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Panel T01/W05. Climate Policy Integration at Stake.

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Cross-cutting or not cross-cutting? The variables of (Dis)integration processes during the implementation of Adaptation of Agriculture to Climate Change (AACC)

(Draf version)

This paper is based on the accumulation of data from three research projects[1] that aimed to analyze the governance of adaptation[2] of Agriculture to Climate Change (AACC). The starting point of these three projects was a dissatisfaction: if the trans/international "climate regime" is very well informed (international climate governance), the implementation of national and territorial policies was, conversely, rather poor. The aim was therefore to decipher the governance of adaptation instruments 'in concrete terms' (Padioleau, 1982). The article is based on 32 AACC instruments, 18 instrumental mixes and their governance, in 7 different countries in the North and South (among 170 instruments initially listed and whose design had been initially described).

The integration of public policies is presented by the IPCC (since 2007) as one of the success factors of the transition to efficient climate policies. This paper deals with one of the elements of (dis)integration (Biesbroek & al, 2019) of AACC policies: their horizontal (dis)integration, i.e. the logic of public policy sectors to welcome new issues among their objectives or, even better, new actors and practices or from other sectors. A large part of the scientific literature, in the wake of the IPCC's recommendations since 2007 (and the Group I, II and III reports of 2019), argues that the effectiveness of public policies to counteract a multi-stakeholder problem such as climate change requires their de-sectorization (Rayner J., Howlett M. (2009). However, this paper shows that, concerning agricultural sector, this prescription is blurred during the implementation of instruments and mixes: the process of their implementation often results in a disintegration between the climate problem and the agricultural sector. Indeed, if on the one hand the policy output (design of instruments and instrumental mixes) is generally favorable to mainstreaming (normalization of climate change concerns in agricultural policies), on the other hand the concrete governance of their implementation tends to thwart this attempt. The variables mobilized in this article show that the situations differ, but that types of disintegration appear. In general, the paper shows that instruments and mixes are implemented according to sectoral governance modes and a majority of sectoral actors. The implementation of these instruments and mixes is tightened on all the ingredients and actors of the traditional functioning of the agricultural sector, and sectoral interactions (producers' organizations, production chain organizations, private or state technical support services, etc.).

The analysis is built from the specific sector of agriculture, thus could not escaping the criticisms addressed to this posture that would not allow the overcoming of this sectorized approach (Schmidt, Fleig, 2018). It is also based on the desire to enter through the smallest entities of public policy analysis, namely the instruments and their mix, in order to get as close as possible to their implementation. Finally, this paper also responds to a gap in the literature: that of large-scale international comparison (Brasil, Colombia, France, Senegal, Spain, South Africa, USA).

[1] ARMITIX/funded by ANR; TYPOCLIM/funded by MUSE; Tackling CC/funded by MUSE.

[2] Definition of adaptation: "Climate change adaptation policy refers to the intentional adjustments made by public organizations in socioeconomic and biophysical systems to deal with the current or projected impacts of climate change (IPCC 2014)" (Biesbroek, Candel, 2019).

The article is structured in three parts. The first part presents the theoretical and methodological choices (fine-grained entries of the instruments and their mixes, and their governance), as well as the variables selected and their construction. The second part ('Fragile horizontal integration: policy design and governance of instruments') presents the results of the study of the implementation of 32 instruments based on the variables of their types, the central actors during their implementation, their advocacy, and the type of their governance, in order to detect their sectoral tendencies or, on the contrary, their characteristics conducive to 'crosscutting' (agriculture/climate/other sectors such as finance in the case of climate insurance, for example). The third part ('Types of (dis)integration of instrumental mixes: the situational contexts') presents the results of the study of the 16 mixes based on 18 explanatory variables of the capacity to produce crosscutting between agriculture and climate (the type of climate objectives pursued, the degree of integrative framing of the mix, the degree of integrated mix 'as a whole', the degree of involvement of the sector according to the sequences of the policy process, the degree of closure of the governance of the mix to the agricultural sector – 'coalized closed' - according to the sequences, the degree of conflict and 'failures' of the integrated instrumental mix according to the sequences...). This section highlights the variables that explain the longevity of integration during the policy process or, on the contrary, those that explain the inability to crosscut and on the contrary 're-sectorize' this process.

I. Theoretical and methodological frameworks

This article seeks to avoid "functionalist explaination" (Biesbroek, Candel, 2019): lack of integration would expose public policy to a "risk of failure" (Howlett, Vince, Del Rio, 2017). Its challenge is to enter into the complexity of reality: on the one hand, how the integration or not between agriculture and climate is built according to the phases of the policy process and the situational contexts; on the other hand, to understand how a sector can be strongly focused on itself and not necessarily escape an integration with the climate.

The definition of integration used here is as follows: on the one hand (Di Gregorio et al, 2017, p. 36) define it as a 'multiple policy objectives, governance arrangements and policy processes related to climate change mitigation, adaptation and other policy domains'; on the other hand, Biesbroek and Candel (2016, p. 217) define it as 'an agency-driven process of asynchronous and multi-dimensional policy and institutional change within an existing or newly formed governance system that shapes the system's and its subsystems' ability to address a crosscutting policy problem in a more or less holistic manner'. Thus, this paper will focus on understanding integration through institutional changes, crosscutting objectives between agriculture and climate, capacities of formal or informal institutional arrangements within and between subsystems, situational contexts such as types of governance of agricultural commodity chains or local climate objectives. These points will classically be observed from 'policy outputs' (Schmidt, Fleig, 2018), but also from 'processes' (Biesbroek, Candel, 2019), i.e. taking seriously the fact that, from one moment to another, integration can be made or unmade, either according to the moment of the policy process, or according to the 'situational context' (Biesbroek, Candel, 2019). The instrument and mix approach will allow us to assess the willingness to integrate contained in the design of instruments and instrumental mixes (assessment by policy outputs). The variables for analyzing their governance will make it possible to evaluate integration as a process, in particular in two ways: by observing the differences between the objectives and their design, and the objectives at their origin ('framing of the mix'), according to the sequences as they are implemented ('local framing', 'administrative implementation', 'targets implementation'). Consequently, the objective of the paper is more to understand the sequence of implementation: the paper does not consist in understanding how 'to bring environmental [or in our case: climate] objectives on equal terms with sectoral objectives' (Persson et al.) but at

the contrary 'how the implementation of public policy instruments reflects, during their implementation, a multi-sector articulation capacity'. Finally, the objective is to build a comparative approach that is so lacking, notably by including countries of the South (Latin America, Africa).

The methodology is based on three distinct steps. The first consisted in listing and characterizing the types of AACC instruments in 7 countries (173 instruments) (Hrabanski, 2020). This step allowed us to classify the instruments according to their type (sticks, carrots, nodality according to the classical typology of Bemelmann, Rist, Verdung, 1998, plus 'regulatory pluralism', Pacheco-Vega, 2019). The nodality type is of particular interest to the present analysis since the literature considers that their design is indicative of a willingness and ability to crosscut between multiple actors caught up in a complex multi-sector, multi-level, multi-objective governance (Hulbert, Gupta, 2016; Manevska-Tasevska, 2021). This first phase also allowed us to measure the climate mainstreaming of agricultural policies. The second stage consisted of a detailed study of the ‘concret’ governance of the implementation of 32 instruments, some of which were the subject of a policy network analysis. The finesse of the analysis made it necessary to limit the number of instruments investigated. Thus, from 173 instruments identified, the focus was reduced to 32, which are condensed into 16 instrumental mixes. The selection of these 18 sites was conditioned by three criteria: the effectiveness of the implementation of the instruments (which reduces the number given the novelty of these public policies, some of which have not yet been implemented or are only just beginning to be implemented), accessibility to the site and to the local actors involved in the implementation (for the conduct of semi-structured interviews), and the existence of proven climate issues. As a result, this constrained selection does not differ in terms of proportionality between the 32 types of instruments selected and those of the 173 instruments listed. This step, based on an average of twenty semi-structured interviews in the 32 AACC policy instruments, made it possible to identify explanatory variables for maintreaming and (dis)integration process during the implementation of the AACC's instruments and instrumental mixes (the type of central actors and their advocacy more or less open to climate issues or refocused on the economic conditions of their sector or production chain, the type of governance more or less closed on the agricultural sector). This second part analyzes the fragile nature of the integration between climate and agriculture. The third step consisted in building a dynamic analysis model of integration, based on the observation by Bisbroek and Candel (2019) that the integration and disintegration processes fluctuate according to the sequences of policy making and situational contexts. The present model therefore crosses four sequences (national framing of the mix, local framing of the mix, administrative implementation, and target implementation of the mix) with explanatory variables for integration. Field observations led to the identification of these sequences as crucial for understanding fluctuations in the degree of integration between climate and agriculture. As for the integration variables retained, they are 17 in number, among which: is the initial framing of the climate/agriculture mix integrated? Is the mix implemented 'as a whole'? Is the agricultural subsystem involved in the implementation of the mix 'as a whole'? Is the objective of the mix related to climate vulnerability and variability or to climate change? Is the advocacy of the implementers more economic than climatic? etc. (see graphs 5 to 22). These variables were evaluated, according to the situational context detected in the interviews, on a scale of 1 to 10 and then incorporated into so-called "radar" graphs for each of the mixes analyzed. The similarities and dissimilarities between the graphs then make it possible to construct types of integrative or disintegrative dynamics which are described.

II. Fragile horizontal integration: policy outputs, policy design, governance of instruments

There is no doubt that international climate governance (Dahan, Aykut, 2015; Lesnikowski, 2017) has produced a wave of mainstreaming of climate issues in the agricultural sector (Hrabanski & al, 2021) (1). In terms of policy outputs (Schmidt, Fleig, 2018, p. 178), it seems to be in line with the literature's recommendation: nodality instruments, the most conducive to integration, are well represented in the AACC toolkit (2). However, taking into account other variables (dominant actors, etc.) in the implementation process puts this display of integration into perspective (3).

1/ Policy outputs: mainstreaming and design favorable to integration

The AACC has clearly emerged in agricultural policies and its instruments show a search for coordination and information flow that is well documented in the literature as conducive to the integration of multiple public policy objectives.

Mainstreaming: the rise of the AACC

For most countries in the world, the end of the 2000s was a key moment of institutional innovation in terms of integrating climate issues into their agricultural sector (Table 1). To this wave should be added the European reform of the Agri-Environmental Measures (AEM) in 2014, which became Climate AEM in 2014, as well as the Brazilian national climate change policy (2009) and especially its national adaptation plan (2016). It should also be noted that the European 'recovery plans', financed in part by European Union loans following the COVID 19 crisis, have also integrated adaptation objectives (see graph 10 above and the implementation of the instrumental mix Regional Subsidies for the Protection of Orchards in Occitania). To resume, integration of adaptation is not secondary in agricultural sector.

Table 1. Date of national adaptation plans that integrate agriculture

Case study	Justification
South Arica	2008, the Western Cape Climate Change Response Strategy and Action Plan framework
California/USA	2009, California Climate Adaptation strategy
Colombie	2009 national plan for development
Andalousia/Spain	2006, first national adaptation plan
Occitanie/France	2006 , stratégie nationale d'adaptation au CC
Senegal	2006 plan d'action national d'adaptation-PANA
Guadeloupe/France	2006 , stratégie nationale d'adaptation au CC

Source: Typoclim project, WP2 report, Hrabanski, 2020

The majority of countries not only show a sudden mainstreaming logic from the end of the 2000s, but also a clear desire for general horizontal integration, including that of the agricultural sector (national climate plans, for example). However, an analysis of the implementation phase leads us to put the effectiveness of these integrative ambitions into perspective.

Nodality instruments and adaptive governance

In terms of the "policy output dimension" (Schmidt, Fleig, 2018, p. 178), the type of instruments available to AACC is conducive to integration (Tables 2 and 3). According to our sample, the

strong presence of nodality-type instruments (information exchange, coordination) in the environmental policy domain is not denied for AACC (72/173, Table 2; 12/32, Table 3).

Table 2. Number of types of policy instrument (N 173)

Case study	Carrot instruments	Nodality instruments	Stick	Number of policy instrument for Agricultural adaptation to CC
California/US	15	6	2	23
Colombia	13	16	**0**	29
Andalusia/Spain	16	10	5	31
Western Cape/South Africa	6	7	4	17
Senegal	16	13	**0**	29
Occitania/France	10	9	4	23
Guadeloupe/France	7	11	3	22
total	83	72	18	173

Source: Hrabanski, typoclim Project, WP2 report, 2020

Table 3. List of the 32 instruments analyzed in term of governance of the implementation

Stick-carrot	Nodality	Carrot	Carrot-stick-nodality	Nodality-carrot	Stick
-Opération 4.3.1 -Mesure 10 (MAEC) -Mesure 11 (MAEC) -Mesure 4 (MAEC) -Grants (EQIP) -Grants (CSA) -Plan de transition de l'exploitation (PEAPO)	-Mesure 2 (MAEC) -Plan Banane Durable 2 -Science Advisory Panel (CSA) -Experiments (CSA) -Experiments (EQIP) -Offre de service climatique par SMS -Route de l'agneau - Les *mesas tecnicas agroclimaticas* (MTA)	- Système espagnol d'assurances agricoles combinées (SEAAC) -Assurance multirisque climatique (AMC) -Assurance indicielle de l'USAID -Fonds de résilience de la FAO	-Projet agro-environnement al de l'AOC Languedoc -Citernes productives	-Smart Ag Services -Groupement d'Intérêt Économique et Environnement al (GIEE)	Water restrictions

Source: Massardier & al, WP3 report, Typoclim project

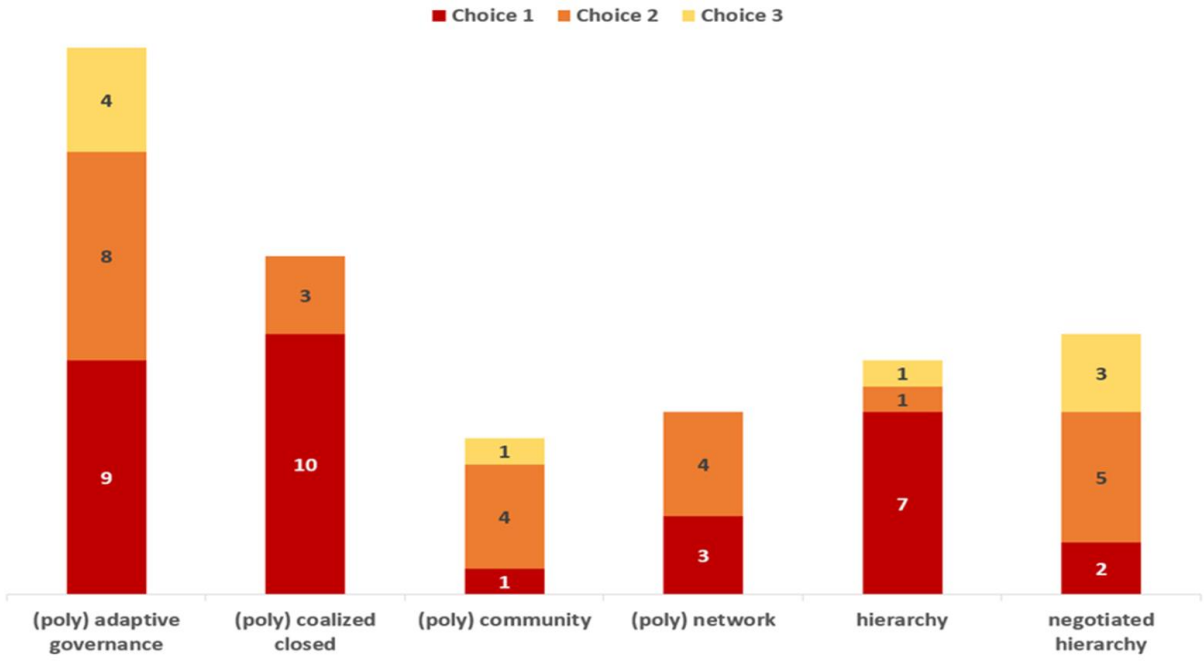
Table 4. Distribution of the 32 instruments by type

Type of instruments	Effectifs
nodality	12
stick-carrot	11
carrot	4
carrot-stick-nodality	2
nodality-carrot	2
stick	1

Source: Massardier & al, Typoclim project, WP3 report, 2022.

The types of adaptive[3], networked, or community-based governance of these AACC instruments, also considered by the literature to be conducive to the integration of public policy objectives (Hulbert, Gupta, 2016; Manevska-Tasevska, 2021), regulate to a significant degree the implementation of the instruments studied (13/32 in choice 1; 34/66 for all three choices).

Graph 1: Governance of AACC instruments (N32, 3 choices per instrument).

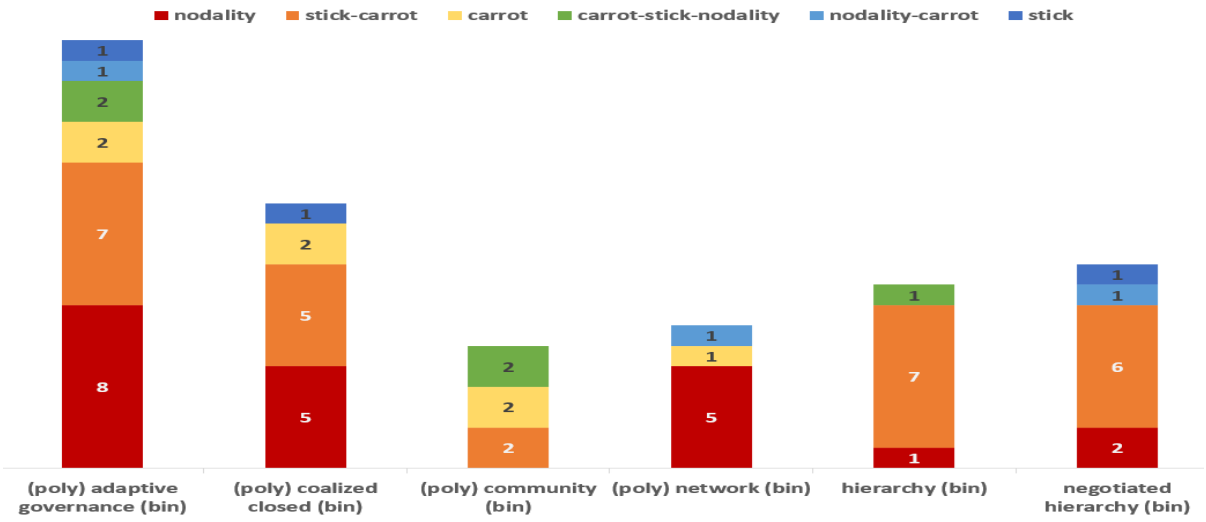


Source: Massardier & al, Typoclim project, WP3 project, 2022

Integrative modes of governance also regulate traditional sectoral instruments (graph 2), which tends to prove that the climate issue makes the most sectoral practices more flexible.

[3] Adapative governance is 'A range of political, social, economic, and administrative systems that develop, manage, and distribute a resource in a manner that promotes resilience through collaborative, flexible, and learning-based issue management across different scales' (Hulbert, Gupta, 2016). It is a one of the type of collaborative governance defined as "adjustments in decision-making processes at farm level and policy level, through changes in management practices and policies in response to identified challenges and the delivery of desired functions to be attained" (Manevska-Tasevska et al, 2021, p.1).

Graph 2: Types of governance (3 choices) X types of instruments (N32)



Source: Massardier & al, Typoclim project, WP3 report, 2022

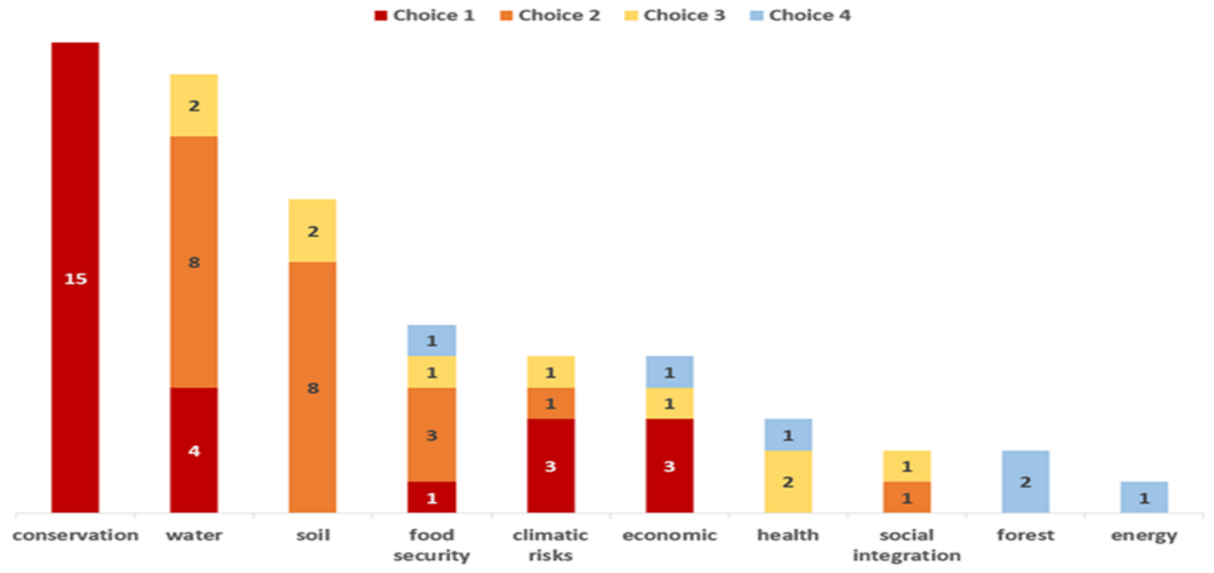
However, Tables 2, 3 and 4 and Graph 1 put this observation into perspective. First, the classic sectoral instruments (regulatory pluralism, carrot/stick) remain important in the design of the AACC. Second, the governance of these instruments confirms that the sectoral style of agricultural policies governs the implementation of the AACC. The sectoral (coalized closed governance[4]) and traditional hierarchical governance of sectoral administrations (hieracrchy, negociated hierarchy) also clearly regulate the sector (19/32; 30/66 for the three choices).

2/ Unfinished integration

This observation is confirmed by the multisectoral nature of the CCAA instruments and by the central actors who implement the CCAA instruments. First, interactions with sectors other than agriculture remain the classic and indispensable resources necessary for agricultural production (water, soil, etc.) (graph 3). For example, in a country like the United States, conservation is traditionally integrated into the agricultural administration, which is therefore entrusted with the implementation of CCAA instruments from the federal level to the farm level. Energy, food security, and social issues, including climate risks, are objectives that are rarely assigned to CCAA (graph 3). Secondly, regardless of the type of governance, it is the actors in the agricultural sector who are overwhelmingly central to this process (graph 4).

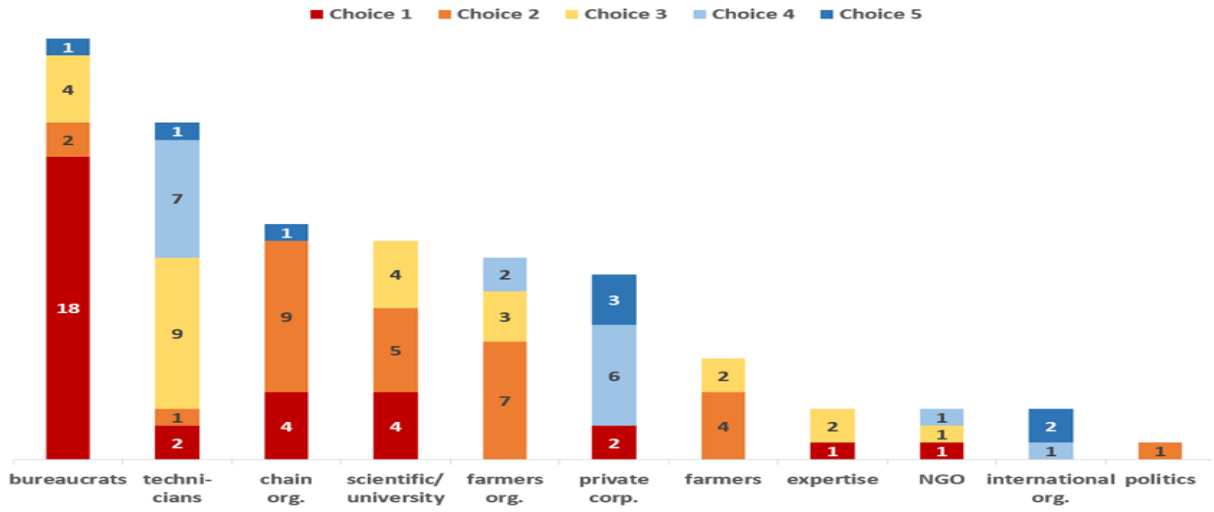
[4] A coalized closed governance (Weible, 2018; Massardier, 2009) is caracterized by the facts that they are "particularly closed and autonomous", hierarchy inside the coalition is clear, entering the coalition is selective and requires some resources and capacities, the access to decision-making and negotiation is therefore limited and restricts the pluralism (Massardier, 2016, p.2-4).

Graph 3: Sector crossings with agriculture and CC (N 32/4 choices)



Source : Massardier & al, Typoclim project, WP3 report, 2022

Graph 4: Agricultural subsystem actors dominate (5 choices combined) the types of governance of CCAA instruments



Source: Massardier & al, Typoclim project, WP3 report, 2022

Taking all types of governance together, including adaptive governance, central actors in the implementation of AACC instruments are from agricultural subsystem: agricultural service bureaucrats in the lead (18/32 in choice 1; 18/116 any choice), agricultural support technicians, staff of the sectors or agricultural organizations, and producers themselves, make the AACC instrument implementation a matter for the agricultural sector. The latter can be seen as a particularity of the agricultural sector and its 'exceptionalism'. Indeed, the literature on agricultural policies has emphasized the 'compartmentalization' and 'exceptionalism' (Coleman et al., 1996; Roederer-Rynning, 2010) of the agricultural sector, defined as a 'fortress' separated from other sectors by different policy subsystems (Greer, 2017). The integration of climate issues is no exception to this observation.

III. (Dis)integration types: Contextual situations of instrumental mix implementation

The integration of climate issues in the agricultural sector is therefore very fragile. This part now goes into the details of the implementation of the CCAA mixes according to the sequences (general faming of the mixes, framing at the local level, administrative implementation and chain or farming implementation) in order to take into account integration as a dynamic phenomenon (Biesbroek, Candel, 2018) depending on 'situational contexts'. This third part aims to go further than the general analysis of the second part by showing that this fragility is unevenly distributed according to the types of integration structured according to certain contextual variables (typical objectives given to public policy mixes, the involvement of the agricultural subsystem in the management of the mix according to the organization of the commodity chains...). The most discriminating variable for integration is the type of adaptive objective assigned to the instrumental mix: adaptation to climate variability and immediate vulnerabilities *vs.* objectives that focus on adaptation to climate change itself (Dupuis, Knoepfel, 2013) (1). Three types of situations arise, each with its own particularities depending on the variables. The first corresponds to the maintenance of mainstreming (2). The second corresponds to situations where integration is built (3). The third type of situation, on the contrary, are those where the initial mainstreaming disintegrates during implementation, typically opening the way to the 'declimatization' (Biabiani et al., 2022) of the AACC mix and instruments (4).

1. A key variable in integration: the type of adaptation sought

Dupuis and Knoepfel (2013) have established a nomenclature of three types of adaptation according to the objectives designated to the instruments: adaptation to variability, adaptation to vulnerability, and adaptation to climate change. In the context of this article, the first two will be integrated into the same category: 'adaptation to C objectives' (see graphs 5 to 23), which will be opposed to 'adaptation to CC objectives'. On one side, the instruments and mixes dedicated to these two objectives are very different. Adaptation to variability and vulnerability allows farmers either to maintain their level of production and profitability (crop protection nets against hail, change of production type, etc.), or to maximize their production by adapting sowing and harvesting practices to variability (climate information systems), or to manage climate risks in order to perpetuate their production (climate insurance). These instrumental mixes are generally immediate adaptations to momentary situations. One the other side, the instruments and mixes of adaptation to climate change are technical and financial support for the development of new cultivation practices for the rational management and conservation of resources (water, soil) in the long term (grassing, cover cropping, rotation of land uses, rational irrigation with techniques such as drip-feed, etc.).

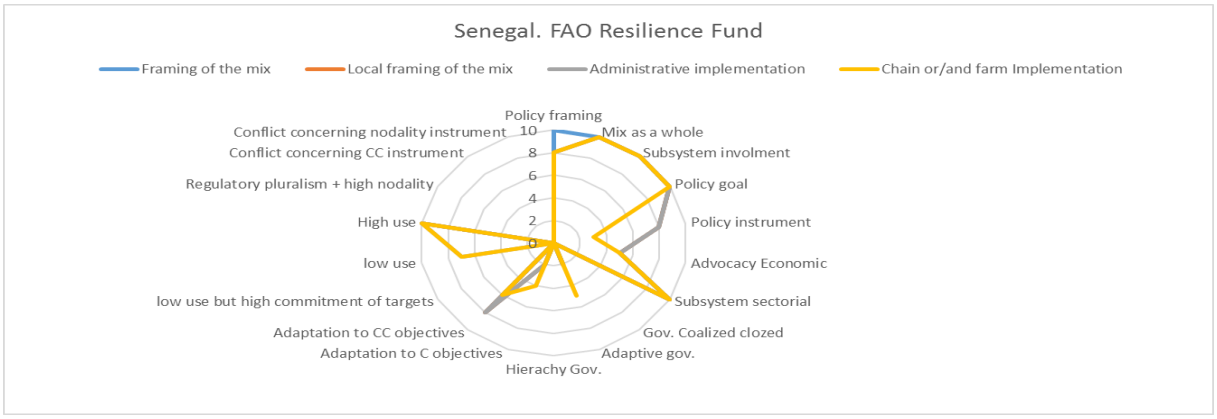
Based on the sample of instrumental mixes in this study, this distinction is the most discriminating variable for mainstreaming. The more the mix responds to climate variability and climate-related vulnerabilities of farms, the higher the degree of integration and therefore mainstreaming is likely to be confirmed until the ultimate sequence of mix implementation; conversely, the more the objective is about adaptation to climate change itself, the less likely it is that integration and mainstreaming of the AACC mix will endure (see graphs 5-23 for the scores of the two variables 'adaptation to C objectives' and/or 'adaptation to CC objectives')

This first bifurcation conditions the types of (dis)integrations: a first type of robust integration (2); a second type of integration which is reinforced (3); a third type of disintegration process which can lead to the 'declimatization' of the use of the intruments and mixes (4).

2. Integrated management of adaptation: marginality of adaptation to change in favor of adaptation to variability and vulnerability

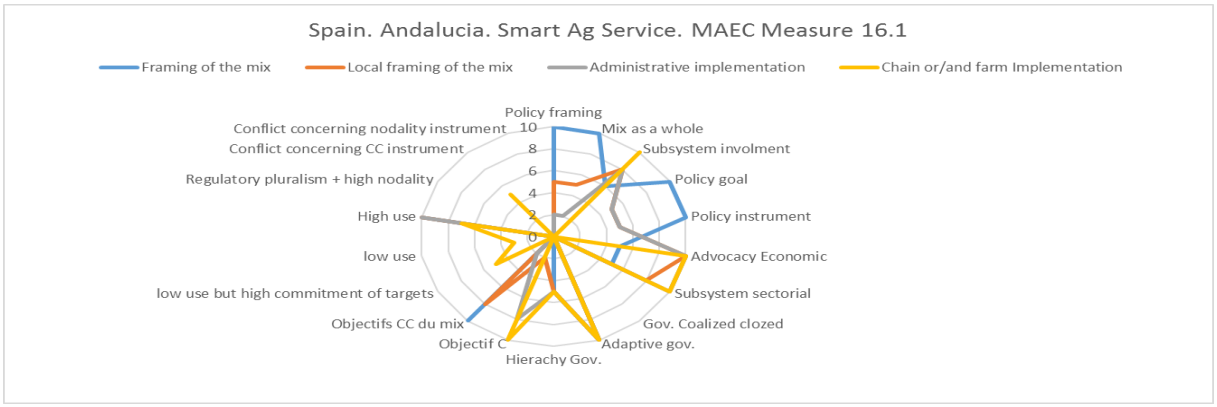
The first type of integration - the least common, since it concerns only two of the 16 mixes studied - is that of a strong integration between agriculture and adaptation to climate change (change in production practices) during the four sequences, until the crop (Graph 5). In the case of Senegal, an instrument financed by an international organization in a developing country that, without losing sight of the production issue, manages to impose, throughout the implementation process, the further integration of CC adaptation objectives. The second case is a European measure that finances, through a call for tenders, experiments on adaptation to climate change based on exchanges of information between science and agricultural production (graph 6). In both cases, the graphs show that the mix has CC as its objective, that the degree to which the mix is considered 'as a whole' with an integrated policy goal during the four sequences under consideration, that the agricultural subsystem is strongly involved in its implementation, and that the governance of the mix is above all adaptive.

Graph 5.



Source : author

Graph 6.

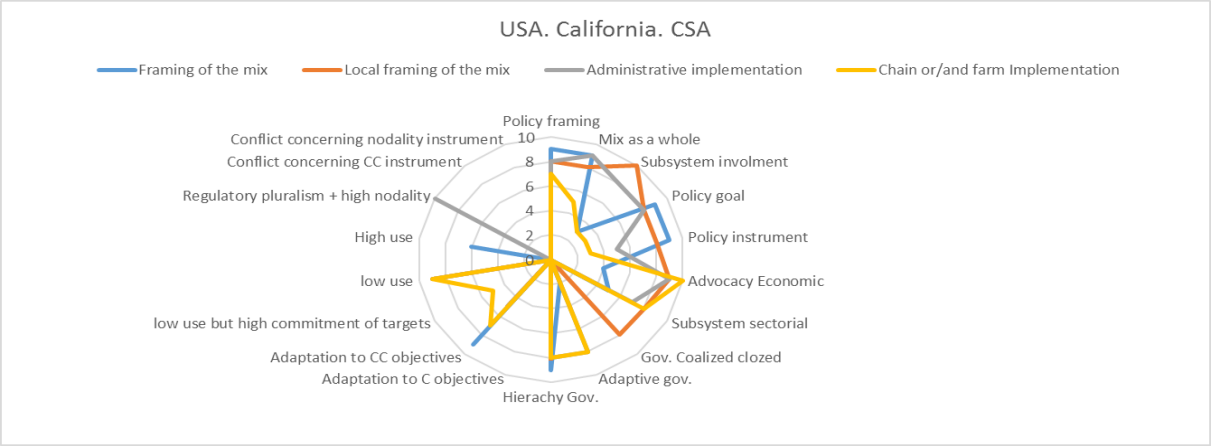


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Still within this first type, the bipolar functioning of the cases of the EQIP and CSA programs in the USA/California clearly distinguishes the difference between, on the one hand, the logics of integration between agriculture and climate change and, on the other hand, 'declimatization' (cf. III. 4). We are talking here about bipolar functioning in the sense that differences between situational contexts imply completely opposite uses or non-uses of these two instrumental mixes (which can be seen in graphs 7 and 8). These programs are framed to generate the integration

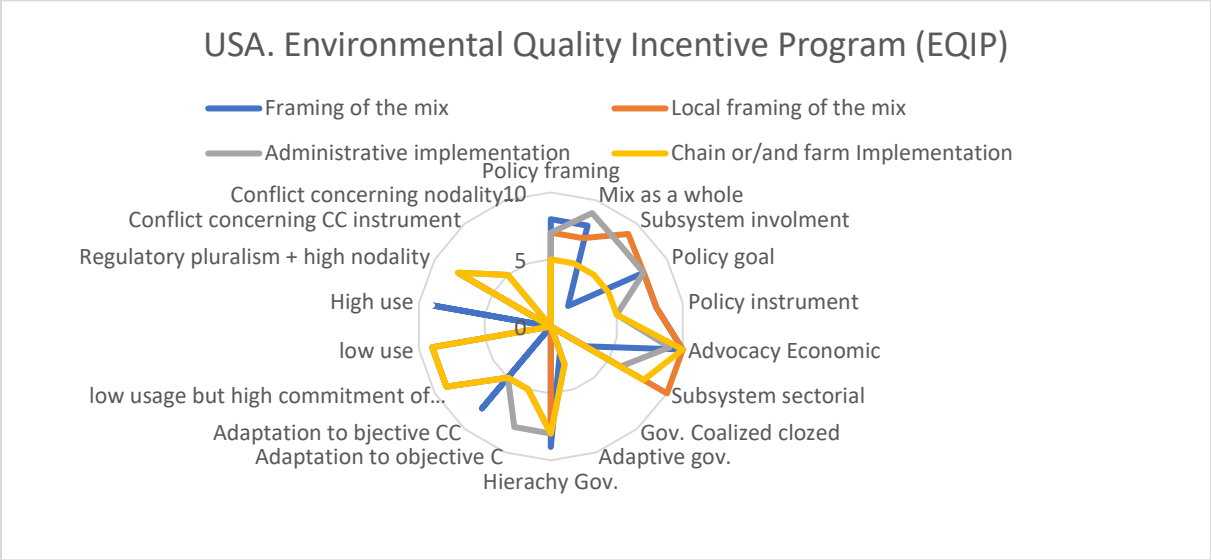
of climate change adaptation practices in agriculture. However, there is only one case that ensures the implementation of this objective down to the farm level and allows the use of the instrument according to its initial objectives. This is the situational context where: technicians from the sector (most often from university extension departments) and officials from the agricultural administrations (NRCS/RCD, local services of the federal and state agricultural administrations) share information and put together grant applications, where governance is adaptive (experiments). In territories and situations where this synergy does not exist, the initial integration between agriculture and climate disintegrates in a very high degree of non-use of the instrumental mix, which is by far the most widespread situation (90% of non-use). In the latter case, economic advocacy is dominant and hierarchical governance is dominant, with these two variables distancing farmers from the implementation of the instrument, especially in the case of 'adaptation to CC objectives' instruments. These three variables are the ingredients of the disintegration between adaptation and agriculture, overall (see III. 4).

Graph 7.



Source : author

Graph 8.

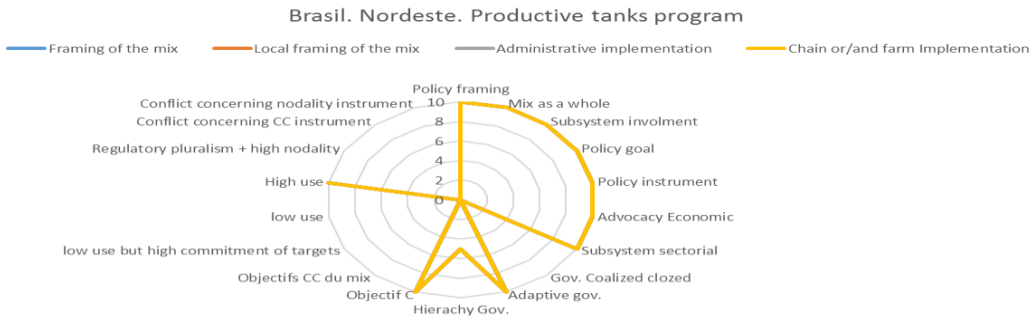


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The second type of integration, the most common, corresponds to the graphs (9, 10, 11, 12, 13) which perfectly show the integration between agriculture and climate issues throughout the implementation, with more or less 'purity' depending on the local situation ('adaptation to C').

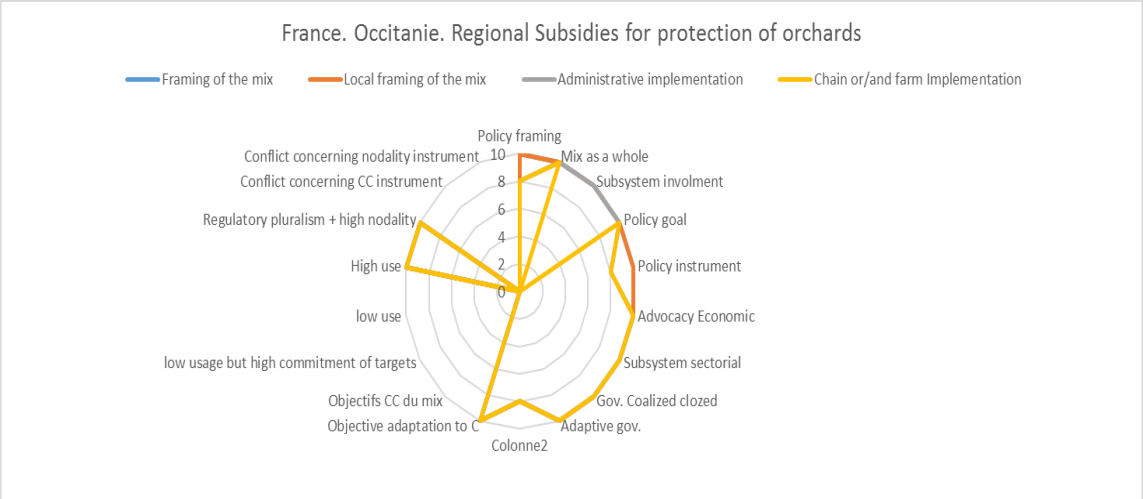
The degree of relationship to climate is maximum (policy framing, policy as a whole, policy goal, policy instrument) during the 4 sequences. The common characteristic of these 5 cases is the correlation between: the objective of adaptation to vulnerabilities or variabilities, the dominant economic advocacy of the implementers, and adaptive governance. Three cases are concerned by a maximum involvement of agricultural subsytem (graphs 9, 11, 12). This variable is less decisive in the case of subsidies for protection of orchards in Occitanie (graphs 10), even if the farmers benefit from them, but they delegate the implementation details - of the constant negotiations of the instrument's design and of its technical implementation - to their cooperatives. Despite differences in the degree of involvement of the agricultural subsystem in particular, the maximum degree of integration between agriculture and climate concerns the cases of instrumental mixes geared towards maintaining production and governed by the institutions of the agricultural sector (protection of production during episodes of vulnerability or insurance), whether they are bureaucratic or those of the production sectors themselves, from the negotiation of the mixes to implementation on the farms. This result should be correlated with the conclusions of Part 2 concerning the implementation central actors of AACC instruments (Graph 4). In other words, the instrumental mixes of the AACC are more implemented if they are linked to an economic response to the vulnerabilities defined by the actors of the production chains in the face of the climate.

Graph 9.



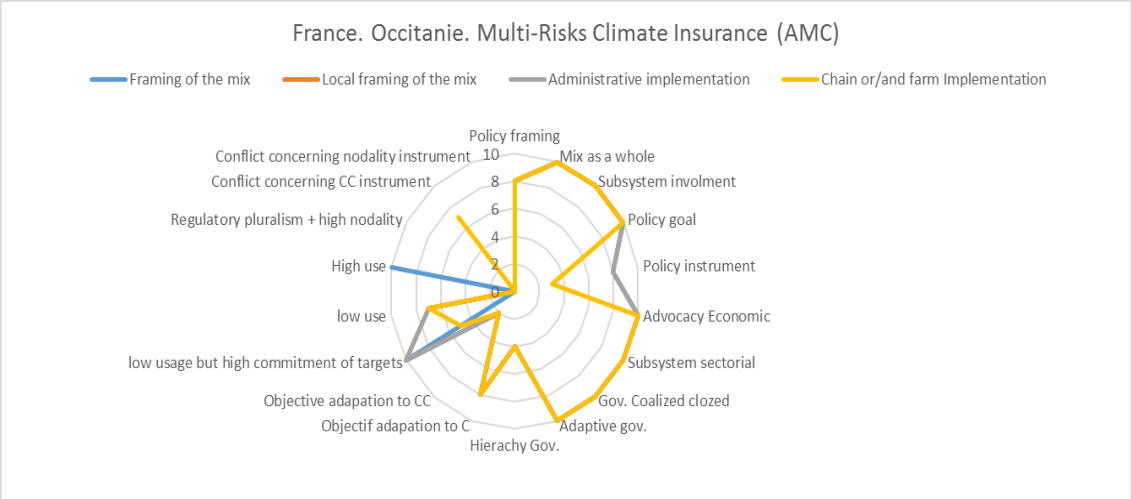
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Graph 10.



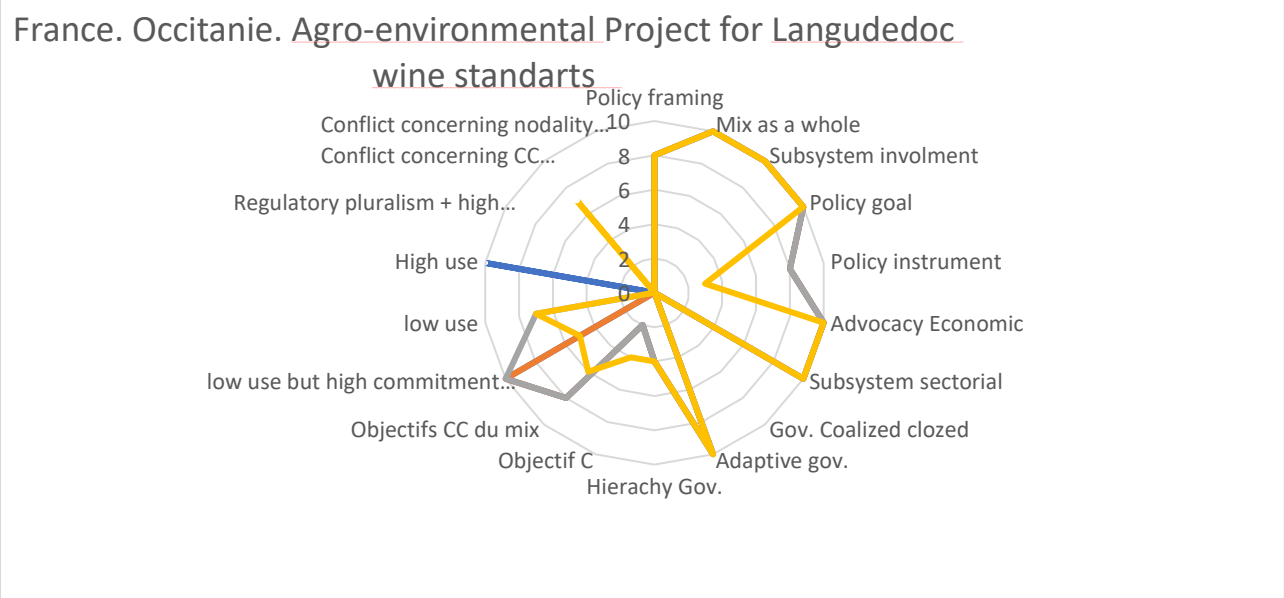
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Graph 11.



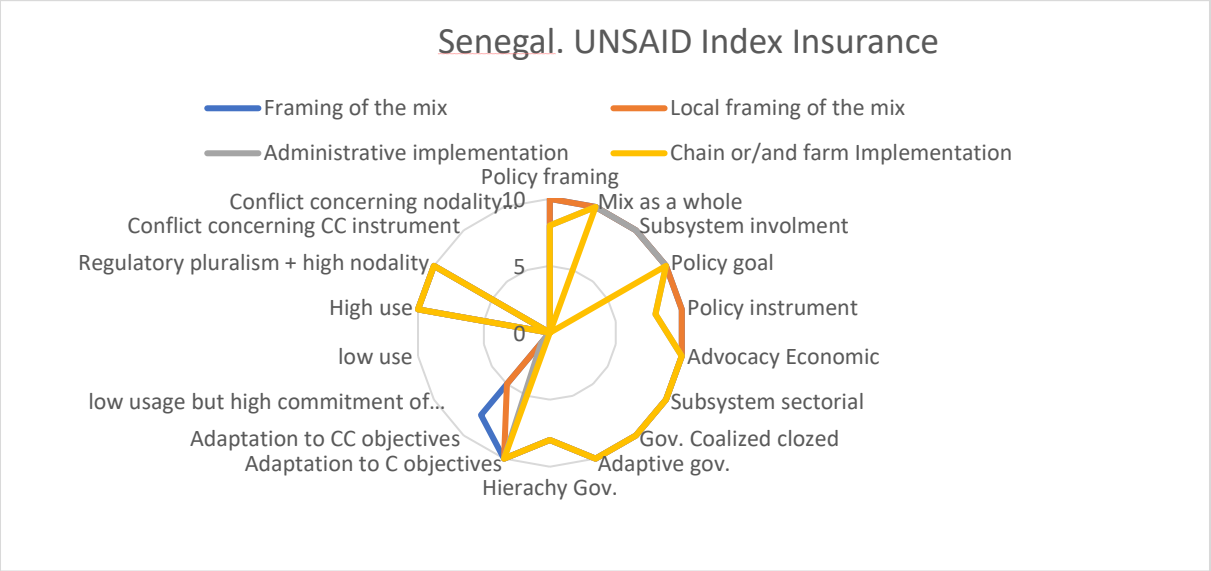
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Graph 12.



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Graph 13.

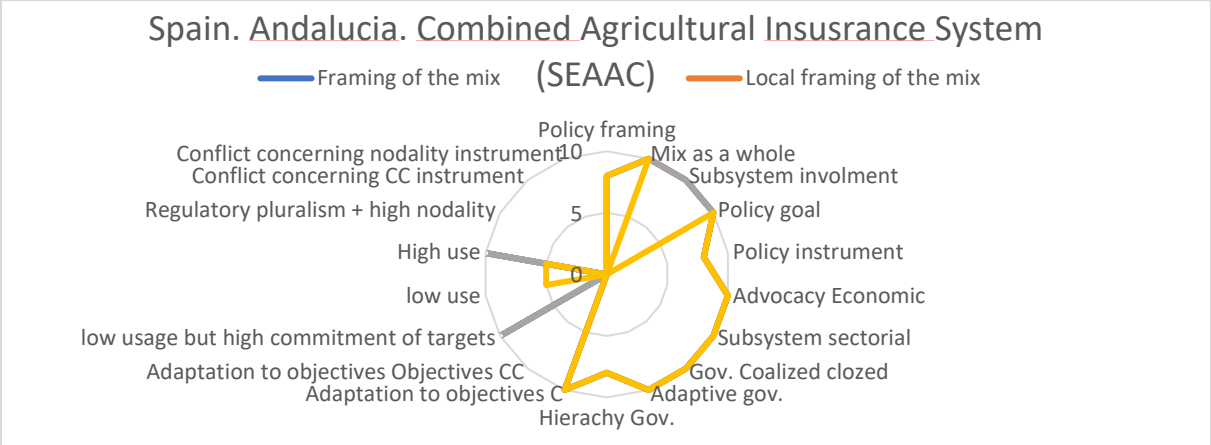


Source : author

3. Climatizing instrumental mixes

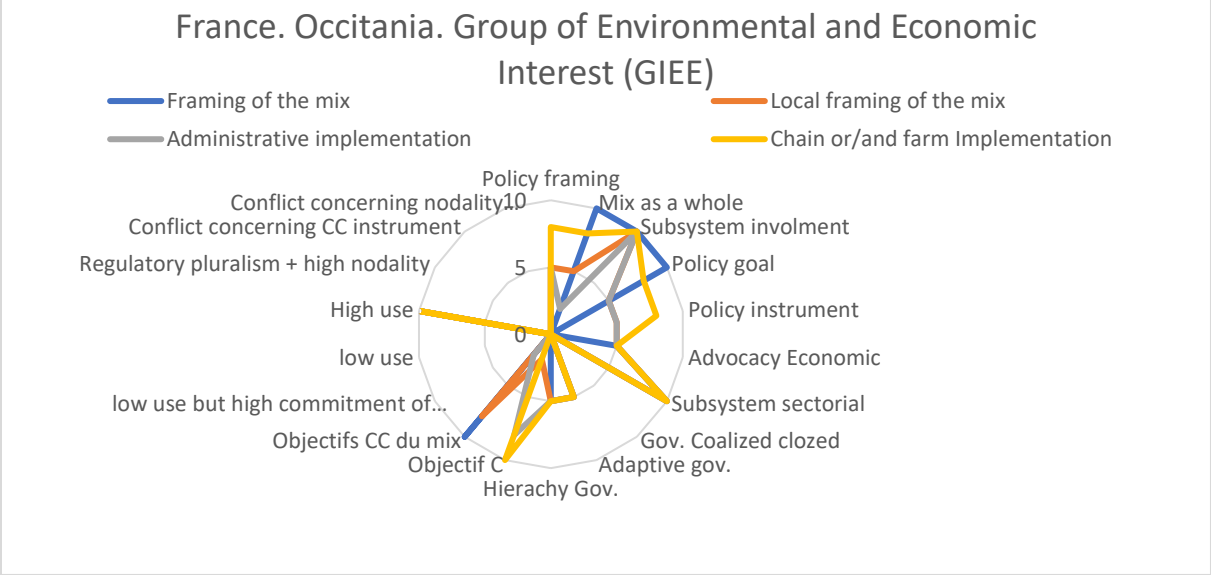
'Climatization' refers to the process by which former agricultural policy instruments that were not or hardly initially framed by the climate problem (the opposite of the previous cases), integrate it, under certain conditions. The case of the SEAAC (agricultural insurance, graph 14) in Spain is an example of the progressive taking into account of climate vulnerabilities: the dominant advocacy of the actors of the implementation is economic, governance is both adaptive and closed coalized: adaptive because the actors of the agricultural sector (unions, cooperative grouping, sectoral insurance financial system...) regularly negotiate the objectives of the mix; coalized closed type in the case because this negotiation system remains reserved for a restricted group of experts of the insurance system whose positions are interchangeable. It should be noted that, depending on the chain production, the degree of use of this insurance varies greatly: the strategies for taking out insurance depend on the situation of the sectors in relation to vulnerability (graph 14). The case of the Groups for Environmental and Economic Interest (GIEE) in Occitania (graph 15), shows the will to explicitly draw an instrument initially framed as agroecological towards adaptation to climate change by integrating mitigation and adaptation practices into the practices of the group of wine producers. The advocacy of the implementers is a combination of the will to change practices towards adaptation to CC and at the same time the interest to change production to remain competitive on the market. In other words, this situational context is conducive to the integration of CC with the demand of the sector's actors to implement instruments conducive to the change of production practices, while maintaining the profitability of the farms despite the climatic vulnerabilities. This integrative dynamic is also based on a combination of governance: the involvement of sector actors (collective submission of an application and implementation of the instrument by the group of producers), combined with governance that remains hierarchical (selection of applications, project support).

Graph 14.



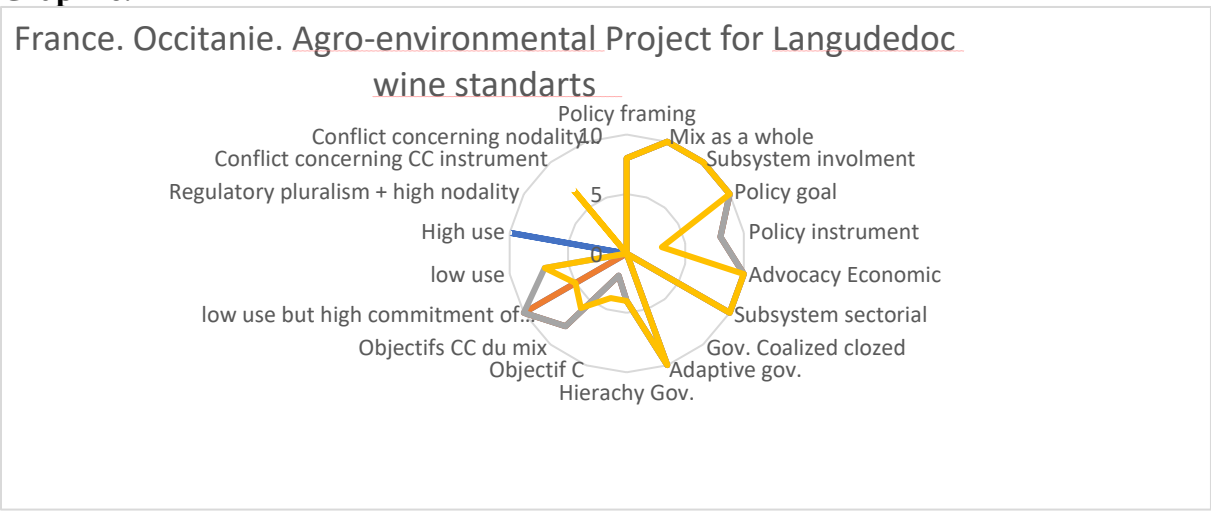
Source : author

Graph 15.



Source : author

Graph16.



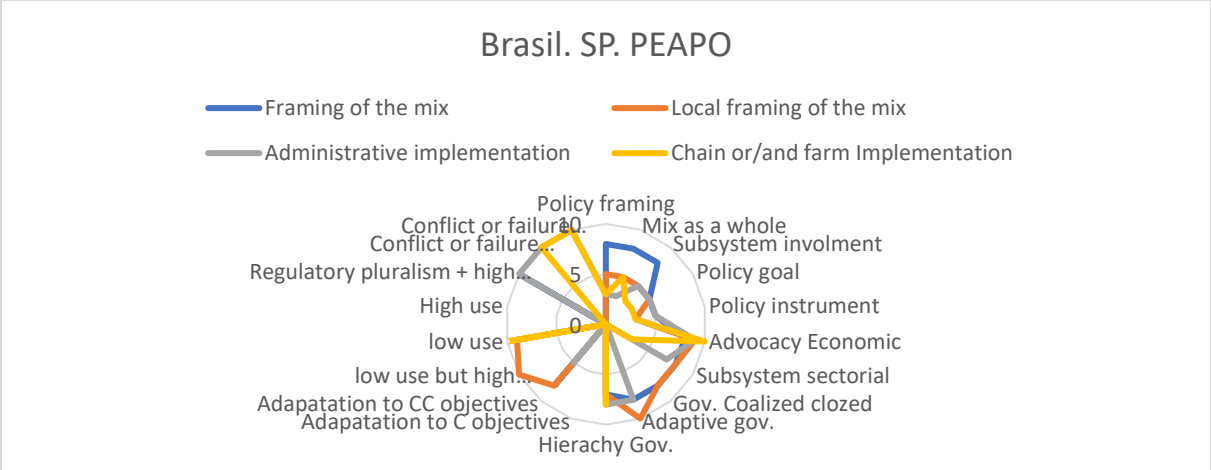
Source : author

4. From disintegration to ‘Declimatization’

The first type of ‘declimatization’ has already been mentioned with the EQIP and CSA mixes in the USA (cf. III.2, graphs 7 and 8), which show situational contexts favorable to the 'declimatization' of the instruments when the economic actors, bearers of a purely productive advocacy, turn away from the implementation of the mixes and their hierarchical governance (even if negotiated) and oriented towards adaptation to climate change. Disintegration can then be summed up in one variable: the extremely low degree of use (less than 10%) of the mixes made available to farmers.

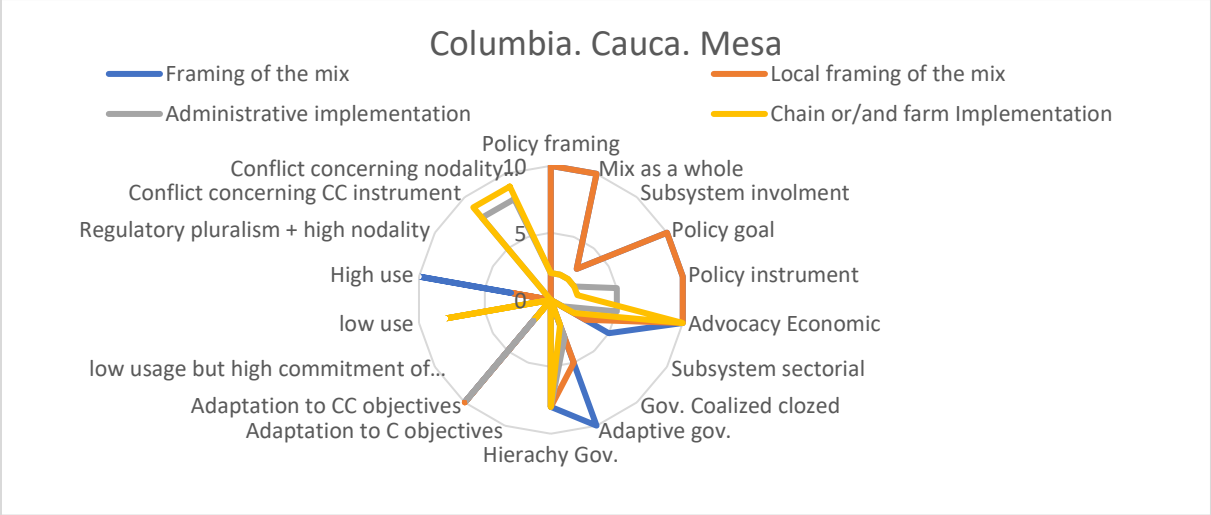
The second type of ‘declimatization’ is linked to a failure of the instrument. A first case is that of instrumental mixes whose mainstreaming is essentially a "paper" one (graph 17). The 2009 Agroecological Plan of the State of Sao Paulo is initially framed as integrated since, on the one hand, it is the result of a negotiation between the Secretariats of the Environment and Agriculture and, on the other hand, it refers explicitly, but vaguely, to the 2009 Law on Climate Transition. However, it failed during its implementation: its objectives, although negotiated with producers' organizations (agro-ecological transition to enable small-scale peri-urban agriculture to access the market), remain dead letters due to lack of funding, thus disintegrating the initial mainstreaming (Caldas, Massardier, 2020). A second scenario is that of the disengagement of targets following a conflict with an instrument. This is the case of the climate service in Senegal (graph 18). The non-use of the instrument is more related to an unsuitable design (obligation to pay for the service for the farmers who withdraw from the program), and therefore to a failure. On the other hand, the instrument is clearly identified by the subsystem actors as adaptive (certainly to vulnerabilities) and implemented by the targets until the conflict between the farmers and the instrument. The case of the participatory climate tables in Colombia (graph 19) is identical: the failures of the instrument (discontinuous financing by international organizations) disconnect the farmers from the climate information, which then remains a solely climatological instrument and no longer an agroclimatic one, insofar as the farmers receive little and feed little information into this instrumental mix, which was nevertheless designed as a nodality one to integrate climate information and adaptation of agricultural production.

Graph 17.



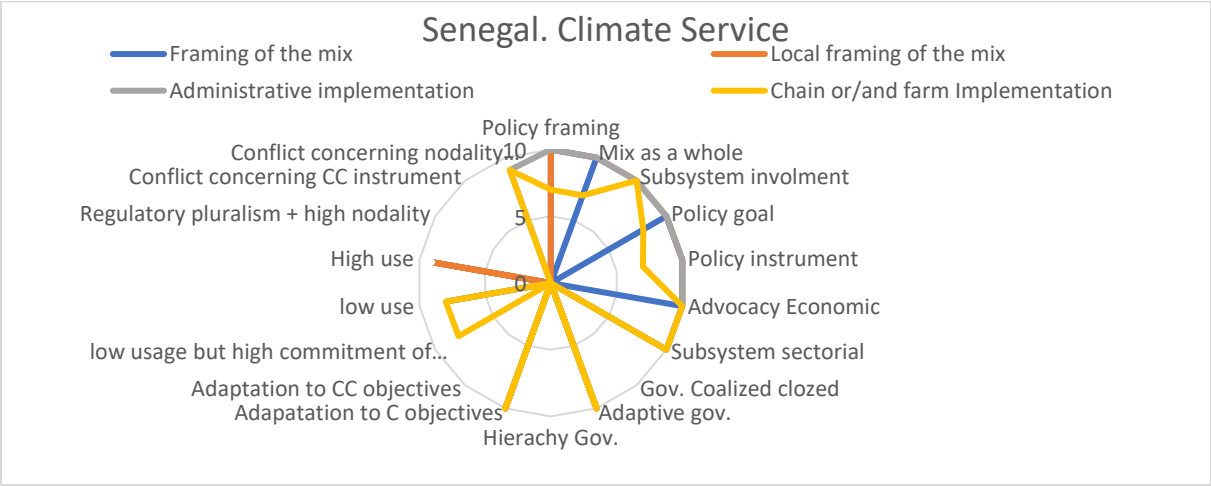
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Graph 18.



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Graph 19

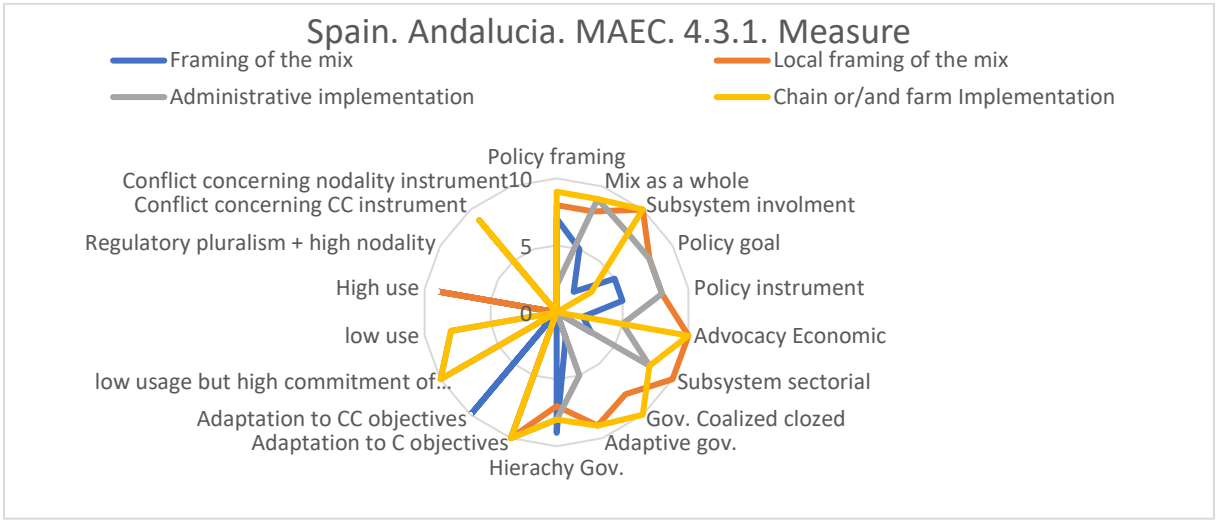


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The third type of 'declimatization' shows, on the contrary, a strong recourse to AACC instruments by the actors of the sector, which can be explained by a disintegration between agriculture and climate due to the agricultural sector taking control over the implementation of the instrumental mix. Initially, they are ‘adaptation to CC objectives’ instrumental mixes (change in production practices or use of natural resources, especially water). While the subsystem is strongly involved in the implementation of the instruments, farmers are mostly marginal in the process of implementing the CCAA instruments (cf. Graph 3). In these cases, farmers' and/or chain’s organizations are the captive intermediaries for the use of the instruments. This variable of strong organization involvement is important for understanding these types of ‘declimatization’ or the disconnect between the framing of the mixes (in the sense of integrating the climate issue) and the sequence of implementation at the level of the targets of these mixes. This type of “declimatization” is characterized by a disintegration of an initial mainstreaming of the climate change type in favor of a shift towards adaptation to vulnerabilities justified by economic advocacy. This is the case of the operation financed by the European MAEC 4.3.1 in Andalusia, with the initial framing of water saving. The takeover by

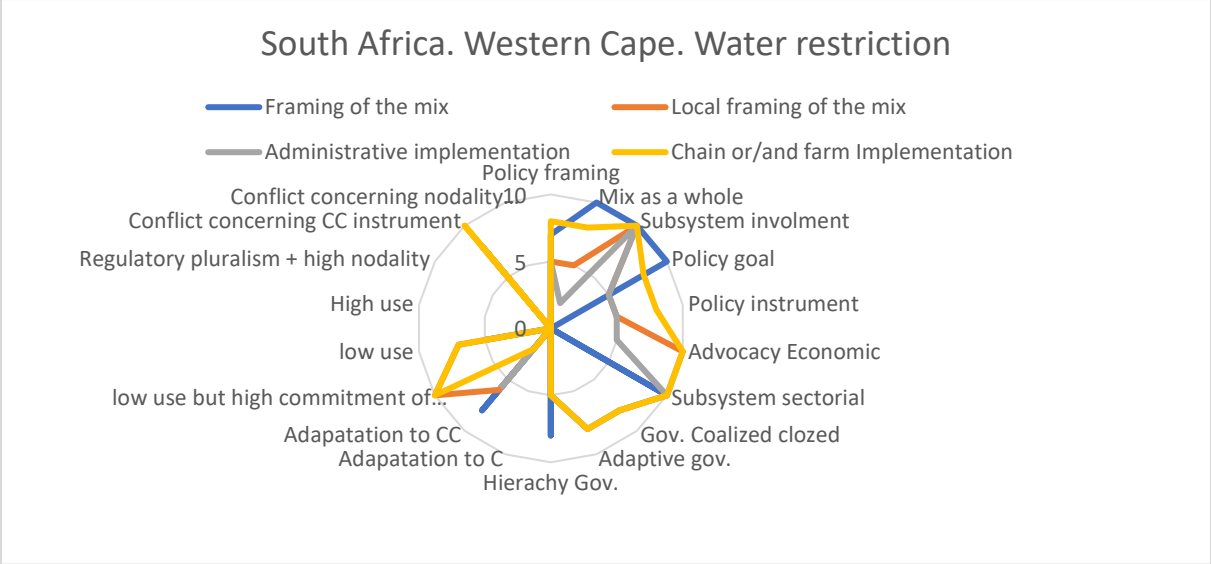
the sector at the time of local implementation finally responds to the sector's choice to use the saved water to increase the surface area of irrigated land and production, or not to implement this mix (graph 20). Water saving is definitely subject to ‘declimatization’: in South Africa, a stick-type instrument of water restriction paradoxically becomes an instrument of very opaque negotiations between actors from multiple sectors to the benefit of agricultural production, which manages to limit the water restrictions that were initially imposed (graph 21). As in South Africa, another case shows a detour of the instrument to the benefit of the interests of a sector that, by organizing itself politically on purpose, manages to make use of an instrumental mix that initially integrated climate and agriculture, but this time by dedicating it to another environmental objective. Under the pressure of an economic crisis in the banana industry, largely linked to the environmental crisis caused by chloredecone, the banana industry uses MAEC to ensure its transition to the non-use of plant protection products and thus ensure its economic survival. However, the climate objectives disappear from the horizons of the use of the instrumental mix (graph 21). This last sub-type of disintegration highlights an alignment between 4 explanatory variables present to a high degree: the economic advocacy of central actors, that of subsystem involvement in this implementation, that of a governance that is both coalized closed and adaptive, variables correlated with a high degree of 'adaptation to C objectives'. As we concluded for great integration capacity of ‘adaption to CC objectives’ instruments that is due to an economic response defined by the actors of the production chains in the face of the climate, we can conclude the same for these types of disintegration and ‘declimatization’ process of policy.

Graph 20.



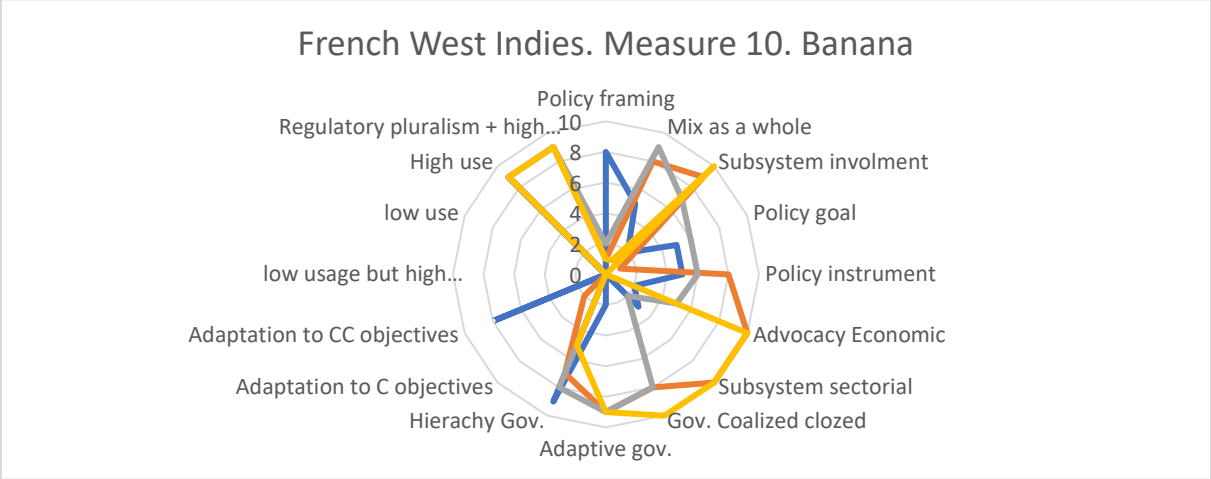
Source : author

Graph 21.



Source : author

Graph 22.



Source : author

CONCLUSION

The first conclusion is that the integration of the AACC into the agricultural sector, however obvious the mainstreaming of national policies may seem, according to the sample of instruments and mixes whose implementation has been observed for this article, does not appear to be the most common dynamic. The disintegration processes are multiple and most numerous.

The second conclusion is that the integration variables appear to be more present at high degrees and during the 4 sequences, when it comes to the implementation of an adaptation to climate vulnerabilities and variabilities.

The third conclusion is that, whatever the dynamics, the logics and actors of the agricultural sector play a primordial role, particularly the technocrats (1st choice, cf. graph 3) and the technicians (cf graph 3, combined choices) of agricultural support. This is also true, in a counter-intuitive way compared to the literature, as adaptive governance is supposed to be

correlated with a lesser importance of sectoral logics. Thus, during the implementation of AACC instruments and mixes, the variables show either a resectorization, even when a dynamic of integration is maintained or even constructed.

This leads to the fourth and certainly the most counter-intuitive conclusion of this article in relation to the literature: it strongly questions the causality between strong sectorization and the impossibility of integrating climate issues. Should we see in this the prevalence of an agricultural policy style with its traditions of administration (Peters, 2021; Tosun, Peters, 2021)? One can think here of the central role traditionally played in many countries by agricultural technicians with farmers and organizations to disseminate information, advise them on aid windows and technical opportunities assisted. Should we conclude that there is an 'agriculture Exeptionalilsm' (Geers, 2013): the agricultural sector is often characterized as 'exceptional' because '[In agricultural policy], decision making takes place in a subsystem with a distinctive set of actors and institutional structures that is insulated from other policy concerns (a 'compartmentalised' policy process) and that policy instruments and programs reflect a particular form of state intervention that differs from rules that generally apply to other major sectors of the economy ('exceptionalism')'. 'The agricultural policy subsystem has been underpinned by ideational congruence, a consensus over values that marginalizes some non-farm actors, and which produces policy outcomes that favor privileged interests' (Greer, 2013, p.2). These results and questions show that it is illusory to build AACC instruments without the agricultural subsystem and its capacity to act as a bridge between international and national framing and local objectives, vulnerabilities and framing of the problems. This conclusion can only be accepted if it is made more complex by showing that other explanatory variables of the dynamics of (dis)integration are at work and explain that sector and integration are not necessarily antinomic.

The fourth and perhaps most striking conclusion is that the combination of economic advocacy, subsystem involvement and adaptive governance are determining variables of (dis)integration dynamics. The degree of presence of these variables is relatively high in both CC integration and disintegration cases. The bipolar character of the EQIP and CSA instrumental mixes in Californiа (graphs 7 & 8) are characteristic of this.

The fifth conclusion, also counterintuitive to the literature, is that the combination of sequences, situational contexts, hierarchical, coalized closed and adaptive governance can ensure integration between agriculture and climate (graphs 7 & 8; graphs 10, 11, 13, part II). This tends to prove that, on the one hand, adaptive governance cannot be presented as the only one that allows integration, but that one must reason in terms of multi-governance and, on the other hand, that situational contexts (a combination of explanatory variables depending on the local situation) seem to be more conducive to explaining the dynamics of (dis)integration than general mono-variable model based on the type of relationship between one type of instrument and one type of governance that would produce a particular effect (Bednar & al., 2019).

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