (see section 2). The identified policy themes were grouped according to constraints affecting the agricultural sector and potential agricultural policy instruments. The content and structure of the story-line that underlies the identified policy themes were examined in detail using the interview transcripts. During the analysis, several logical plots of policy themes and structure of the narratives were carefully examined. The broad interview questions on challenges affecting the agricultural sector, policy instruments and vision of the agricultural sector were used to guide this process. Based on the definition of stories as having a beginning (agricultural sector challenges), middle (agricultural policy instruments) and end (result of implementing policies), or being characterized by a plot of events, a narrative analysis matrix was designed to trace and construct the story-lines (see Appendix 2). The narrative policy analysis

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[2] A two-step cluster determines the cluster number automatically compared to the K-means and hierarchical clustering where the number of clusters must be specified in the analysis.

matrix constructs a plot of identified problems and their causal relationships with policy instruments, or traces a policy argument through a premise and conclusion based on the transcripts for each policy actor. The systematic analysis of the identified themes and structure of the narratives resulted in the identification of stories, non-stories and counter stories that constitute the contested agricultural development policy debate. For example, a respondent's "fertilizer input subsidy narrative" is constructed by identifying the beginning, middle and end of the narrative from the interview transcript as follows: The story starts with the problem of depleting soil quality affecting agricultural productivity (beginning of story). The problem is said to persist due to high cost of inputs, and the inability of farmers to buy fertilizer and other complementary inputs (beginning of story). Fertilizer input subsidy provision is recommended for improving soil quality (middle of story). Providing fertilizer input subsidy would contribute to improving soil nutrient and agricultural productivity (end of story). This will increase farmers' income; promote agricultural and rural development (end of story). On the other hand, the non-story is a criticism of the input subsidy provision program. While the counter stories provides an alternative story line of what needs to be done to increase agricultural productivity and farmer income. A summary of the narrative analysis matrix is presented in Appendix 2.

4   Policy narrative coalitions and coalition members

From the results of the cluster analysis, two coalitions were identified. They are labeled as "agricultural support" and "agricultural support critique"[3]. Table 2 shows the identified narrative coalitions and stakeholder members in the agricultural policy landscape. A total of 17 interviewees belong to this coalition, which is dominated by actors from government ministries and agencies (Ministry of Agriculture), academics and interest groups. Six interviewees belong to the agricultural support critique coalition. These coalition members come from international financial institutions, think tanks and research organizations. The results of the cluster analysis are displayed in Appendix 3 and 4. A silhouette[4] measure of 0.6 (cluster results) > 0.5 (average measure) provides a basis for accepting the cluster groupings of the two coalitions. This result also suggests that the agricultural support narrative and the agricultural support critique narrative are different across coalitions but similar within the coalitions. Thus, the views of the policy actors on the policy issues show a high level of polarization among the two coalitions on relevant policy instruments in the agricultural sector. The next section examines the storyline of the agricultural support and agricultural support critique narrative coalitions.

Table 2: Policy actors in the narrative coalitions

Policy actors	Agricultural support	Agricultural support critique
Government ministries and agencies	7	1
Academic	2	0
Research and think tanks	1	2
International Finance Institutions	1	3
Political party representatives	2	0
Interest groups (civil society organization)	4	0
Cluster sizes	**17 (74%)**	**6 (26%)**
Cluster quality (Silhouette measure of cohesion and separation)	**0.6**	

Source: Authors compilation, N=23.

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[3] The names agricultural support and agricultural support critique are used because it reflects the narrative structure of the actors forming the individual coalitions.

[4] The silhouette measures cohesion within the clusters and separation among the clusters. The measure provides an indication of cluster "goodness of fit". It ranges from -1 (poor) to +1 (good).

4.1   The Agricultural support and the agricultural support critique stories

As discussed in the previous, an interpretive narrative policy analysis approach was employed in identifying the agricultural policy stories, non-stories and counter stories (see Feldman et al., 2004; Roe, 1994). Based on the detailed analysis of interview transcripts as outlined in the last section, 63 stories were authored by the agricultural support coalitions, while 24 non-stories and counter stories were identified in the interviews of the agricultural support critique coalition. The next section presents the policy narratives of the two narrative coalitions.

4.2   Agricultural support storyline

A central story in the agricultural support narrative regards low agricultural productivity coupled with other agricultural sector constraints. The narrative is contextualized in a story-line of the agricultural sector characterized by low productivity and the need to address this problem. This story-line has an appeal to most policy stakeholders, especially government actors, civil society organizations and political party representatives. The proponents in the coalition construct the agricultural support narrative in a "cause and effect" style. The story-line identifies problems of poor soil fertility, low input quality, high cost of inputs, unavailability of appropriate technologies and rainfall-dependent agriculture as fundamental constraints contributing to low agricultural productivity (Table 3). As a solution to this problem, the narratives highlighted the potential benefits of government investment in modern farm inputs, irrigation facilities, and the provision of input subsidies (for fertilizer and seed) to increase agricultural productivity. At the same time, import protection was recommended to facilitate the development of the domestic market. In the story-line of the agricultural support coalition, such policy instruments will contribute to poverty reduction, increase farm income, provide employment for the youth, improve food security, and promote rural and economic development.

4.2.1   The story of depleting soil fertility and input subsidies

A recurring theme in the agricultural support coalition story-line was the role of poor soil quality and low fertilizer application in contributing to low agricultural productivity. A major policy theme in the agricultural support coalition was the inability of farmers to purchase fertilizer and other complementary inputs due to high cost, quality problems and insufficient quantities on

the market. This story-line can be illustrated by the following quote from a farmers' organization representative: "There are no good seeds…so seeds come from everywhere, everyone brings what he wants. The ISRA was helping farmers, but for about 10 years now we do not have certified seeds. If we don't have good seeds, we cannot have a good harvest....also there is the problem with depleting soil nutrient and we need fertilizer (R1)[5]." A government official expressed this concern as follows: "Besides that, there is also a problem of availability of certified seeds, thus germination is not always guaranteed (R19)." To address these problems, the agricultural support coalition recommended a fertilizer and seed input subsidy to improve soil quality and increase productivity. This recommendation is cast in a wider moral story of farmers being poor and unable to access agricultural inputs from the market. The story-line has a very systematic "problem and solution" plot. The study found that it has high acceptability across the different stakeholders, as evidenced by the wide range of actors and frequency at which this particular story-line was identified (see Table 3). In the view of the proponents of agricultural support, subsidies for fertilizer and seeds will contribute to increasing soil fertility, and as a consequence to increase output. Therefore, they will increase agricultural productivity and food security.

4.2.2 The story of rainfall-dependent agriculture and irrigation infrastructure

This story-line highlights the dependence of Senegalese agriculture on rainfall, which is also seen as a major factor contributing to low agricultural productivity (see Table 3). A government official expressed this concern as follows: "Currently, our agriculture is confronted with climatic hazards, especially in the northern region, which affects agricultural productivity (R6)." Similarly, a representative of a farmers' organization mentioned that "now there are other factors of production such as water because if 90% of our agriculture depends mainly on natural rainfall, then this is a haphazard type of agriculture (R3)."

The rainfall-dependence narrative is framed in broad climate change context by the agricultural support coalition. The strategic reference to a global phenomenon increases the acceptance and credibility of the rainfall dependency story-line among policy makers. The limited exploitation of the Senegal River and other natural water sources was emphasized as "under exploitation of water resources" by the agricultural support coalition. Similar to the depleting soil

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[5] "R" is used to represent "respondent"; therefore "R1" means respondent number 1. These labels are used throughout the paper to protect the anonymity of the respondents.

story-line, the coalition emphasized the government's role through construction of irrigation facilities to support agriculture production. A respondent mentioned: "we have the state; it has the important role to play in terms providing irrigation… (R8)." The broad reference to rainfall dependent agriculture and climate change sets the pace for the proposed government intervention through irrigation infrastructure by the agricultural support coalition. In the view of the coalition, such interventions will enable farmers to increase crop cultivation throughout the year.

4.2.3 The story of primitive versus modern farm equipment

The use of the "hoe and cutlass" instead of modern farm equipment was a recurring theme in the agricultural support narrative, as indicated by the high frequency of this theme (see Table 3). This story refers to the low use of improved technology as major a constraint to increasing agricultural production. In this story-line, the current farming system is depicted as "primitive" and characterized with the use "hoe and cutlass". The solution is seen in the need to "modernize" the agricultural production system through tractor use. The drudgery in using hand tools (hoe and cutlass) for farming and the inability of farmers to purchase tractors are the dominate policy themes in this story-line. Members of the agricultural support coalition associated the use of primitive farming equipment to the unavailability of tractors and other modern inputs. A government official described the problem as follows: "The government supports producers but this is not adequate… the state is currently reviewing it policies to support producers in this direction but this is insufficient, especially equipment relating to tractors (R6)." According to a representative of a farmers group: "The government should support the manufacturing of new farm machines and sell them to farmers as factories that manufacture these machines are not available…... also the government has to train our artisans so they can produce some parts since this will make the prices affordable for farmers (R22)."

Table 3: Agricultural support policy themes

Policy themes	Number of respondents	Frequency of occurrence
Low agriculture growth is caused by:		
Rainfall-dependent agriculture	11	42
Depleting soil fertility	9	38
Primitive farm equipment	11	47
Lack of value addition	14	22
Lack of market access	11	34
Unavailability of finance	8	17
Solving the agricultural problems requires:		
Investment in water harvesting technologies	13	25
Investment in value addition of primary products	8	17
Modern farm equipment	6	18
Input subsidy provision: fertilizer and seed	9	53
Growth in agricultural production will lead to:		
Increased farm income	14	40
Better food security and food sovereignty	7	16
Reduction in rural poverty	15	35
Youth employment opportunities	6	22

The numbers show the frequency of each policy theme in the entire narrative and number of actors. N=23.
Source: Authors compilation from in-depth interviews.

The agricultural support coalition also associated a perceived disinterest of the youth in farming and the migration of rural people to the urban areas with lack of modernization in farming. As one respondent said: "I have told you earlier that we cannot feed the nation without agriculture. Agriculture in most cases can bring many jobs for young people if we take care of it properly. Many young people do not have jobs today and agriculture can help create jobs for them. It can bring development; reduce poverty if conditions are favorable and we have the right tools to work. This is almost everything I found as being opportunities for Senegalese agriculture (R1)."

4.3 Agricultural support critique non-stories and counter stories

Similar to the agricultural support coalition, the coalition that formulated an agricultural support critique also highlighted the fundamental problem of low agricultural productivity (see Table 4). This coalition identified underlying reasons such as problems of low market prices, inadequate access to credit, declining soil fertility, unavailability of improved seeds, climate

variability and reliance on rain-fed agriculture. Regarding agricultural modernization, the narrative started with the use of primitive farming equipment such as hoe, which contributes to low agricultural productivity. As a representative of a donor organization mentioned: "Since the agricultural sector is characterized by low capital investment, I think it is also a constraint to modernization, farm equipment is rudimentary, particularly in the groundnut basin. Access to adequate farm equipment is very worrying and thus the difficulty in promoting a modernized agriculture. I will take the example of irrigation, based on fairly restrictive irrigation equipment; farmers are confined to very limited portions of land and production, although land is not a problem (R21)."

Although the agricultural support critique identified the same fundamental problems affecting the agricultural sector as did the agricultural support coalition, their narratives emerged out of a series of criticisms, especially against the agricultural input subsidy program. Examining the structure of the argument, these were essentially presented as counter stories and non-stories. In the narratives of the agricultural support critique, efficient use of limited resources, unsustainability of input subsidy policies and the distributional challenges of input subsidies were main policy themes. An official expressed these points as follows: "There are problems of resource allocation, when you take a sector like agriculture, much of the resources have been directed to subsidies of seeds and fertilizer but we have very low productivity, impacts are still low. We spend this large amount of money, which could have been invested in building irrigation facilities …there is a huge potential to develop agriculture in the Kédougou region but the financial resources are not forthcoming, the priorities are mainly targeted toward seed and fertilizer subsidies (R15)."

The problem that input subsidies might crowd out private investment is a similar critique, which is directed against government input subsidy programs. According to the members of the agricultural support critique coalition, fertilizer inputs are private goods that require private investment rather than government investment. In this story-line, government investment in fertilizer creates a disincentive for private investment. A representative of a research organization expressed this concern as follows: The "government should avoid crowding out investment. That is if the government invests in places where the private should invest. I, as a private person, I am not going to have any incentive to invest, because the government is already doing what I should do. For example, providing fertilizer to farmers, fertilizer is something I should buy normally if my activity is profitable. If the government is providing fertilizer, where am I going to invest my

money? So government spending should bring a crowding in effect and not a crowding out effect (R20)."

The problem of poor targeting is another concern in the story-line of the agricultural support critique coalition. In the view of the coalition members, fertilizer and seed subsidies are diverted to benefit government officials, and they mostly benefit large-scale farmers rather than small farmers and thus making input subsidy policy options ineffective policy instruments for agricultural development. In the view of some opponents of government input subsidies, such support measures are mainly implemented for political reasons. A policy researcher said: "Many governments are taking such a subsidy approach; they are politically efficient but not economically efficient. The distribution is in a political way but not an economic mode (R20)."

A representative of a donor organization recommended: "Why don't you (government) develop a strong agricultural credit market, so that farmers can go there and access this credit at a subsidized rate, this will allow the fertilizer and seed market to develop rather than government intervention… in any case there is really much to do in terms of funding and it needs to be more rational for greater efficiency in the long run. Try to set up an efficient financial system that will replace these agricultural subsidies that dry the budget of the Ministry of Agriculture out, but do not provide any expected results (R21)." The coalition emphasized the need for the private sector to lead investment rather than government input subsidy provisions.

Table 4: Agricultural support critique policy themes

Policy themes	Number of respondents	Frequency of occurrence
Low agricultural growth is caused by:		
Rainfall dependent agriculture	4	11
Depleting soil fertility	3	6
Primitive farming equipment	2	11
Lack of investment by smallholder farmers	2	4
Why are subsidies not the solution?		
Input subsidy provision by the government is not a sustainable solution.	6	17
Subsidies are costly.	5	15
Subsidies benefit mostly large farms not the small farms.	3	8
Subsidies cause crowding out of investment.	1	3
Subsidies are politically efficient but not economically efficient.	1	2
Provide subsidized credit through banks	1	2

The numbers show the frequency of each policy theme in the entire narrative and number of actors. N=23.

Source: Authors compilation from in-depth interviews.

5   Discussion and conclusions

This paper aimed at contributing to a better understanding of the contested agricultural policy debates using a narrative policy analysis approach. Using Senegal as a case study example, this approach has been used to examine the prevailing policy stories, non-stories and counter stories of the contested agricultural policy debates and actors in the policy landscape (see results in section 4). This section discusses the findings through a metanarrative approach and considers the role of deliberative strategies as a mechanism to contribute to overcoming the contested debates.

The analysis identifies an agricultural support coalition and an agricultural support critique coalition and highlights their competing policy narratives. From this case study, the finance ministry is part of the identified agricultural support critique coalition, while the agricultural ministry is a member of the identified agricultural support coalition. This observation is consistent with the findings of Jayne and Rashid (2013) in selected Sub-Saharan African countries. The authors explained that domestic opponents of input support policies have generally been confined to the ministries of finance. This result is also supported by a study by Birner et al. (2011) in India, which found that the ministry of finance has been a strong proponent of market-oriented fertilizer reform. The presence of international financial institutions in the agricultural support critique coalition emphasizes their increasing role in domestic agricultural policy making. In many African countries, international financial institutions interact with policy actors to shape domestic policies. Such interactions could generally explain the similarities in policy narratives of international financial institutions and ministries of finance. This relates particularly to maintaining fiscal discipline and strengthening the capacity of the ministries through training. On the other hand, political party representative and other government ministries position themselves as advocates of farmers' welfare; they have the mandate to ensure domestic food security and develop smallholder agriculture.

The agricultural support narrative and the agricultural support critique narrative differ in their narrative structures. A general narrative strategy of the agricultural support coalition is to make references to issues that are well known. The agricultural support coalition also frames its arguments in the context of wider nationalist and global debates of agricultural modernization and food sovereignty. Policy concerns regarding agricultural productivity problems are captured in

food security story-line, which paints a moral image that increases the acceptability and credibility of input subsidies. The agricultural support critique coalition uses a different narrative strategy. It highlights the consequences of input subsidy policies favored by the government. This strategy aims to increase acceptability and credibility of the alternative policy proposal (counter story) not to subsidize the agricultural sector. This coalition made frequent rhetorical references to potential consequences, which are captured in statements such as: "Subsidies are an expensive component of the government budget"; "There is lack of transparency regarding the fertilizer and seed input subsidy distribution"; "Subsidies crowd out private investment"; "Subsidies do not reach the poor"; "Subsidies are politically efficient but not economically efficient." Such statements highlight the potential consequences of providing input subsidies, however they don't mention explicitly how the alternative policy options to promote agricultural development, which is the main concern of the agricultural support coalition. In narrative policy analysis, the later are still important in policy making, even though they are non-stories and counter stories, as they strengthen the position of the agricultural support coalition.

As the identified policy narrative consist of different narrative coalitions having their own stories and non-stories, a more consensus oriented strategy will be necessary to reconcile the two narrative coalitions. This approach will be vital to resolve the contested debates and find common grounds for effective policy making. Such a consensus approach could take the form of deliberation where the different narratives are carefully discussed by policy actors. Deliberative strategies could bridge the gap between the agricultural support coalition and agricultural support critique coalition by creating a forum for discussion and fostering mutual understanding of each coalition's position on the policy debates. Considerable effort is required to monitor the power structures among the policy actors and to understand how they can influence the outcome of the deliberations. Policy brokers, as discussed below, can play monitoring and facilitation roles. The findings from this paper can serve as a starting point to provide useful information for the different coalitions to openly discuss their positions and provide policy ideas to guide the deliberation process. The deliberation process could aim at examining and promoting an understanding of the policy story-line of the different narrative coalitions. For example, the agricultural input subsidy provision story-line of the agricultural support coalition, and the agricultural support critique coalition criticisms of the distortionary nature of input subsidy provision can be examined to understand areas of agreements and disagreement. Consensus on

improving smallholder agriculture productivity can serve as a starting point for deliberations, and disagreements on input subsidy provision can then be discussed. Strategies to reduce input subsidies and to switch to targeted subsidies could be proposed as a middle ground to reach a consensus.

While deliberation processes aims at reaching a consensus, the conflicting policy narratives should be resolved through understanding and creating a shared policy narrative, rather than overlooking the conflicts in the policy process. This has often been the limitation of past and existing participatory policy processes in Africa. A helpful strategy can aim at a "dynamic policy narrative updating" approach (see Karpowitz and Mansbridge, 2005) that provides relevant evidence-based knowledge during the deliberation process to facilitate policy-oriented learning both across and within the coalitions. Further the policy beliefs and ideological orientations of actors needs to be considered in participatory policy making. However, unlike changing policy incentives and shifting rational choices, changing policy beliefs and ideology is challenging and requires sufficient time. To promote agricultural development, it is imperative to reconstruct the narratives, move beyond only rational choice incentives and consider non-material incentives (e.g. policy beliefs and ideological weapons) in the policy process. This can be achieved through deliberations and belief updating in the case study countries and other developing countries in Africa with similar policy landscape.

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Appendix 1: Policy themes in the narrative of the respondents

Policy themes	Number of respondents	Total frequency of occurrence
Constraints		
Rainfall dependent agriculture	15	53
Depleting soil fertility	12	44
Old farm equipment	13	58
Lack of value addition	14	22
Market access	11	34
Unavailability of finance	8	17
Lack of investment by smallholder farmers	2	4
Inadequate access to agricultural inputs and high prices	8	21
Poor distribution of subsidized seeds and fertilizer	11	33
Challenges with harnessing the potential of water resources	18	45
Low agricultural productivity	25	68
Policy instruments		
Modern farm equipment	6	18
Increase farm income	14	40
Food security and food sovereignty	7	16
Youth employment opportunities	6	22
Investment in water harvesting technologies	13	25
Investment in value addition of primary products	8	17
Input subsidy provision: fertilizer and seed	9	53
Government input subsidy provision is not sustainable solution	6	17
Subsidies benefit mostly large farms and not small farms	3	8
Subsidies cause a crowding-out of investment	1	3
High cost of subsidies	5	15
Subsidies are politically efficient, but not economically efficient	1	2
Provide subsidized credit from banks	1	2
Government input subsidy provision is not a sustainable solution	6	17

Note: The numbers show the frequency of each policy theme in the entire narrative.

Source: Authors' compilation from in-depth interviews.

Appendix 2: Summary of agricultural support stories and agricultural support critique non-stories and counter stories

Appendix 2.1: Agriculture support stories

	Challenges affecting the agricultural sector	Policy instruments to implement	Effect of implementing policies
Challenges affecting the agricultural sector	Low agricultural productivity. Concentration on improving production. *"Farmers are rational and will produce if there is a need to produce"*	Government should invest or support farmers with subsidies. Production should be linked to marketing	Increase farm production and increase income
Primitive equipment use and no value addition	Lack of processing and value addition at the base. Primitive equipment use, *"Since independence, the same equipment are used, about sixty years now"*	Government support is essential to manufacture new farm machines and sell them to farmers. Government should set up centers to train artisans to produce machines parts locally	Processing of farm produce will allow farmers to increase income. Job creation for the youth and control migration Locally produced parts will reduce maintenance costs for farmers
Fertilizer input subsidy	Depleting soil quality and low use of fertilizer. The *"soils are not good anymore"*	Fertilizer inputs are necessary.	Increase productivity.
Seed input subsidy	Bad quality of seeds, counterfeit seeds, and limited quantity of certified seeds.	Seed production by ISRA (government research institute).	Better seeds will ensure better yield and increase farm produce.
Market access and trade policies	Bad trade policies kill local industry. The world food market is volatile.	Border protection measures. "Stop being good students of WTO".	Promote domestic production. Promote growth of small industries. Create markets for farmers.
Investment in water harvesting technology	Non-exploitation of water resources for irrigation purposes.	Construction of irrigations facilities by the government to facility the production of crops.	Make water available for production all year around.

Note: Italicized phrases are direct quotes.

Source: Authors' compilation from in-depth.

Appendix 2.2: Agricultural support critique non-stories and counter stories

	Challenges affecting the agriculture sector	Policy instruments to implement	Effect of implementing policies
Challenges affecting the agricultural sector	Low agricultural productivity, use of old equipment, depleting soil quality, and climate	Government should not invest in areas like fertilizer and seed subsidy: *"This is private sector investment."*	*"Provides fewer incentives for the private sector to invest if government provides fertilizer and seed subsidies."*
Seed and fertilizer input subsidy: efficient resource allocation	*"There are problems of resource allocation….the priorities are mainly targeted toward seed and fertilizer*	*"Government investment should avoid crowding out the private sector"*	The efficient use of limited resources. The potential to develop sustainable seed and fertilizer input markets.
Seed and fertilizer input subsidy: sustainability	*"Subsidies benefit mostly large farms and not the small farms"* *"If small farms are profitable they will invest in seeds and fertilizer inputs."*	*"Subsidies must be rational, distributed efficiently, transparently…"* *"Do not give subsidies, but provide credit for farmers to buy. It also helps to develop the input market"* *"Government programs like PRODAM are politically important but not economical efficient"*	
Framing of policy problems	Too many controversies in the agricultural sector. *"Social policies not economic policies", "Politically efficient policies"*, and *"inconsistent policies"*	Develop rational economic policies.	*"Provides the opportunity to link programs to expected results."*
Investment by small farms	"Lack of investment by small farms that is why we do not see any outcome on the ground."		Public investment into infrastructure such as road, railway, research, etc.

Note: Italicized phrases are direct quotes.

Source: Authors' compilation from in-depth interviews.

Appendix 3: Auto clustering results

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change[a]	Ratio of BIC Changes[b]	Ratio of Distance Measures[c]
1	733.078			
2	557.562	-175.516	1.000	2.688
3	537.559	-20.003	.114	1.354
4	541.618	4.059	-.023	1.271
5	560.196	18.578	-.106	1.357
6	592.870	32.675	-.186	1.288
7	634.362	41.492	-.236	1.227
8	681.525	47.163	-.269	1.710
9	739.045	57.520	-.328	1.053
10	797.299	58.253	-.332	1.109
11	856.911	59.613	-.340	1.097
12	917.624	60.713	-.346	1.077
13	979.156	61.531	-.351	1.219
14	1042.588	63.432	-.361	1.044
15	1106.386	63.799	-.363	1.089

a. The changes are from the previous number of clusters in the table.

b. The ratios of changes are relative to the change for the two cluster solution.

c. The ratios of distance measures are based on the current number of clusters against the previous number of clusters
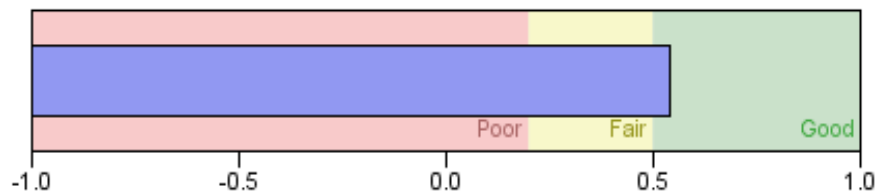
Source: Authors calculation.

Appendix 4: Model summary and cluster quality

Model Summary

Algorithm	TwoStep
Inputs	23
Clusters	2

Cluster Quality

Note: Silhouette measure of cohesion and separation.

Source: Author's calculation.