An application of set theory to the classification of food security policies in eight African countries

by

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Abstract

Despite the existing body of literature dealing with policies and policy change and the impact of institutions on these changes, very little is understood about how food security policies emerge on the policy agenda and what influences their design. This study used a set theory analysis to investigate the role of political institutions, institutional environment and the structure of a country's economy in determining its food security policy choices, and what configurations of these determinants enabled or constrained food security policy outcomes in eight African countries.

A taxonomy was created to organise the food security policy outcomes against four criteria:

i) Policy coordination (the degree to which different policies consistently address the cross-cutting aspects of food security);
ii) Geographic scope (distinguishing policies that apply and are implemented across the country from those targeting a specific geographic area);
iii) Orientation (distinguishing producer- from consumer-oriented policies); and
iv) Level of state involvement (dealing with the state's engagement in the provision of goods and services as an approach to governance that involves the assertion of authority or its conscious limitation).

The food security policies of Benin, Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi and Mozambique were evaluated against these criteria. The conditions analysed included constitutional rules (electoral and governance systems, veto players), institutional environments (accountability, trust, state legitimacy and capacity) and structural economic characteristics.

A set-theoretic analysis was performed on the eight countries' policies. Crisp and fuzzy analyses were applied to the same dataset to identify empirical patterns of sufficiency, necessity and INUS (insufficient but non-redundant parts of a condition, which is itself unnecessary but sufficient for the occurrence of the effect) conditions. Expectations drawn from the literature were examined against the logical results of the analysis. The results identified the causally relevant combinations for each policy criteria. Based on analytical results, an Excel-based tool was developed to check for contradictory predictions in all African countries, informing on the level of generalisation of these findings outside the sample.

This work shows that formal political institutions matter for food security outcomes, but not everywhere. When (some) constitutional rules are in combination with conditions pertaining to country structural characteristics and informal institutions, policy outcomes can be explained and predicted.

This work contributes to understanding the design and implementation of food security policies in Africa. These insights have benefit for both governments and donors. The inclusion of factors relating to the institutional environment enabled an innovative operationalisation of the suppositions related to neo-patrimonialism, providing insight into how formal political institutions and informal rules related to food security policy work in Africa. However, the focus of analysis on exogenous factors, rather than sector-specific governance in a country, facilitates more general (and generalisable) findings.

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Key informants were a key part of this work: I would like to thank them for their patience and availability.

Last but not the least, I would like to thank my family for supporting me throughout writing this thesis and my life and my fellow doctoral students for their feedback, cooperation and of friendship.

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Declaration

I, Filippo Fossi, declare that this thesis, which I hereby submit for a PhD in Rural Development at the University of Pretoria, is my own work. I have not previously submitted it for a degree at this or any other tertiary institution.

Signature: …  ……..

Date: …March 2, 2020…….

List of Acronyms

CAADP	Comprehensive African Agriculture Development Programme
CARE	Cooperation for Assistance and Relief Everywhere
FAO	Food and Agriculture Organisation
FEWS NET	Famine Early Warning System Network
GDP	gross domestic product
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
NEPAD	New Partnership for Africa's Development
NGO	non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
UNICEF	United Nations Children's Fund
WB	World Bank
WFP	World Food Programme

Chapter 1. Introduction

1.1 The critical role of public policy in ensuring food security

Food security is a complex concept requiring multi-sectoral and multi-stakeholder engagement. Long-term effective change in complex policy areas such as food insecurity only happens if the government and key public stakeholders press for change in the same direction. Food security can be thought of as the location-specific outcome of a combination of biophysical, societal, economic and political factors (Sheham and Barret, 2014; Huisman et al., 2016). Its definition and the public policies addressing it have evolved over time (Maxwell and Slater, 2003; CFS 2012; Hendriks 2015). In post-independence Africa, governments prioritised policy responses to the supply and affordability of food for a growing urban population; the controlled migration of agricultural labour into manufacturing jobs, and the creation of reliable food systems for the domestic markets. For the greater part of the 20th century, "the production and distribution of food within and between countries were highly planned activities supported or coordinated by states" (Bonanno and Busch, 2015: 1). Often governments adopted a "food policy" approach, in which they intervened on the supply and demand side, guided by the paradigm that "food prices reflect relative scarcity and abundance" (Timmer et al., 1983: 7). Since the 1970s, this paradigm has gradually shifted to a more holistic concept of food security and nutrition (Maxwell and Slater, 2003). The role of government policies remains crucial in achieving food security through regulations, incentives, knowledge creation and dissemination and the correction of market failures (among other concerns).

However, it is not clear why "African leaders refuse to implement what are obviously 'Good Policies', which have been fruitfully adopted in other parts of the world" (Bates, 2008: 131). The confluence of the global financial and food price crises in 2008 challenged many prior theoretical underpinnings of food security in the public policy domain. The crises highlighted the need to orient the "cacophony of policy responses" (Bryan, 2013: 1). Moreover, the events provided a vivid reminder of the interdependence and importance of public policies in shaping food security outcomes across sectors and geographies, and revived the interest of donors, governments, UN agencies and development practitioners in policy issues. Policies are not merely a technical exercise. It is still necessary to make the "case for the politics of agricultural and food security policy" (Bird et al., 2003: 12).

Several authors (such as Azizi, 2001; Bird et al., 2003; Oniang'o, 2009; Schwarzwalder, 2012) observe that food and nutritional crises are often attributed to the failure of government policies. Second, as Reich and Balajaran (2012: 5) point out, food security in particular, and development in general, cannot be managed without recognition of the "role of politics and institutions in shaping what happens".

Despite the body of literature dealing with policies and policy change and the impact of institutions on these changes, how food security policies in Africa emerge is largely unstudied. Many studies have investigated single determinants of policy change and their influence on particular policy outcomes (Achebe, 1987; Ake, 1990; World Bank, 1991; Wiseman, 1995; Collier and Gunning, 1999). Others (for example, Biswanger et al., 1997) have modelled agricultural policies using endogenous characteristics. Another body of mostly theoretical literature attempts to identify the patterns of policy change; pointing at influences (for example, a payoff matrix), better empirical evidence, policy inoculation and the role of champions or self-interested politicians motivated by concentrated gains (for a full excursus, see Resnick et al., 2015). Yet, despite this research, the question of what kind of food security policy is more likely to be promoted, negotiated, designed and implemented by a particular government is still largely unanswered.

1.2 Problem statement and research objectives

The objective of this study was to identify and understand the emergence of classes of food security policies in Africa, starting from an analysis of the configurations of causally relevant conditions, with attention to formal and informal institutions. This work assessed the configurations of causally relevant conditions and constructed a systematic classification of policies that can help identify which policy responses and strategies are more likely to occur, under which conditions and constraints.

Specific research questions were:

- **Sub-objective one**: What are the roles of political institutions, institutional environment and the structure of a country's economy in determining its food security policy choice?
- **Sub-objective two**: What configurations of these determinants allow or restrain certain policy outcomes?

There is a widely shared belief that institutions, the humanly devised constraints that structure political, economic and social interactions (North, 1990), play a role in economic and social development (Knack and Keefer, 1995). Most literature describing political institutions in Africa has depicted a continent in which formal institutions do not perform as intended, and where official rules are described as weak and fragile, vulnerable to executive manipulation by personal networks and ethnic politics (Chabal and Daloz, 1999). This line of argument has a background and, to some extent, a justification: the relevance of post-independence political institutions was quickly called into question as one-party and military rule shifted scholarly attention. The "institutionless school" (Cheeseman, 2018: 10) become prominent among scholars and practitioners, with the belief that formal institutions in Africa were weak and ineffective, and political order was the result of personal power exercised through traditional authority over ethnic groups (Zolderg, 1966; Chabal and Daloz, 1999). A distinctive institutional feature of many developing country regimes is, in fact, that local elites maintain power and authority through personal patronage, rather than ideology and laws, motivating a focus on informal institutions and neo-patrimonialism in Africa (Cheeseman, 2018).

Eisenstadt (1973) was the first to use the term *neo-patrimonialism*, denoting the simultaneous operation of two Weberian ideal types of domination, one patrimonial and one legal-rational. The phenomenon is relevant in food security. For example, the review by Bird et al. (2003) of five countries in Southern Africa showed that, even when strengthening long-term food security was a clearly stated objective, neo-patrimonial practices influenced policy implementation, contributing to food insecurity. However, Cheeseman (2018) and Olivier de Sardan (2008) have challenged this notion as it conflicts with their assessments and observations. In particular, the predictive value of neo-patrimonialism on policymaking has been disputed by Therkildsen (2005), De Grassi (2008), Von Soest, Bachle and Korte (2011) and Mkandawire (2015).

There is a paucity of knowledge regarding how different countries with different neo-patrimonial features design and implement public policies. The role of political institutions is sometimes downplayed by the salience given to neo-patrimonialism. At other times, official rules are naively taken for granted. In this study, it was not assumed that all political institutions matter all the time, everywhere. To understand what determines a political outcome it is important to reveal how the political underpinning and the drivers that shape how these rules develop, how decisions are made and how *de jure* institutions are used *de facto.* This study focuses on "what extent, in what respect, through what processes, under what conditions and

why institutions make a difference" (March and Olsen, 2006: 7–8). This work addresses the problem of food security policy outcomes by assessing these conditions.

Because of the critical gap in understanding political institutions in Africa, this work includes informal institutions. Following Lauth (2000) and Helmke and Levitsky (2004), this work does not focus on the informal rules, but recognises the key importance of interactions between institutions, and "the symbiotic nature of the relationship between formal and informal institutions, which are engaged in an ongoing conversation that runs in both directions" (Cheeseman, 2017: 22).

1.3 Limitations of the study

This study did not seek to assess individual government preferences, given the specific pattern of interest groups and current development paradigms. Some paradigmatic changes have occurred in waves over the past 50 years, having been undertaken in different countries as a result of similar development paradigms and common drivers, as well as in response to the evolution of the concept of food security itself (Maxwell and Slater, 2003). Food insecurity and hunger have been seen through different lenses (from the "marriage of health and agriculture" [Shaw, 2007] to liberalisation), in different foci (rural community development, aggregate food supply, public finance, rights and entitlements) and prescriptions (such as agricultural modernisation, accelerated rural development, structural adjustment, safety nets, the Scaling Up Nutrition [SUN] initiative, agricultural transformation, the Comprehensive Africa Agriculture Development Programme [CAADP]). Because these paradigms lack the level of abstraction needed in a cross-country analysis, and because the variety of contexts invariably leads to variation in the implementation of the policy documents and their goals, these "waves" are not considered in this study as policy classes per se, despite being a useful set to give historical perspective.

The strategy of focusing on macro-institutions has the advantage of presenting a more objectively comparable base for the factors affecting policy choices. However, some specific elements (such as poverty incidence, potentially influencing choices regarding the level of state involvement), exposure to climatic shocks, and the performance of past policies in addressing food insecurity were also not included.

The outcome in this work is a model of food security policy classes. The work does not analyse the performance of these interventions and does not compare "bad" and "good" policies. In

other words, no conclusion on whether one particular class of policy performs better in addressing food insecurity is provided. Neither does this study examine the combination of factors leading to economic development.

A final limitation of this study relates to the methodology, particularly the problem of limited diversity. A full discussion of these limitations is provided in Chapter 3.

1.4 Outline and structure of the thesis

This thesis is organised into 12 chapters. Chapter 2 reviews literature that defines food security policies, identifies factors that affect food security policies, and discusses the available policy types. Chapter 3 presents the methodological approach and introduces a policy taxonomy specifically conceived for food security policies in Africa. Chapter 4 operationalises the conditions for the set-theoretic analysis, drawing from the factors identified in Chapter 2. By linking these indicators to the taxonomic principles introduced in Chapter 3, testable suppositions are also formulated in this chapter. Chapter 5 presents the policy analysis of eight cases: Benin, Burkina Faso, Ethiopia, Kenya, Ghana, Madagascar, Malawi and Mozambique. In Chapters 6 to 9, the most relevant food security policies are assessed according to the criteria of the taxonomy, and classified. The set-theoretic analysis, with both crisp and fuzzy sets, is undertaken in Chapter 10, resulting in a classification of food security policies in Africa. Chapter 11 submits a tool for predicting food security policies in Africa. Chapter 12 draws conclusions and highlights the major contributions of this thesis.

Chapter 2. The drivers of food security policies

This chapter is undertaken in three key steps. First, it defines the units of analysis, i.e., the policies, providing a working definition of food security policy. Second, it identifies the drivers of these policies, i.e., the factors affecting them. Third, it discusses the policy typologies available in the literature, assessing them in relation to their use for food security interventions.

2.1 Food security policy: A definition

A public policy is a principled guide concerning actions for a class of issues. Governments use policies to solve social problems (housing, welfare, food crises), to counter threats (crime, illegal drugs, food price volatility), or to pursue objectives (revenue generation, food security – Johnson, 2012). Therefore, public policy is the result of choices that affect the public interest. In any society, public interests are mixed and non-univocal, so it is rationally difficult to define sectoral policies: "there is no such thing as agricultural policy, health policy or any other policy defined by subject matter alone. … The 'type of policy' is what the state is doing to, for, or against agriculture, environment, etc." (Lowi, 2010: 99). This is particularly true for food security, itself a multidisciplinary concept, because "what the state is doing" for the food security of its citizens implies decisions, negotiations and feedback in different arenas (Misselhorn et al., 2012; Qureshi et al., 2015; Von Braun and Birner, 2016). The conceptualisation of food security policies has in fact been proven difficult. Candel and Daugbjerg (2019) assessed various attempts at conceptualisation (Timmer et al., 1983; Barling et al., 2002; Maxwell and Slater, 2003; Lang et al., 2009; Feindt and Flynn, 2009; McRae, 2011; Peters and Pierre, 2014; Hawkes et al., 2015; Banik, 2016; Rahn et al., 2017; Candel and Pereira, 2017; iPES Food, 2017) and concluded that there was no single authoritative conceptualisation of what constitutes a food security policy. Nevertheless, these authors organised various attempts of conceptualisation of food security policy into three clusters, corresponding to different analytical levels, i.e., as policy outputs, institutional orders and discourse constructs (Candel and Daugbjerg, 2019). Following the emergence of actual food security policies in many governance systems, a definition of food security policy based on policy outputs is justified in the context of this work as it allows for systematic assessments and comparisons.

Despite their limitations, and based on their intended outcomes, a food security policy is defined for the purposes of this thesis as:

A public action, without a definite time frame, that aims to improve and stabilise food availability, access and utilisation for a significant part of the population through measures affecting the economic behaviour of food producers, traders and consumers.

This definition is limited as it excludes interventions with other goals (such as health, access to water, sanitation, education, trade, etc.) that nonetheless have an impact on food security. The definition remains broad enough to include a diversity of targets, tools and practices that make the thematisation of policy change complex. However, the definition is inclusive enough to include most interventions labelled as "food security".

2.2 Drivers of food security policymaking

There could be many factors driving food security policy processes. Some drivers relate to social, political and economic contexts (such as policy priorities in political and development terms, openness to international influences, the resources likely to be available or the legitimacy and governance associated with the specific policy processes) or the country's legal framework (such as specific laws directly related to food safety, or rules that define the institutional processes). Other factors are more exogenous – such as specific events or food crises that dictate the response timing based on urgency – or external influences, such as the role of donors, international agreements and treaties or pressures originated by the media.

Additional drivers such as vulnerability to drought, exposure to cyclones, trade and political agreements can have an even more important impact on policy choices. But their relevance would vary from country to country, making expectations more difficult to formalise and generalise.

In this study, the drivers of food security policy can be grouped into three categories:

i) Constitutional political institutions,
ii) Institutional environment, and
iii) The structure of the economy.

The subsections below discuss these three categories.

2.2.1 Constitutional political institutions

The configuration and performance of formal institutions have been labelled by Resnick et al. (2015: 16) as the "institutional architecture". Scholars have taken various approaches to the

study of political institutions (see Rhodes et al., 2006 for a full excursus). Buchanan (1967 and 1987) showed how rules influence policy design, adoption and implementation, and public action. Tsebelis (1995) presented another important approach, focusing on the power structures in institutional architecture, and emphasising the configuration of veto players as a key driver of policy change.

As emphasised by endless examples of African elites contravening constitutional rules, official regulations are certainly not ironclad guarantors of how power is asserted (Chaturvedi, 2005; Calingaert, 2006; Aalen and Tronvoll, 2008; Banlieu and Hyde, 2009; Collier and Vicente, 2012). However, evidence shows that institutions still matter for decision-making, even when they are not fully respected (Klaas, 2018). When constitutional rules are institutionalised, "new actors are created, and power is distributed in new ways" (Lindberg, 2008: 7). For example, even where rigged, "only amateurs steal elections by brazenly breaking the law" (Klaas, 2018: 238).

Constitutions create government obligations and structure power by setting rules about who governs and how decisions must be made. Buchanan (1967 and 1987) identified the most relevant rules as electoral rules (for example, about who can vote or whether proportional representation is used), and decision-making rules. The 1989 fall of the Berlin Wall brought most of Africa into a new process of constitution-building referred to as "the seventh wave of constitution-building" (Elster, 1995: 369). Throughout the region, single-party regimes were pressed to allow opposition parties, resulting in 70 presidential elections involving more than one candidate between 1998 and 2000.

Persson and Tabellini (2003 and 2006), Milesi-Ferretti et al. (2002) and Olper and Raimondi (2012 – specifically for food security policies) focused their research on economic outputs, such as productivity and fiscal policy, as well as trade protection, welfare and policy efficiency. Their results should be interpreted with caution because of the endogeneity between political outcomes and formal political institutions (themselves political outcomes – Acemoglu, 2005; Ticchi and Vindigni, 2010).

2.2.1.1 Electoral rules

"At the most basic level, electoral systems translate the vote cast in [an election] into seats won by parties and candidates" (IDEA, 2002: 19). Proportional and majoritarian systems give grounds for a few general expectations. First, the more fragmented and dispersed a political

system is, the less decisive the executive is likely to be (IDB, 2006). A government's ability to enact legislation depends on whether it can assemble a working majority, which in turn is linked to electoral rules (Reynolds et al., 2005; Lizzeri and Persico, 2001). Majoritarian rules create less fragmented and more decisive executives (Rocha Menocal, 2011) because only one candidate from one party can win in a majoritarian constituency. Therefore, in majoritarian elections, candidates tend to present programmes that are as broad as possible to secure consensus across different groups. This provides inducements for the aggregation of different interests into fewer parties. However, the evidence is not always consistent with this argument. Comparisons of the independent effects of proportional systems on several governance dimensions do not always permit a definite conclusion (Lijphart, 1999), or are based on several assumptions that do not always bear out in practice (Cox, 1997). Besides, proportional systems in Africa have not generated fragmentation, but instead have created parties that can corral a majority at the expense of minor ones (Van de Walle, 2003).

Second, electoral rules influence the composition of government spending (Lizzeri and Persico, 2001; Milesi-Ferretti et al., 2002; Persson and Tabellini, 2003). Proportional elections stimulate government interventions that benefit large groups in the population (such as welfare programmes), while majoritarian elections generally give politicians more incentive to implement programmes for geographically smaller constituency groups (Persson and Tabellini, 2003 and 2006). This is because, in proportional elections, policies are more likely to reflect party preferences, which usually have a national perspective and favour broad forms of redistribution. On the other hand, in majoritarian systems, candidates are more responsive to the preferences of pivotal groups of voters in their districts, at the expense of a broader distribution of benefits. In proportional systems, geographical targeting makes less sense, because every vote counts, so nation-wide interest is supposedly pursued. Additionally, proportional systems cause less protection in trade policy than majoritarian systems (Grossman and Helpman, 2005), because politicians in a majoritarian system maximise the welfare of their constituent districts, as opposed to the welfare of the overall country.

Third, electoral rules influence the level of redistribution. Proportional systems spend and redistribute more than majoritarian systems (Austen-Smith, 2000; Persson et al., 2007). This effect can be explained by the so-called *common pool problem* (Kontopoulos and Perotti, 1999; Milesi-Ferretti et al., 2002). According to Duverger's Law, majoritarian systems are associated with fewer parties than proportional systems. However, if different groups have partial control over some component of government, then none of them fully internalises the costs. This

problem may be exacerbated under proportional elections, as coalition governments are more likely to occur.

Iversen and Soskice (2006) and Ticchi and Vindigni (2010) provided an alternative explanation for the effect of the kind of elections on redistributive policies. They purported that proportional systems are more often ruled by centre-left government coalitions that are more willing to tax the population and redistribute income. Olper and Raimondi (2012) presented results pointing to a robust positive effect by proportional electoral rules on agricultural protection and support; an effect that is particularly strong for import-competing sectors and staple food crops. Constitutional reforms into proportional democracies (*vis-à-vis* majoritarian) induce a switch from taxation to the subsidisation of farmers, with a significant positive effect on redistribution.

2.2.1.2 Governance systems

The traditional distinction of forms of government (beyond autocracy and democracy) focuses on the difference between presidential and parliamentary regimes (Duverger, 1955). In presidential systems, the procedure for electing the executive is direct, but it is indirect (through the legislature) in parliamentary systems. This separation of power is why presidential systems can offer different incentives in policymaking than parliamentary systems (Persson et al., 1997; Persson and Tabellini, 2000). This leads to presidential regimes being less constrained and more decisive.

The literature is consistent in predicting that different forms of government affect the level and composition of government spending in a way quite similar to the effect of electoral rules. There are lower spending and taxation in presidential regimes than in parliamentary regimes, where the control by voters helps (at least in theory) to keep the executive accountable (Perrson and Tabellini, 2000). Persson et al. (1997) stressed that the majority of voters and legislators in parliamentary regimes can pass spending programmes targeting themselves (to the detriment of minorities), explaining why both taxes and spending will be higher in parliamentary systems (Persson and Tabellini, 2000).

The separation of power and its effects on policy outcomes provides political stability. Stability allows governments to commit to and implement policies, but it could also permit presidents to lose legitimacy and pursue elite interests (Linz, 1990). In general, parliamentary systems are more flexible, as the prime minister may be removed by a parliamentary vote. Parliamentary systems also foster stronger political parties and more centralised and aligned party groups

(Rocha Menocal, 2011). The style of politics is more institutionalised and party-centred, and usually less decisive than presidential systems (Gerrings et al., 2008). On the other hand, presidential systems foster a "more personalised and free-floating style of leadership" (Gerrings et al., 2008: 5), often associated with decisiveness.

Moreover, presidential systems are associated with more geographically targeted programmes, such as local public goods, whereas parliamentary systems are associated with broader spending programmes, often on national public goods (Perrson and Tabellini., 2007). Olper and Raimondi (2012) have shown higher levels of agricultural protection in presidential regimes. However, it must be stressed that these authors found that evidence of the impacts of that form of government was weak and much less precise than for those of electoral rules.

2.2.1.3 Veto players

Veto players are those individuals or collectives who must agree for a proposed policy change to occur (Tsebelis, 1995). The veto player theory stems from the realisation that institutions configure power relations among political and economic actors. The power structure determines the scope of the interventions of particular actors by identifying who, how and when the "particular actors" must agree for the policy process to move forward. Veto player theory (Tsebelis, 2002) shows how potential blocking actors shape options.

The relevance of different veto players depends on three characteristics: their number, their congruence in policy direction, and their cohesion (Tsebelis, 1995). The number of veto players likely depends on the kind of democratic participation. In autocracies, for example, rulers control other political actors and the populace through intimidation, so few are veto players. The number also depends on the configuration of political institutions (law-making powers may be shared, as in a presidential system, or fused, as in a parliamentary system; federal and confederal regimes can also increase the number of veto players, since power is shared among different levels of government), the party system (single-party, two-party or multiparty) and other potential checks to changes from the status quo (Shugart and Haggard, 2001), such as a second legislature or a president with veto power. Tsebelis (1995) predicted that the wider the ideological distance between the veto players, the lower the probability of significant policy change would be. Moreover, the lower the government stability, the higher the probability of change, as governments that are very different from previous governments will want to move away from the status quo, although there is contradictory evidence regarding this prediction (Volkerink and De Hann, 2000; Tsebelis and Chang, 2001).

The Kaleidoscope model developed by Resnick et al. (2015) applies the veto player theory to the food security policymaking process. The model has been successfully applied to food and nutrition security policy change in Ghana, South Africa, Tanzania and Zambia (Haggblade et al., 2016; Hendriks et al., 2016; Mather and Ndyetabula, 2016; Resnick and Mather, 2016; Resnick et al., 2018). However, there are limitations to the model. First, veto players feature as a prominent determinant only at the policy adoption stage, whereas they can also be important at other stages of the policy cycle. Second, the model only considers the role of veto players in terms of their presence or absence in the cycle. However, the number and cohesion of veto players must also be considered in the policy process, when there are many veto players with divergent priorities and interests, the policy process could become fragmented but, if there is only one veto player, then that player gets its policy choice.

Another way to look at veto players and their power is to assess how they constrain executive decision-making. Following the logic introduced earlier, it is expected that the level of decisiveness and integration increases as executive power is less constrained (Birchfield and Crepaz, 1998; Obinger, 2002; Jochem, 2003, Mansfield et al., 2007; Pamp, 2007). A second and consequent prediction was made in regard to the maintenance of the status quo when executive decision-making is strongly constrained: When there are fewer veto players, policy change is simpler, as veto players make policies more stable, facilitating gradual and incremental changes (Tsebelis, 1995). In general, the more constrained the executive decision-making power, the more likely it is that policies will be biased towards preserving the status quo (Heller and McCubbins, 2001). The presence of veto players is associated not only with the status quo but also with bargaining in politics (Linz, 1994; McCubbins, 2001). Because different veto players can block the policy process, politicians tend to reward key interests in separate interventions. The policy process becomes subject to bargaining and policies are more likely to be implemented separately to target specific interests.

Finally, predictions from the veto player theory regarding the level of policy spending and state interventions seem contradictory. Some evidence shows that increases in executive constraints reduce the possible welfare effort (Huber et al., 1993). Legislative veto seems a practical constraint to government spending (Posner and Park, 2007). On the other hand, the scope of interventions and the level of spending are likely to increase with the number of veto players because politicians have to take into account a wider range of interests and preferences. Henisz and Zelner (2001) found that having more veto gates led to over-investment in “white elephant”

projects, and concluded that policymakers are better able to withstand interest group pressure when there are few veto gates.

2.2.2 Institutional environment

A prominent theme in comparative studies on public policy has been the importance of national styles, cultures and ideologies (King, 1973; Heclo, 1974; Anderson, 1978; Ashford, 1978; Aberbach et al., 1981). Political institutions are rules with a variety of functions, like creating and enforcing laws, mediating conflict, and providing representation for the citizens. Some rules do so explicitly (i.e., formally) by dictating how policies are supposed to be made, whom to consult, who must agree and the scope they are allowed to have. Other political institutions have informal, rather socially shared rules, usually unwritten, that are created, communicated, enforced and sanctioned outside official channels (Hall and Jones, 1999; Aron, 2000; Ingelhart and Baker, 2000; Acemoglu et al., 2001; Guiso et al., 2003; Tabellini, 2005; Alesina and Giuliano, 2013). As highlighted in the introductory chapter, this work includes the institutional environment as a determinant of policy outcomes, implicitly avoiding treating informal institutions as exogenous. This choice is justified by the fact that much of the developmental path of societies is conditioned by their past, and institutions (both formal and informal) are historically specific and established by historical interactions. The process of policy change, design and implementation is path-dependent, implying a role for history in explaining both the past and the present (Puffert, 1999). The crucial assumption made to identify the rules of the institutional environment that affect the policy process (because others affect other spheres of social behaviour) was that these determinants are themselves the result of interactions between formal and informal rules. When formal and informal institutions interact, a typology can be constructed based on two dimensions: the degree of comparability between actors' goals and expectations about outcomes (whether informal and formal institutions converge or diverge), and the effectiveness of the institution (Helmke and Levitsky, 2004).

How can this explanatory power be assessed? What are the deep determinants pertaining to the institutional environment that can explain food security policies? Drawing from the literature on political development (Pye, 1965), the role of the institutional environment (or more specifically of the combined effect of formal and informal rules) is assessed, on the one hand, by the balance between the authority to assert power and the rules constraining this power and,

on the other hand, by the degree of trust and reciprocity in a society, seen as standard moral conduct (Fig. 2.1). This can be schematised as follows:

- The institutional bundle of statehood, and in particular the capacity and legitimacy of the state, is related to the way its power is asserted in a society.
- Political accountability is related to the demand of citizens for governments to respond to their actions, and therefore (with the rule of law) to the degree of control imposed on state power.
- Trust is an important component in all collective action settings (Olsen, 1965; Fukuyama, 1995; March and Olsen, 2010). Among the studies of the impact of informal rules in the institutional environment, Putman (1993) emphasised the importance of social capital, together with "active citizenship" and the political relationship: he explained north-south differences in Italy with the "active, public-spirited citizenry" of the north, marked by "egalitarian political relations" and by "a social fabric of trust and cooperation". The inclusion of trust as a determinant of policymaking follows these considerations.

These four factors – state capacity, legitimacy, accountability and trust – are bundles of institutions and play as deep determinants (Knowles and Weatherston, 2006) in the food security policymaking process and can also be seen in relation to the impact of neo-patrimonialism.

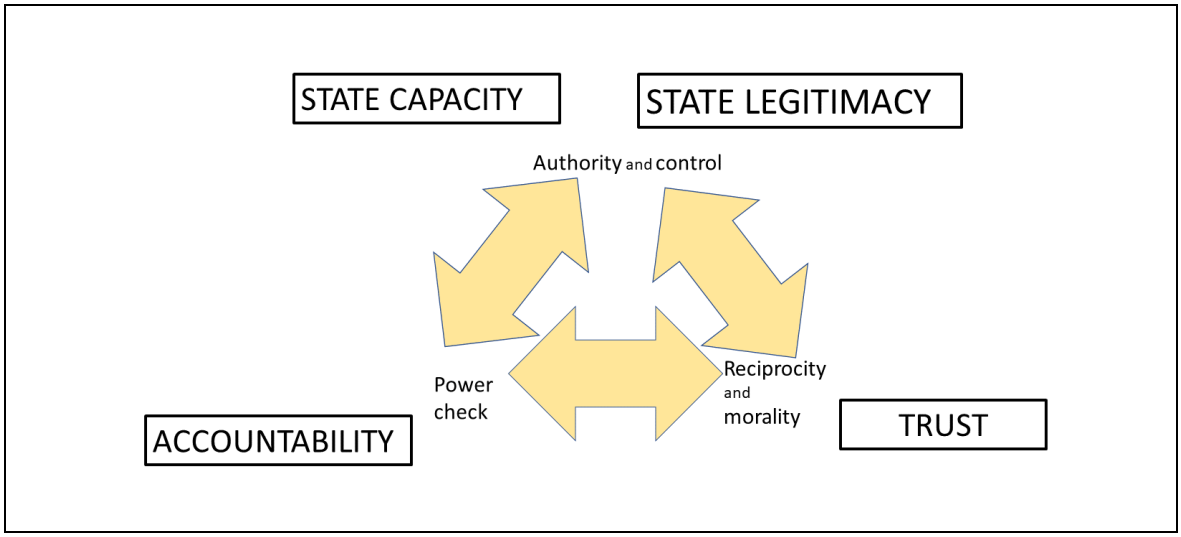


Fig. 2.1 Elements of the institutional environment

2.2.2.1 Statehood: Legitimacy and capacity

Categorizing statehood as part of the institutional environment is justified, not only by the important role of state institutions in policymaking, but also by the presence of both informal and formal institutions in the bundle that we call state (Hersbt, 2000; Fukuyama, 2004 and 2005). In Weber's (1921) view, the elements of the state – its (sovereign) territory, its use of force, and its legitimacy – encompass a bundle of formal and informal institutions. Informal institutions are provided by the unwritten norms and beliefs regarding the *gemeinschaft* and the state legitimacy. *Gemeinschaft* is commonly translated as "community", but the concept is rather rooted in a "subjective feeling" that may be "affectual or traditional" (Weber, 1921).

The state can be generalised as a mean of ruling that guides collective action. It varies in important aspects, suggesting important differences in the way the role of the state is seen is a society, its saliency and areas of sovereignty: this is usually referred to as statehood (Nettl, 1968; Hall, J., 1993; Evans, 1997). With the emergence of post-colonial African states, the analysis of statehood, initially concerned merely with state "capabilities", has been extended to encompass the recognition of differences in kind between states (Clapham, 1998). Statehood is understood in this work as the result of political processes that require legitimacy and capacity as distinct but inter-dependent elements. This dynamic can also be negative if lack of capacity undermines legitimacy and vice versa, contributing to limited statehood. Legitimacy is a shared perception about the right and acceptance of an authority, making certain social arrangements perceived as just. True, rational-legal legitimacy (like the power to govern) may derive from a system of institutional procedure (for example, elections), but only as long as these mechanisms are recognised: state power is always biased by the structural and strategic selectivity of its citizens who make state institutions. In this regard, the state has been described as a social relation (Poulantzas, 1978). State capacity is usually understood as a function of the capacity to extract resources from the economy (fiscal capacity), the capacity to guide national socio-economic development (steering capacity) and the capacity to dominate by the use or threat of force (coercive capacity). In a nutshell, state capacity allows policies to be implemented.

The conception of a consolidated state is idealistic and misleading, as most countries have states with limited institutional capacity and legitimacy, "areas of limited statehood" (Krasner and Risse, 2014). Historical legacies are important factors. In Africa, many states were actually created by the colonial powers, disregarding former geographical and social arrangements (Pierre and Peters, 2000; Gordon, 2007). Where political systems existed before the beginning

of colonialism, they were seldom re-established after independence, but rather by "black men in white masks" (Fanon, 1952) elites, often perceived as alien (Davidson, 1992: 33). "As a result, the colonial state was always a foreign creation, superimposed on and separate from the local society and its customs, and regarded as deeply illegitimate" (Van de Walle, 2009: 9). This perception could be reinforced by the fact that many countries are ethnically heterogeneous, with a communal but sectarian identity, removing the state as a key source of legitimation for political elites and enabling the political instrumentalisation of ethnicity (Sandbrook, 1985; Englebert, 2000; Young and Turner, 1985). In addition, rather than having a pyramidal structure, most African societies have traditionally constituted a more web-like structure, in which social control is fragmented (Migdal, 1988).

Most decisions, however, are not self-executing, and the power of the state is only as strong as its ability to translate ideas into actions. The concentration of power would allow its deployment to defend citizens against enemies, implement policies and provide other essential public goods: state capacity extends far beyond the use of violence, and mobilising resources is not a mere technical exercise, as involves overcoming domestic opposition.

Whether, and how well, the state provides order, the rule of law, bureaucratic and administrative organisation, and depersonalised authority (eventually able to constrain power) is important with respect of the policy process, because all these state functions shape society by altering its rules, outcomes and priorities (Torres and Anderson, 2004). "[M]ost individuals prefer to relate to the powerful in moral rather than in self-interested terms. Citizens strive to engage the state as moral agents, and a state that reciprocates will see its standing enhanced" (Gilley, 2009: 159). The more a state is regarded as illegitimate, the higher the cost of policies in implementation capacity and enforcement, as a lack of the socially held belief that state authority is legitimate and has the capacity to enforce rules leads to non-compliance. In low legitimacy and low capacity settings, it is more likely for political elites to resort to neo-patrimonial policies to balance rivalling powers and interests (i.e., Emmel, 2009 – comparing legitimacy and policy processes in Zambia and Botswana).

Predictions about the directions of food security policies affected by state capacity and legitimacy are debated. First, because indicators of state capacity and legitimacy are themselves results of policy outcomes. Second, they do not reveal the type of public intervention needed (for example, is poor safety regulation the result of a lack of technical skills, or of inadequate incentives?). Third, much heterogeneity within countries (among levels of government or

between ministries and agencies) is hidden. There is also the argument (Biswanger et al., 1997) that poor state capacity and legitimacy lead to a preference not to regulate economic activity, as the ability to steer individual behaviour could also be limited (hindered by not being able to monitor and enforce this regulation). However, there is no empirical literature on this hypothesis. Poor capacity and legitimacy can in fact also lead to poor regulations (that cannot be enforced), or the use of regulation to serve narrow interests: for example, according to the World Bank's *Doing Business Report* (2008), if one paid all the taxes in the Democratic Republic of Congo (a full 32 different payments), one would be dishing out 230% of profits. But these rules were never meant to be applied: the state simply created regulations in order to provide public officials with the means of targeted extortion.

Regarding the effect of state capacity and legitimacy on interventions in economic life, findings are not conclusive: on the one hand, Kholi (2004) and Krasner (2006), comparing cohesive capitalistic and neo-patrimonial countries found that, in the former, the state still intervened heavily in the economy, even with subsidies, simultaneously promoting exports but not abandoning regulation. On the other hand, Biswanger et al. (1997) pointed out that capacity was more evident in enforcing contracts and providing basic infrastructure and services for transactions, without necessarily intervening in markets.

Yet, state capacity and legitimacy undoubtedly influence the policy process at each stage: setting the agenda is informed by diagnostics and the perception of a given problem as of public interest, requiring attention by the state; policy design and adoption cannot take place without expectations about performances and information about target practices and population; and no policy is implemented and evaluated without state bureaucracy. Capacity, in particular, appears to be crucial for good policy planning and coordination (UNDESA, 2017). In addition, evidence shows that countries with poor state capacity and legitimacy tend to invest relatively little in public goods and do not adopt policies that redistribute resources to the poor (Etzioni-Halevy, 1983; Rothstein and Uslaner, 2005) with a broader geographic coverage (Acemoglu et al., 2011).

2.2.2.2 Accountability

The central problem of accountability arises from the delegation of authority to policymakers. Bentham's principle – 'the more strictly we are watched, the better we behave' – illustrates the idea behind this function. Accountability is a bundle of formal and informal institutions because it represents a set of social relations (Bovens, 2006). In particular, "the obligation to explain

and justify conduct" (Butler, 2005: 12) can be formal or informal. Public officials could be under a formal obligation to render account, but the obligation can also be informal (Velayuthen and Perera, 2004) and accountability rules can also go unclaimed. Based on data from AfroBarometer, Bratton and Logan (2006) suggest that the problem of accountability in Africa lies mostly in its lack of demand, for Africans do not appear to fully grasp their political rights as "citizens". The problem for many new democracies in Africa is not so much that citizens knowingly delegate authority to strong presidents, but that democracy remains unclaimed by mere "voters" (Bratton and Logan, 2006: 4). North (1990) and Helmke and Levitsky (2004) made a similar point in broader terms.

Accountability is not a binary concept, with varying mixes and emphasis (Schedler, 1999). Furthermore, political accountability, in its wide sense, is concerned with the decisions and actions of all public officials, including not only politicians but also bureaucrats and civil servants, as well as the judiciary, police and military (Schedler, 1999). Given these difficulties, this analysis focuses on the arrangements between programmatic and clientelistic accountability. In order to maintain power, politicians and decision-makers must be responsive to their sources of power, in a stylised principal-agent model (Schedler, 1999). For example, referring to Asian countries during the years of the Green Revolution, Khan (2000) argued that, where political leaderships perceive that they have to "deliver" to survive, they bring pressure on those responsible for implementation to ensure that corruption, while still present, does not totally undermine performance.

The particular case of electoral accountability exists, by definition, in every electoral regime, as long as there are opportunities to cast a ballot and a real choice for voters. However, the reality of democratic politics has never fully attained a responsible partisan model in the best of circumstances: opportunities to cast a ballot are infrequent, and elections force voters to compress many preferences – of political identity, competing policies, retrospective evaluations and future expectations of performance – into a single choice. On the other side of the spectrum, accountability for policymaking does not result primarily from politicians' success in delivering collective goods or improving overall distributive outcomes along the lines favoured by broad categories of citizens (Kitschelt and Wilkinson, 2007). Instead, clientelistic accountability represents a transaction, the direct exchange of a citizen's support in return for a certain type of policy decision, like continuing access to employment, goods, and services. Elections, in this case, provide elites and their supporters with an opportunity to compete for special access to a

limited set of state resources that they can then distribute to their clients (Van de Walle, 2001a; Lust-Okar, 2009).

Studies on clientelism have been wide-ranging, with a particular focus on understanding the targets (Stokes, 2005; Stokes and Dunning, 2008; Nichter and Peress, 2017), the rationale of arrangements and compliance (Auyero, 2000; Brusco et al., 2004; Stokes, 2005; Lawson and Greene, 2011), and the implications of clientelism for democracy (Piattoni, 2001; Stokes, 2007). Researchers also distinguish between "old" and "new" accountability arrangements (Eisenstadt and Roniger 1984: 48–9; Piattoni 2001; Hopkins, 2006). Many arguments have been advanced as to why, particularly in Africa, appeals to ethnic identity is seen as a more efficient way of mobilising support than policy-based appeals (Young and Turner, 1985; Berhanu and Poulton, 2014; Poulton and Kanyianga, 2014). A related argument is the credibility of national politicians vis-à-vis local voters (Keefer and Vlaicu, 2008). It is common for representatives of particular ethnic groups or regions to be included in campaigns and governments for "bringing in" local support. Poulton (2014) observed the implications for agricultural policies: patrons can i) procure transfers or club goods, ii) champion investments in public goods, and iii) disburse patronage to individuals of their group or region. A key element found by Bates (1981) was that, while urban-oriented governments pursued policies that taxed agriculture, they were able to buy off the rural elite through targeted subsidies and credit programmes, a conclusion that still held for Boone (2003), Kasara (2007), Bates and Block (2009) and Banful (2010).

Concerning food security outcomes, clientelistic accountability leads, in the first place, to strong disincentives to promise (and provide) public goods to "clients". For a sufficiently small number of "clients" and sufficiently expensive public goods, politicians may find that using public resources as targeted transfers to clients offers greater welfare to clients than using these resources to provide public goods (Kirschlt and Wilkinson, 2007). But even if public goods could potentially improve constituent welfare more than narrow transfers, patrons would still avoid them if they cannot convince clients that the public or untargeted goods, which apparently benefit constituents only by chance, are in fact the result of efforts by patrons on their behalf (for example, see Mayhew, 1974). Political competitors would rely more for their credibility on a history of personal interaction with voters. Keefer and Vlacu (2008) predicted that governments would provide fewer publicly or broadly available goods and more targeted goods, and extract greater rents. These conclusions are consistent with the model proposed by Kirschlt and Wilkinson (2007). Strong, programmatic accountability is therefore associated with the

provision of public goods that include security, macroeconomic growth, rural infrastructure, a clean environment, but also rights, like the right to food. Because everyone benefits from these goods, accountable politicians compete, not by offering different packages of such goods, but by trying to trump each other in terms of making credible their competence and capacity to deliver. Private or club goods are more likely to be provided in countries characterised by clientelistic accountability: clientelistic policies concentrate a high proportion of benefits on a critical mass of voters whose support is needed, expected and monitored.

Second, accountability also affects the rules of the policies. For example, since transfers are a feature of many political systems, rules about how and to whom transfers should be made usually go together. In programmatic accountability, these rules are more impartial and based on the needs of the public at large. In clientelistic transfer policies, only particular groups benefit: those connected to the politicians through patronage networks (Phiri and Edriss, 2013). Programmatic politics would frame the disbursement of resources in terms of general rules with highly specific stipulations for their implementation, by which both administrators and recipients have to abide, regardless of their personal party preferences. Clientelistic politicians, by contrast, in addition to their preference for club goods over public goods, prefer rules and regulations that leave maximum political discretion to the implementation phase, i.e., they have as few precise rules of disbursement and entitlement as possible. Incentives for politicians to design impersonal and strict rules, and for civil servants to implement them, are weak, and the allocation of resources and the enforcement of regulations are rather determined by the relationships of accommodation and the relative bargaining power of the people involved.

Third, while accountability is generally regarded as desirable in public policy, it does not necessarily lead to better governance outcomes (Gerring et al., 2009). In fact, accountability arrangements may make government interventions more isolated (Bardach, 1998). For example, if auditors cannot track resources and parliament cannot assign responsibility for actions and, if voters' demands are unrealistic or short-sighted, it might be useful for governments to find ways to mask responsibilities from popular vote. In particular, there are instances in which strict accountability can make policy coordination more difficult (Peters, 2018).

2.2.2.3 Trust

Trust matters for the things that bond us to others, like tolerance of minorities and promoting policies that redistribute resources from the rich to the poor (Fukuyama, 1995). When others

share our basic premises, we face fewer risks when we seek agreement on collective action problems (Silver, 1989; Seligman, 1997). The importance of social trust has become widely accepted in the social sciences: the literature suggests that a belief that people are in general trustworthy is a facilitating factor in collective action and, as measured in surveys, trust correlates with several other variables that are normatively highly desirable (Fukuyama, 1995). How trust influences the policy process has been less studied than its effects on economic life, but some general impacts can be drawn from the literature.

First, the importance of trust in policy outcomes is supported by claims that high levels of generalised trust are conducive for reforms (Fukuyama, 1995). Trust is linked to the degree to which decision-makers tend to focus on the public good rather than on their private benefits (Knack, 2001).

High trust is paired with enhanced coordination and cooperation between societal groups, thus reducing free-rider problems, rent-seeking by special interest groups, and opportunistic behaviour in general (Bergh and Bjørnskov, 2011; Leibrecht and Scharler, 2013). This implies that, in a high trust environment, social welfare-enhancing policy reforms and safety nets (which in many countries consist predominantly of subsidies on food, agricultural inputs and fuel) have a higher probability of finding a supportive majority, even if certain groups suffer from losses in the short-run (Leibrecht and Pitlik, 2014). Furthermore, since trust is a measure of how people view morality and reciprocity in their society, countries with low social trust will be unlikely to establish universal social programmes (Rothstein, 2010). A similar argument is provided by Easterly and Levine (1997, consistent with Alesina et al., 1999), who argue that ethnic/regional/group divisions (supposedly associated with lower trust) lead to more polarised preferences for public goods, impeding agreement over their provision, and increased incentives for the group in power to create rents. Robinson (2016) refined these findings, using AfroBarometer data: if ethnically diverse states have, on average, lower levels of inter-ethnic trust, when evaluating this same relationship within countries, she found that ethnic group integration is associated with greater trust. A country's diversity is detrimental to trust only when groups are segregated in ethnically homogeneous regions.

The effect of trust on the policies of welfare programmes has been debated because a key question in such policies concerns the conditions under which non-beneficiary groups would be supportive. Low-income groups in societies with low trust will opt for universal social programmes that embrace all citizens, with little debate about the "needy" or "undeserving",

and without risking singling out certain groups of the population who might need more or less (Castiglione et al., 2008). If everyone is entitled to have the same share, there is hardly any possibility of welfare fraud.

The effect of generalised trust is to favour agreement by different interest groups about broader scope policies and to facilitate the regulation of economic behaviour, thereby making compliance less costly to monitor and enforce. Societies where individuals mistrust others have a stronger preference for "more government intervention even though the government is corrupt" (Aghion et al., 2010: 1035), but high trust leads to support for less strict government regulations. This seemingly paradoxical finding is somewhat logical if one thinks about the interrelation of a country's formal and informal institutions. If formal institutions are weak and inefficient, i.e., if the rules in society are poorly defined and offer scope for corruption, then informal institutions will adjust accordingly. This phenomenon has been described as a "social trap", whereby trust does not increase because massive social inequality prevails, but the public policies that could remedy this situation cannot be established, precisely because there is a genuine lack of trust (Rothstein and Uslaner, 2005). Lower trust environments, therefore, produce more interventionist policies that rely less on individual and collective compliance.

2.2.3 Structure of the Economy

2.2.3.1 Importance of agriculture

The structure of a country's economy determines the type of policies (Ndulu et al., 2007). The more important agriculture is in a country's economy, the more likely it is that there will be food security policies based on domestic food production and that the sector will be protected in a variety of ways, such as price and trade policies, marketing policies and input subsidies. The provision of public goods, such as rural infrastructure, land reforms, financial sector reforms, property rights and legal frameworks, is also more likely when agriculture is important.

Expecting a policy orientation towards domestic producers when the agricultural sector is more important would be justified:

- because of the economic power of agriculture, or how this can be translated into political influence and impact;
- because agriculture is the basic source of the food supply of all countries and is therefore a strategic sector to develop; and

- because there are many rural voters: orienting food security policies towards favouring farmers may result from politicians being responsive to the preferences of a large part of the population.

To simplify the operationalisation of these ideas, this work focuses on two factors. First, the share of the rural population that would allow suppositions to be formalised regarding the preferences of farmers and the need to reduce rural-urban inequalities. Regarding the number of rural voters in democratic contexts, the majority's preference would be implemented by government. When agriculture provides employment opportunities for rural people on a large scale and is an important source of livelihood for many, it seems rational to assume that governments would take account of their political demands.

Second, although the economic power of agriculture is often measured as the share of agriculture in the GDP, a measure of the food dependency on imports better characterises the structure of the agricultural sector. This would allow the formulation of suppositions regarding the first two points, i.e., the economic power of agriculture and its strategic interest. Agricultural support in large trading countries would be justified not only by the power of the interest groups involved but also because improving the capacity to import capital goods and machinery and increasing the agricultural surplus tends to improve social welfare, particularly in rural areas. Where food imports are large, supported domestic production would likely be strategic priority, both to make consumers less vulnerable to the volatility of international prices, and as a means to save foreign currency (Byerlee, 1987; Clapp, 2009).

Although many of the policies required to improve farmers' opportunities are non-agricultural (Von Braun, 2009; Poulton, 2014), the argument for favouring domestic food production when there is a large agricultural sector remains valid, particularly during a crisis or another event that places food security on the policy agenda (Hirschman, 1981; Grindle and Thomas, 1989). A food crisis (or a perceived one), forces policymakers to address an issue by choosing instruments with short-term returns (Pinstrup-Andersen, 2014 – on the responses to the 2007–08 food price crisis). In fact, most market interventions, such as price support, stabilisation, and input subsidies, were proposed to address short-term objectives with respect to food security (Diao et al., 2006).

In addition to these predictions concerning agricultural support, the importance and performance of agriculture could also affect the way governments see food insecurity. For example, where commercial agriculture is predominant, food insecurity is less likely to be

framed as a problem of low agricultural productivity, and rather seen through the filters of food access, poverty and nutrition (McCarthy and Obidzinski, 2017). Agricultural policies in such contexts are hence unlikely to be the main vehicle to deliver food security.

2.2.3.2 Fiscal space and its sources

It takes resources to implement a chosen course of action, and it is reasonable to suppose that their availability determines their allocation for a policy. Fiscal space is the flexibility of a government in its spending choices. It is "room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy" (Heller, 2005: 3). However, fiscal and budget policies usually try to balance short-term with long-term goals, the private and social profitability, and the weight of the public with the private sector. Expensive policies can be implemented even with limited revenues, for example, by borrowing (and the fiscal position determines the cost of this opportunity). Although the relationship between revenues and the range of opportunities for policy outcomes would not necessarily be straightforward, it seems logical to assume that availability of financial resources in the state budget increases the possibilities of more expensive policies and the likelihood of distributive goals (Kose et al., 2017; Asher et al., 2018). But it is useful to distinguish the main source of these resources. Schematically, there are three possibilities: donors, taxation and the export of minerals and other non-agricultural resources. However, the option of donors as a source of government revenues is more difficult to operationalise. The literature on conditionality is relevant here (Snodgrass and Rice, 1970; Sahn et al., 1997). There is evidence (Nelson, 1990; Ake, 1996; Ihonvbere, 1996; Chabal and Daloz, 1999; Goldsmith, 2001; Van de Walle, 2001b) of a positive effect of donors' assistance on the quality of democracy and accountability, but this conclusion is debated. Neo-patrimonial leaders, in fact, tend to use aid assistance to maintain power (Bretton and Van de Walle, 1997; Clapham, 1998). Autocrats may use donor assistance to bolster the regime (Bates, 1994; Collier, 1997; Bauer, 2000; Van de Walle, 2001b; World Bank, 2001; Alesina and Weder, 2002; Easterly, 2002; Martens, 2002; Robison, 2003; Brautigam and Knack, 2004; Ahmed, 2012; Jabloski, 2014). In addition donors are often unable or unwilling (for example, when aid is destined for an economically or geostrategically important recipient – see Stone, 2008) to monitor aid. Aid, however, is not a uniform resource flow: it may have different goals and modalities (which do not always coincide with theoretical prescriptions – Tarp, 2000). Donors also vary considerably in the way they monitor their funds, their capacities, their geostrategic

goals and methods (Gibson et al., 2014). A direct effect on policies would be impossible to assume based on this factor alone.

- **Taxes**. When taxpayers finance most of a government's budget, a political relationship is established between rulers and citizens: taxpayers are usually more watchful of government spending and demand efficient and responsive government actions in return (Ross, 2004 and 2012). In particular, where socioeconomic cleavages do not overlap with ethnic or religious ones (where social solidarity can be easier to mobilise – also see the section on trust), there may be pressure to consider broader ranges of beneficiaries (Persson, 2008; Prichard, 2015): taxpayers are usually more watchful on government expenditures and demand efficient and responsive actions (Ross, 2004 and 2012), with an impact on the use of resources by policymakers.
- **Resource extraction**. In this context, the vast literature on the *resource curse* is relevant; it refers to the paradox that countries with an abundance of natural resources tend to have less economic growth and worse development outcomes, particularly in Africa (Easterly and Lavine, 1997; Collier and Gunning, 1999; Venables, 2008; Carmignani and Chowdhury, 2010 and 2012; Ross, 2015;). While many studies evaluated the effects of resource wealth on a wide range of outcomes (Barma et al., 2012), a key mechanism behind these adverse relations is the fiscal independence of the state from taxation (Jensen and Wantchekon, 2004; Ulfender, 2007; Basedau and Lay, 2009; Ross, 2015; Wright et al., 2015; Girod et al., 2016; Wright and Frantz, 2017) by making resources available for patronage and tax revenues unnecessary. Other arguments put forward (Torvik, 2009) are the Dutch disease, making tradable goods less competitive in the world market, thereby increasing exports, and the volatility of revenues that can play havoc with government planning and state debts, as shown by the recent experiences of Angola, Gabon and the Republic of Congo.

The literature points at two effects of resource rents on food security policies: first, the level of planning and public goods delivery would be narrower, for incentives to rely on patronage politics (Easterly and Levine, 1997; Barma et al., 2012; Ross, 2015), in a context of economic vulnerability (that would make future resource flows uncertain) and low profitability of domestic production (long-term investments would be discouraged). Second, mineral-rich countries would prefer distributive interventions in order to command and disburse patronage

(Jensen and Wantchekon, 2004). When budgets mostly come from taxation, expectations on policy are the opposite.

2.3 Currently available policy classifications and their problems

Policy classes are the outcomes (corresponding to "dependent variables") of the analysis. Outcomes are predicted as policy categories, based on their association with conditions. But what distinguishes one policy from another? Available policy typologies are reviewed in this section in order to i) assess their relevance to food security, and ii) evaluate their applicability to food security policies. The typologies are assessed based on their predictive value, applicability (the extent to which policies in the real world are rigorously classifiable based on the criteria provided) and mutual exclusivity. The use of these principles is justified by the need to use policy classes not just as descriptive shortcuts but also as tools to test suppositions in comparative research.

A policy classification system orders policies, sets out their distinct features and compares the various options. Policy classes are associated with distinctive interactions, patterns of political behaviour and processes. The systematic classification of public policies is an attractive idea, even outside the scope of this work (Berrang-Ford et al., 2011). First, policy classes serve as shortcuts for analysing the underlying processes of political relationships and expectations by distinguishing different aspects, measures and perspectives of those processes from the point of view of different actors. Second, clearly articulated concepts and a shared understanding of policy classes are the foundation of comparative policy analysis. Comparisons require classification criteria that are general enough for broad application but sensitive to the context. Classification plays an essential role in creating a common basis for scholars, practitioners and policymakers to communicate with each other. It would be an important step for the research community to develop methods and tools for the systematic comparison of food security policies (Candel and Daugbjerg, 2019).

Therefore, policy classes are simplifications of reality that not only describe it but predict possible outcomes, possibly leading to the creation of new knowledge. To offer testable hypotheses from class concepts, these classes should be mutually exclusive, observable and predictive.

Policies can be described in a variety of ways. A common distinction is whether policies provide collective or private goods (Cochran and Malone, 2005). Yet we need to ask whether food

insecurity is a collective or an individual problem. Food consumption and nutrition is, of course, a matter of individual decisions and access to food. However, from a collective perspective, food security is a fundamental right and its place in the public interest is seldom contested. Although food itself is not a public good as its excludable and rivalry properties make it reasonably provided though markets, food security is a public good as everyone in a society enjoys without rivalry and exclusion (Rocha, 2007). The causal relationship between food security and political stability is complex and difficult to generalise (food insecurity can be caused by political instability, and political instability can be caused by food insecurity – Berasneva and Lee, 2013) but food insecurity, in general, unleashes bouts of intense ideational contestation in which different players support different views, thereby suggesting different roles for state action. From the state's point of view, therefore, food security has a special interest for a country's stability (Maxwell, 2012), while pertaining to good private properties.

In social science, the most influential works on policy classification are the typologies developed by Lowi (1964, 1972) and Wilson (1973, 1989, 1995), although other variants found in literature are Froman's (1967), Edelman's (1974), Smith's (1982), Heclo's (1972) and McCool's (1995).

Lowi (1964, 1971 and 1972) classified policies in terms of the likelihood and applicability of coercion, i.e., whether coercion is applied directly to individuals or through the environment of conduct (economic contexts), and whether the likelihood of coercion is more or less remote. Lowi's four basic types of politics**Errore. L'origine riferimento non è stata trovata.**, or "arenas of power" are (Lowi, 1972):

- When coercion is likely and applied to individuals, policies are regulatory (i.e., contain measures that specify conditions and constraints for individual or collective behaviour).
- When coercion is remote and applied to the environment of conduct, policies are constituent (permitting one person or organisation to work as an agent).
- When coercion is remote and applied to individuals, policies are distributive (i.e., contain measures concerning the distribution of new resources).
- When coercion is likely and applied to the environment, policies are redistributive (i.e., contain measures that modify the distribution of existing resources).

Various criticisms have been advanced of the applicability and predictability of these classes. The first problem is that it would be difficult to operationalise the supposition of neo-patrimonialism based on these classes because elements of patrimonial and legal-rational bureaucratic domination penetrate each other (O'Neil, 2007). Neo-patrimonialism represents a type of political domination that is characterised by insecurity about the actual coercion of state institutions (and agents). All actors strive to overcome insecurity, but they do so by operating on both the formal and the informal logic of neo-patrimonialism. This implies that, even when a *de jure* policy applies coercion, formal state institutions might have limited coercion capacity and legitimacy, thereby limiting the *de facto* application of this classification principle. This also limits the use of this typology as a predictive tool.

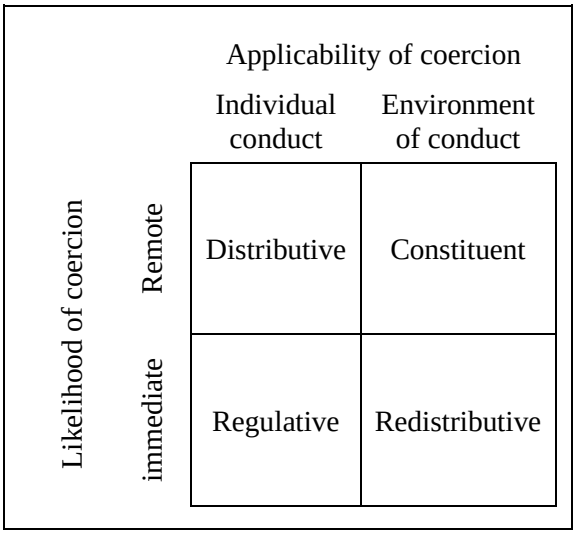


Fig. 2.2 Lowi's typology of policies

Source: Lowi, 1972

In fact, the ambiguous nature of most policy-making processes frustrates the use of Lowi's typology because a single policy may be seen as either distributive, redistributive or regulatory, depending on which features of the policy attract the observer's concern. The classification of a particular policy must consider the various participants in the policy process (Steinberger, 1980). Classes are not mutually exclusive: food security interventions in developing countries, such as school feeding, food assistance, food stocks, consumption subsidies, risk management measures, input subsidies and social protection could be classified as distributive. However, even these examples have elements of other areas of power, implying modifications to the role of government agencies and regulations about transfers and redistribution. Lowi's typology therefore deals inadequately with the multisectoral nature of food security policy.

Wilson's typology examines the costs and benefits related to a policy, specifically whether they are widely distributed or narrowly concentrated. Each of the four possible combinations (Wilson, 1973 – see Fig. 2.3) has different implications for policymaking. When both costs and benefits of a certain policy are widely distributed, a government may encounter minor or no opposition, indicating majoritarian politics as the likely outcome. When both costs and benefits of a certain policy are concentrated, a government may be confronted with opposition by rival interest groups, which signals interest-group politics, for example, lobbying activities and strategic interaction. Contrary to majoritarian politics, which is discussed through public debate, interest-group politics usually takes place behind the scenes. If costs are concentrated and benefits diffuse, a government may encounter wide opposition, and entrepreneurial politics are the probable outcome. Policy change requires the presence of "political entrepreneurs" who are willing to develop and put through political proposals despite strong societal resistance. When costs are diffuse and benefits concentrated, a government is likely to find a relevant interest group favourable to its endeavour, which makes clientelistic politics the likely outcome.

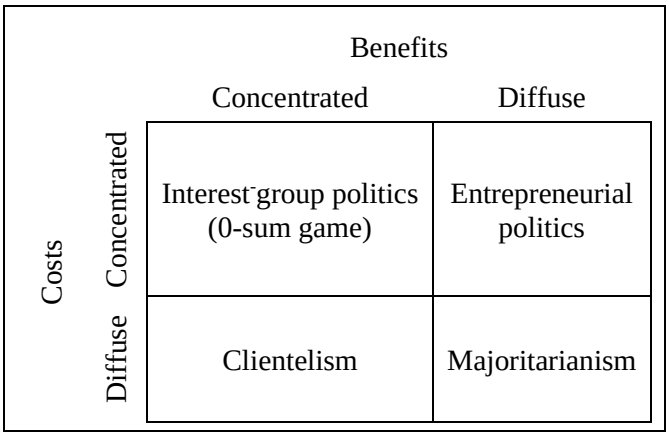


Fig. 2.3 Wilson's typology of policies

Source: Wilson, 1973

Wilson's typology has the advantage of presenting predictable classes as clear relationships between costs and benefits and policy outcomes. However, it is challenging to link policies to actual costs and benefits, as they rarely stem from rigorous calculations, thereby limiting the predictive value of the classification.

Another concern is the mutual exclusivity of the "clientelism" class. In many countries, clientelistic policies are typical. A clientelistic policy entails the direct exchange of a citizen's support in return for a particular type of policy decision (Kitschelt and Wilkinson, 2007). Clientelism results (consistently in Wilson's typology) when politicians use public resources as targeted transfers to clients to reward their support. However, clientelism may also occur when both the costs and benefits are concentrated. To maintain credibility, patrons have to advocate in favour of their constituencies and convince clients that the public or untargeted goods (which

apparently benefit constituents only by chance) actually result from efforts by patrons on their behalf (Keefer and Vlaicu, 2008). Such cases would escape classification in Wilson's typology.

Applying Lowi's and Wilson's typologies to food security policies is difficult for another reason. The typologies do not adequately consider food security policies that affect different components of food systems. An essential component in food security analysis is the study of the food systems, i.e., all the interacting social and ecological elements that affect food security. Food security policies may affect these elements in multiple ways (Martinez, 2010), which, as in the case of Lowi's typology, also undermines the mutual exclusivity of Wilson's classes.

As noted earlier, food security is affected by policies in different sectors: international trade, macroeconomics (exchange rates, in particular), environmental regulation, education, health and finance. However, as the concept of food security has been linked with agricultural production for decades (Maxwell and Slater, 2002), the classification of agricultural policies in developing countries has received much attention. Norton (2004) proposed a classification based on the producer's point of view: farmers need adequate incentives, a resource base and access to markets. Norton classifies policies as:

- price policies, including macroeconomic policies,
- resource policies, including land policies and natural resources management,
- policies affecting access to inputs, products and technology (including finance).

Norton's classification has the advantage of being easily applicable but is limited to farmer support interventions. Norton (2004) himself recognised that these classes were not rigidly divided and therefore not mutually exclusive. With the evolution of the concept of food security, Norton's classification remains limited, because it ignores other elements of the food system. While many interventions in the agricultural supply chain could be simplified as "price policies", assuming their impact on improving farming profitability, many other policies would affect access to inputs. Even some interventions targeted at producers would be challenging to classify, such as the more complex agro-industrial policies in Nigeria and Ghana (Diao et al., 2016). Moreover, other interventions, such as food fortification, often fall outside of the purview of agricultural policy, and rather fall into an intersectoral domain negotiated by heath, nutrition and trade agents in policy discussion.

An initiative from the FAO helps organise a typology of agricultural and food policies that overcomes many of the problems found in the classifications discussed above. The Food and

Agriculture Policy Decision Analysis (FAPDA), together with FAO Regional and Sub-regional Offices, collects, validates and registers policy information in a web-based tool (FAO, 2015c). The typology bases classification on this FAO-developed web tool, published at the height of the food price crisis in 2008 through the FAO Initiative on Soaring Food Prices (ISFP). A revised guide was published in 2011 (FAO, 2015c).

In this typology, policy decisions are classified into three categories, based on the elements of food policies set out in Timmer et al. (1983):

- Consumer-oriented policies, which provide direct support to consumers and vulnerable groups, such as cash transfers and other social safety nets, food assistance (for example, school feeding), price controls (for example, fixed maximum price for consumers supported by subsidies);
- Producer-oriented policies, which influence production using measures such as fixed minimum producer prices, public purchase mechanisms and the distribution of subsidised inputs;
- Trade-oriented and macroeconomic policies, which include trade policy instruments such as tariffs and export control to impact prices and domestic supply, as well as the management of the exchange rate (FAO, 2015c).

In each of these groups, there are specific sub-categories that allow for the classification of policies in more detail. There are four levels in the FAPDA Policy Classification, the first two of which are illustrated in Fig. 2.4.

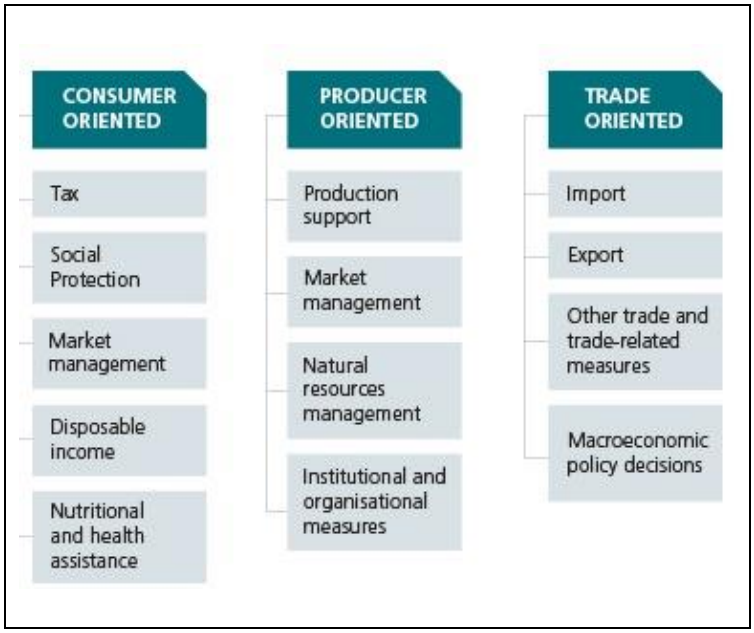


Fig. 2.4 FAPDA Classification

Source: FAO, 2015c

The FADPA provides a guide for "classification of policy decisions, which was subsequentially elaborated and used to design a policy decision monitoring system" (FAO, 2015c: 3). It classifies policy

decisions based on the elements of the food system they target and is indeed more comprehensive in the range of policy outcomes that are classifiable. Because it addresses the components of the food system, the classification principles are easily observable, and the classes can be empirically tested: for example, in relation to the share of the population in rural or urban areas and the number of policy decisions supporting producers or consumers.

However, the units of this classification are policy decisions, i.e., time-bound and limited sectorial guidelines that usually affect one element of the food system at the time. They are not consistent with the unit of this analysis, a food security policy as defined at the beginning of this chapter. The classes are not mutually exclusive – an essential element of a classification system. Because of this limitation, the FAPDA classes are useful in characterising single choices that governments make in particular instances, but not for classifying more complex frameworks (such as poverty reduction strategies, sector-wide approaches and economic growth strategies) that usually include many elements of food security, namely production, consumption and trade, as part of a comprehensive investment package. For example, Zambia's decision to temporarily ban food exports in 2016 (AllAfrica, 2016) could be classified as consumer support. But Ethiopia's more complex social protection graduation concept (MARD, 2009 – see Chapter 5 for a discussion) is more difficult to classify in terms of support to single elements in the food system.

Because policies are the "dependent variables" in the analysis undertaken in this work, it is necessary to conceptualise and assess policy classes across the cases. Candel and Daugbjerg (2019: 2) point at the paradox of the challenge that has come to be referred to as the "dependent variable problem" in comparative policy analyses (Green-Pedersen, 2004; Howlett and Cashore, 2009; Dupuis and Biesbroek, 2013). Yet, this brief review shows that no policy typology to conceptualise classes as "dependent variables" of the interventions in food security is available. This problem concerns "the challenge of conceptualising and measuring ... policy within and across cases" (Dupuis and Biesbroek, 2013: 1477).

This chapter has provided a review of the literature on factors affecting food security policies and on the available methods to organise them. It reviewed both conditions ("independent variables") and outcomes ("dependent variables"), providing an overview of factors to include in the analysis, but concluding that no policy typology available in literature could be effectively used in the framework of this work, a problem addressed in the following chapter.

Chapter 3. Methodology

3.1 Methodological approach

The conditions (as "independent variables") that concur in the presence or absence of certain policy classes are derived from indicators obtained from secondary data. A set of sub-Saharan African countries (and policies) was purposely sampled to test the suppositions.

The collection of data and the analysis encompassed both qualitative and quantitative techniques. A set-theoretic or Boolean method was deemed most appropriate to develop the model. This approach involves formalising comparisons to incorporate information from a larger sample while retaining the integrity of individual cases, bridging quantitative and qualitative methods. This methodological choice has several justifications.

First, it allows for causal combination. Many social phenomena may depend on the presence or absence of different conditions, through complex, equifinal, asymmetric and conjunctural relations. Several phenomena exhibit this complexity, including tipping points, high-order interactions, strategic interactions, two-directional causality or feedback loops (Bennet and Elman, 2006). Set-theoretic methods are suitable to address this kind of causality, making use of the concept of necessity and sufficiency.

Second, the complex interrelationships among conditions and outcomes leads to the notion of "equifinality". The concept is in sharp contrast to the perspective of many statistical techniques, such as additive and linear regressions. Different causal "paths" – each relevant in a distinct way – may lead to the same outcome (Rihoux and De Meur, 2012). This notion is widespread in social science, where different constellations of factors lead to the same results. Recognising equifinality broadens the framework in the analysis of causality by relaxing several assumptions, common to probabilistic analysis, namely:

- Additivity, the idea that each single cause has its own and independent impact on the outcome, is abandoned.
- A given causal combination may not be the only route to a specific result, because others also may be able to produce it.
- The uniformity of causal effects is not assumed; on the contrary, a given condition may, combined with others, sometimes act in favour of the outcome, and sometimes, differently combined, against it.

- Causality is not assumed to be symmetrical (Lieberson, 1985) – rather, causal asymmetry is assumed, meaning that the presence and the absence of the outcome may require different explanations, i.e., different analysis, one for the presence and one for the absence of a certain outcome.

Third, the use of a formal language (Boolean algebra) can be easily translated into a theoretical discourse (and vice versa). This has the advantage of being rigorous, allowing statements to be tested and generalised in other settings.

To operationalise the analysis, data were collected for outcomes and conditions. The schema of the methodological approach undertaken (Fig. 3.1) shows the complementary use of qualitative and quantitative techniques. It is easy to distinguish qualitative techniques on the left of the figure (dealing with political and policy analysis) from quantitative techniques on the right (dealing with the treatment of data to attribute conditions), and the analytical moment (upper part of the schema). An iterative process between cases, conditions and configurations promoted the identification of causality patterns (consistently with Ragin, 2000). In other words, continuous re-assessment of the quality of the concept of interest (i.e., how certain conditions influence policymaking) was part of the analysis itself (Coppedge, 1999; Ragin, 2000; Rihoux and Lobe, 2009).

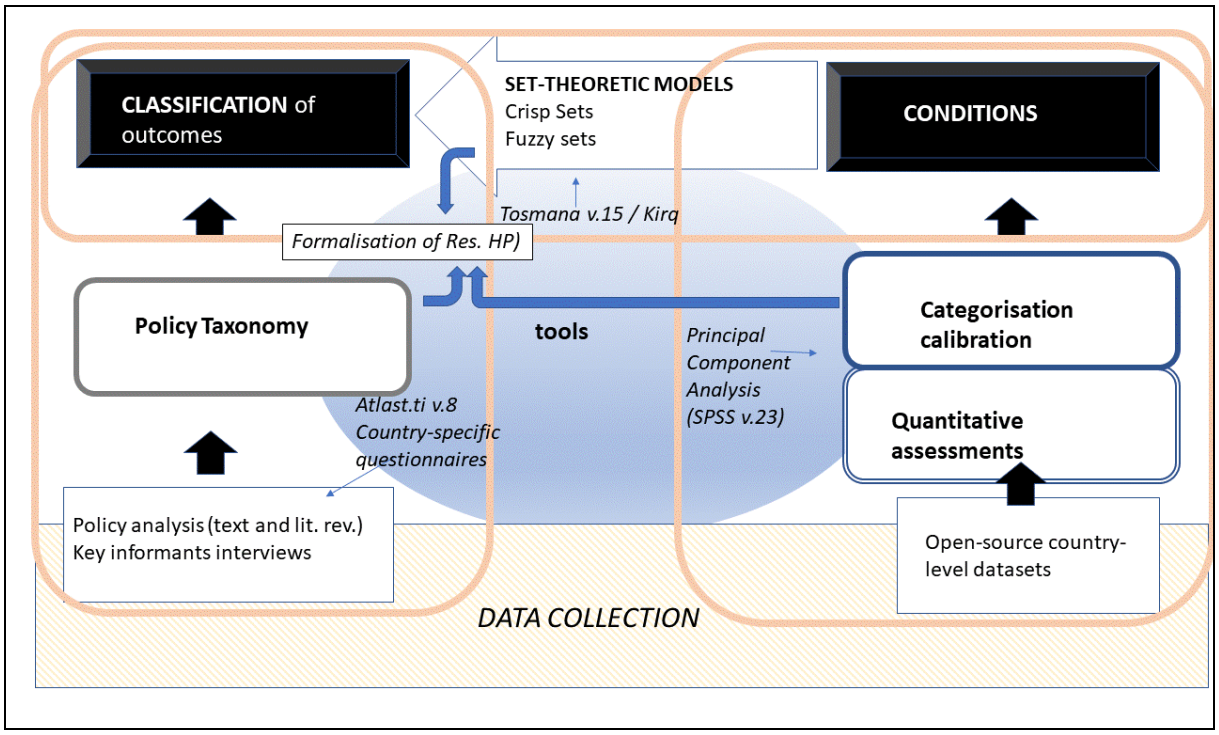


Fig. 3.1 Schema of research method

The analysis seeks the highest possible generalisation, as a way to model the food security policy processes, rather than providing their description. The parsimony principle is used to explain the phenomena of interest and allow for causal complexity. The principle can be summarised in Einstein's famous dictum "as simply as possible, but not simpler", and is also known as Occam's Razor.

The objective of this chapter is to outline the research strategy and clarify the general scope of the methodological approach. The problem of classifying food security policies is addressed in Section 3.3, which draws from the review of available policy typologies in Chapter 2 to present a policy taxonomy specifically conceived for food security policies in Africa. This taxonomy was elaborated in concomitance with both the policy drivers discussed in the previous chapter and the policy analysis of the cases presented in the following chapter. The next steps were the attribution of conditions and the elaboration and testing of the model. A detailed description of the methods used in the formalisation of the outcomes, the conditions, and the analysis is provided in the following chapters, as outlined in Section 3.4. However, before discussing these methodological steps, it is necessary to clarify the extent to which the analysis can invoke causality in relations and describe findings as a model, and the limitations of the methods selected.

3.2 On causation, models and limitations

The literature concerned with causality provides two different types of theory (Mahoney, 2008). The first is constituted by difference-making theories (Suppes,1970; Lewis, 1973; Mackie, 1974; Woodward, 2003) and the second by transference and power theories (Dowe, 2000; Mumford and Anjum, 2011). In a nutshell, difference-making theories stipulate that causes are characterised by their property of making some sort of difference to their effects. Power theories, by contrast, take the characteristic feature of causal dependency to consist in some sort of physical relation connecting causes to their effects, for instance, the transference of energy or momentum from the cause to the effect or the cause's exertion of power over the effect.

Set-theoretic methods of data analysis do not scrutinise the physical relation between causes and effects, as defined by transference or power theories. Rather, they search for causal dependencies as defined by difference-making theories, similarly to probabilistic methods. A particular stream in these theories is Ducasse's (1969) single-difference account: an event c causes an event e if and only if c was the last/only difference in e's environment before c

occurred. “Boolean methods must be seen to presuppose a notion of causation according to which causes are difference-makers within sufficient and necessary conditions of their effect” (Baugartner, 2015: 3). For example, if we found that a house fire was caused by a short circuit, we would say that, if the short circuit had not occurred, the fire would not have ensued. Both probabilistic and set-theoretic methods of analysis use this line of reasoning in establishing causation, particularly to analyse events that have multiple causes. Mackie’s (1974) INUS condition (which has *insufficient* but *non-redundant* parts, and which is itself *unnecessary* but *sufficient* for the occurrence of the effect) stands out by stressing that certain effects can be caused by several distinct clusters of factors (Belnap, 2005). For example, a to say that short circuits cause fire is to say that they are INUS conditions: it is insufficient because it does not, alone, cause a fire (other conditions must be present, such as oxygen, inflammable materials, etc.); it is non-redundant because, without it, the other conditions are not sufficient to cause a fire; it is unnecessary since other causes (or clusters of conditions, like an arsonist with petrol) can also cause a house fire.

The primary search targets of set-theoretic methods are sufficient and necessary conditions. Causes are Boolean difference-makers for their effects (Mahoney and Goertz, 2006; Schneider and Wagemann, 2012). A cause is defined as “necessary” if it must be present for a certain outcome to occur. It is defined as “sufficient” if, by itself, it can produce a certain outcome. In this regard, set-theoretic methods can be distinguished from probabilistic methods, which use correlations as proxies for causation and probability statements (such as significance tests) for their generalisation beyond the sample. However, this analysis can still rigorously engage in causal inference, although the generalisation is more modest than statistical inference. On the other hand, researchers using Boolean methods are urged not to specify the causal model that best fits the data (Ragin, 1987), such as ones developed with statistical techniques, but to describe “the number and character of the different causal models that exist among comparable cases” (De Meur et al., 2012: 9). In this work, the result of the analysis of conditions and their configurations in producing outcomes is a simplified version of the policy process that includes different interests, forces, rules, traditions, external events and history. “Explicit connections” (Ragin and Rihaux, 2004) give formal shape to observed regularities in data, allowing researchers to dissect them and elaborate “explanations”, in an attempt to describe the mechanisms at work. This is also a predictive tool, giving assertions on the behaviour of non-observed cases (offering an opportunity to test the assertions and generalisations, and so increase knowledge). The analysis therefore produces a model, grounded in theory and

evidence, that goes beyond the plain description of the cases. Such a model can answer the research questions enunciated in Chapter 1, despite the limitations explained below.

Because of the many drivers included in the analysis, results can be complex, and the number of combinations may exceed the cases (creating logical reminders). The problem is known as "limited diversity", because logically possible configurations of relevant conditions do not appear empirically for the limited number of cases. Logical reminders cannot be tested, limiting the generalisation of the configurations that lead to certain outcomes as the only possible causal configurations. As a result, the cause-effect relationship of other possible configurations cannot be excluded and is discussed based on the assumptions made for each solution. The limited diversity of the cases creates the two problems of inclusion and exclusion. In the house fire example above, one might find that a relevant causal combination for a fire, together with a short circuit, inflammable material and oxygen, is that the walls are painted red, and one might not find the presence of an arsonist with petrol relevant because, in all the cases of house fire found empirically, the walls were painted red by coincidence, and no cases with an arsonist were found. Conclusions in such cases would be biased by inclusion errors, i.e., the wrong conditions were tested, and their configuration appeared to produce an outcome by chance (in line with Malvaldi's [2019] dictum, "after all, a broken watch shows the right time twice a day"). Inclusion errors in this work are minimised by the literature review in Chapter 2. Because the conditions included in the analysis have been proven influential in the food security policy process, it is assumed that all their combinations could be potentially relevant, minimising this inclusion error. The example also had an exclusion error (the arsonist), for which little could be done in this work, as policy drivers could be different at local levels and at different times.

In addition to the limitations given by the methodological choice for the analysis, a great challenge in studying formal and informal institutions in Africa is the availability of data, especially for informal institutions. This led to assessing (and measuring) proxies of institutions and their performance in less than ideal ways, which are explained in Chapter 4. The use of experts' perceptions as measures was minimised to reduce the risk of reverse causality, as subjective measures may be influenced by economic performances or political events. But on some occasions, data for the construction of indicators referenced from the literature were not available, and this work had to search for latent variables in other proxies, including in experts' assessments. Another possible source of inaccuracy was the assignment of thresholds in indicators. Good practices in set-theoretic analysis suggest assigning membership to a set (for example, whether a country is clientelistic) based on a literature review, i.e., taking a decision

informed by how well-established indicators behave in other works. But many indicators in literature are constructed for European and North American countries, so some that have been used in this study had to be designed *ad hoc*. The choice of their thresholds, therefore, had to be made based on the author's familiarity with African countries where references were missing. Finally, just as endogeneity is a problem with formal institutions (Ticchi and Vindigni, 2010), it can also be with other characteristics studied here.

3.3 A food security policy taxonomy

Greenberg et al. (1977) and Steinberg (1980) asserted that classification of policies into conceptual classes is impossible. The assessment of the main social science and food security policy classifications (see Chapter 2) confirms this statement. Limitations in the policy types themselves or the nature of food security policies constrain their application. Classes are neither exhaustive nor mutually exclusive. They are descriptive rather than explanatory or predictive. They are frequently subject to the problem of reification (Bailey, 1994). Individual policies may be seen as falling into one class or another, depending on which features of the policies attract the observer's concern (Steinberger, 1980). Besides, it has been proved difficult to evaluate classification criteria for many typologies, as principles are abstract by definition, and not always easily observable (Smith, 2002).

The term "classification" is used to describe the categorisation of a concept according to one or more specified criteria. A "typology" is a classification by dimensions that represent concepts rather than empirical cases because they are based on the notion of an ideal type (Marradi, 1990). Developing a typology requires articulating the essential aspects of a concept, thereby enriching and clarifying it. The typologies of policies examined in the previous section are related to the problem of where to put an event among classes that were previously characterised and defined by classification principles.

Another meaning of classification (Marradi, 1990: 2) is an operation "whereby the objects or events of a given set are grouped into two or more subsets, according to the perceived similarities". This second interpretation starts from the analysis of single events and compares them based on their level of generality and the details they share. This second operation is referred to as a "taxonomy" (Bailey, 1994).

Typologies offer a system of theoretical classification with distinct categories reflecting predictable political behaviour, while taxonomies offer systems for the empirical classification

of policies (Smith, 2002). Therefore, a policy taxonomy should be based on observable and hierarchical characteristics: "the solution to the [policy] classification problem lies in empirical (as opposed to conceptual) construction of policy categories" (Smith, 2002: 379). A taxonomy approach is more helpful in addressing the problem of classifying food security policies because the processes that lead to the design, implementation and eventually reform of food security policies are usually complex and result from the interaction of different interest groups. Sorting the outcomes of these processes into *a priori* defined classes, as in typologies, is more difficult that empirically observing common features and differences.

A taxonomy of food security policies has the objective to categorise groups of policies based on observable criteria, that could be predicted using empirical models, informed by the drivers introduced in Chapter 2. However, no such taxonomy of food security policies currently exists. Policies can indeed be described by a huge number of criteria, but their usefulness should be assessed by how much they share or differ, how tidy a division they provide, and how easily they can be assessed. In a complex environment like policymaking, clear-cut criteria that neatly distinguish them are rare. However, because the observation of real cases is the first step in a taxonomy, the definition of ideal types is not the concern, but, rather, how actual food security policies are related among the orders. For this work, a taxonomy was developed with four criteria, identifying the core dimensions along which empirical manifestations of a policy occur (Goertz, 2006). The identifying criteria are policy coordination, geographic scope, orientation and the level of state involvement. These criteria, however, should not be regarded as having strictly hierarchical order, as the information is still limited to performing the analysis in clusters. The implication is that a set-theoretic analysis had to be carried out separately for all four criteria, instead of one analysis with all 16 (i.e., 2^4) possible outcomes. The classification criteria are presented below.

3.3.1 Policy coordination

Food security transcends the boundaries of traditional sectors, levels and arenas of governance (Misselhorn et al., 2012; Qureshi et al., 2015; Von Braun and Busner, 2008). It is a multi-disciplinary concept that requires the different actors to go beyond simply avoiding conflicts among the goals of agriculture, economic growth, nutrition, sanitation, social protection and trade. "Policy coordination" is the degree to which different policies and government decisions address the cross-cutting aspects of food security consistently (Cejudo and Michel, 2017; Peters, 2015). Coordination occurs when decisions made at different governance levels

(different ministries, for example, but also the different structures within the same ministry) consider those made by others in order to seek synergies and cooperation (Lindblom, 1965).

Whether policies coherently and comprehensively address the multiple dimensions of food security is often (but not always – World Bank, 2013; Garrett and Natalicchio, 2011) a relevant criterion for their success (IEH, 2012). Classification by this criterion means distinguishing policies that can coordinate different state functions and actions from those confined to one structure and domain. Coordination in food security does not necessarily require a single policy document: sectorial policies may be implemented by different actors while still having a common goal, interactions in their programmes and collective planning, and the issue could still be framed in narrow terms (Candel, 2018). On the other hand, even where a food security strategy is consolidated in one document with the involvement of different ministries, divergences in views and priorities, disagreements over planning and low density of interactions may result in uncoordinated policies.

The dichotomisation of classes by this criterion creates classes labelled as having "broad" or "narrow" policy coordination. Linking drivers discussed in the previous chapter with policy coordination as an outcome is feasible. Formal institutions can have a considerable effect on policy coordination: proportional systems would highlight ministerial divisions (see Chapter 2) and supposedly lead to narrow policy coordination. Broad coordination would be more likely with fewer veto players in the policy arena, as decision-making would be less constrained. Policy outcomes would also be determined by the state's capacity, which is expected to be functional in increasing coordination. Strict accountability, on the contrary, could impede the provision of coordinated interventions (Peters, 2018). Generalised trust would favour agreements over broader scope policies. Taxation would also increase policy coordination as a response to demands for efficiency. Finally, countries that depend more on imports to satisfy the domestic food demand are associated with broader coordination (see Chapter 2).

3.3.2 Geographic scope

This classification criterion concerns geographic integration and distinguishes policies that apply and are implemented in the whole country from those with geographic bias, i.e., whose outcomes are concentrated in a specific area. Geographic bias can emerge when food security is perceived mostly as a problem related to a specific area or areas, including cities; when a particular supply chain, based on an area-specific crop, is seen as the main means to achieve food security; or when the implementation favours particular areas, even though the policy is

designed to apply to the whole country. Among food security interventions, a narrow geographical focus is often justified to target underperforming areas, such as disadvantaged regions. Rationales for these policies usually include equity considerations, spatial mismatch and the opportunity of network effects. The provision of club and private goods can, too, be justified as a food security policy, as is the case with many agricultural support projects. However, in some cases, policies offering club or private goods can signal exchanges (in return for political support) and clientelism.

The two classes created by the dichotomisation along this criterion are termed “broad” and “narrow” geographic scope. Among the drivers discussed in Chapter 2 were majoritarian and presidential systems, which are regarded as having a broader geographic scope. Clientelistic and import-dependent countries are expected to implement policies with a narrow geographic scope, while fiscal space and taxation would lead to the opposite outcome. Finally, a high dependency on food imports characterises local geographic interests, favouring concentrated (narrow) policies.

3.3.3 Orientation

When designing a food security policy, issues under discussion are often who wins and who loses from the policy arrangements. The discussion must consider the numerous actors in a food system, particularly producers and consumers. The FAO definition used in the FAPDA classification (FAO, 2015c – introduced in Chapter 2) remains valid. However, for simplicity, this study dropped the trade-oriented class. Hence the orientation classification criterion only distinguishes producer-oriented policies, which influence production using price and access-to-inputs measures, from consumer-oriented policies, which provide support in food access and utilisation for consumers.

The importance of agriculture in the economy is probably the most important driver for the orientation of food security policies, but findings in the literature suggest that other considerations might also be important. Formal political institutions can affect policy orientation. Parliamentary systems are associated with consumer protection but, for electoral rules, the orientation would depend on the preferences of the majority of voters. In addition, the presence of veto players that could potentially constrain the executive is expected to make policy change slower and more incremental: as a consequence, countries that have in the past framed food insecurity policies as a domestic production problem are more likely to continue implementing producer-oriented policies.

3.3.4 Level of state involvement

This classification criterion deals with the state's engagement in the provision of goods and services as the techniques of governance. This can that involve the assertion of authority in the policy, or its conscious limitation. Policy instruments have been the focus of a vast body of literature in both economics and political science (Cocklin, 2009) because they link policy formulation and policy implementation (Ali, 2012). For practical and descriptive purposes, a high state involvement often generates distributive and regulative mixes, for example, using subsidies and stating what is permitted and what is illegal. Low state involvement in the provision of goods and services would support food production and consumption through the improvement of the economic environment and education, and lowering transaction costs. There has long been debated in comparative politics about whether the role of the state is that of "enabler" or "manager" (Chabal, 2009). Administrative practice, however, involves the use of various tools in a policy, and this criterion is more pragmatically defined and limited to the kind of instrument mix that represents the main governance strategy in place in the context of the policy examined (Howlett, 1991).

Drawing from Hood (1986), Howlett and Ramesh (1995) proposed a revised taxonomy of instruments that includes the concept of a spectrum of policy instruments. The spectrum places the state's direct involvement in a range limited at one end by "compulsory" instruments, and by "voluntary" instruments on the other. The classification of this criterion in this study is derived from Howlett and Ramesh (1995) but simplified by classing policy mixes into "towards voluntary" or "towards compulsory", in a spectrum adapted to the instruments most often found in food security (Fig. 3.2).

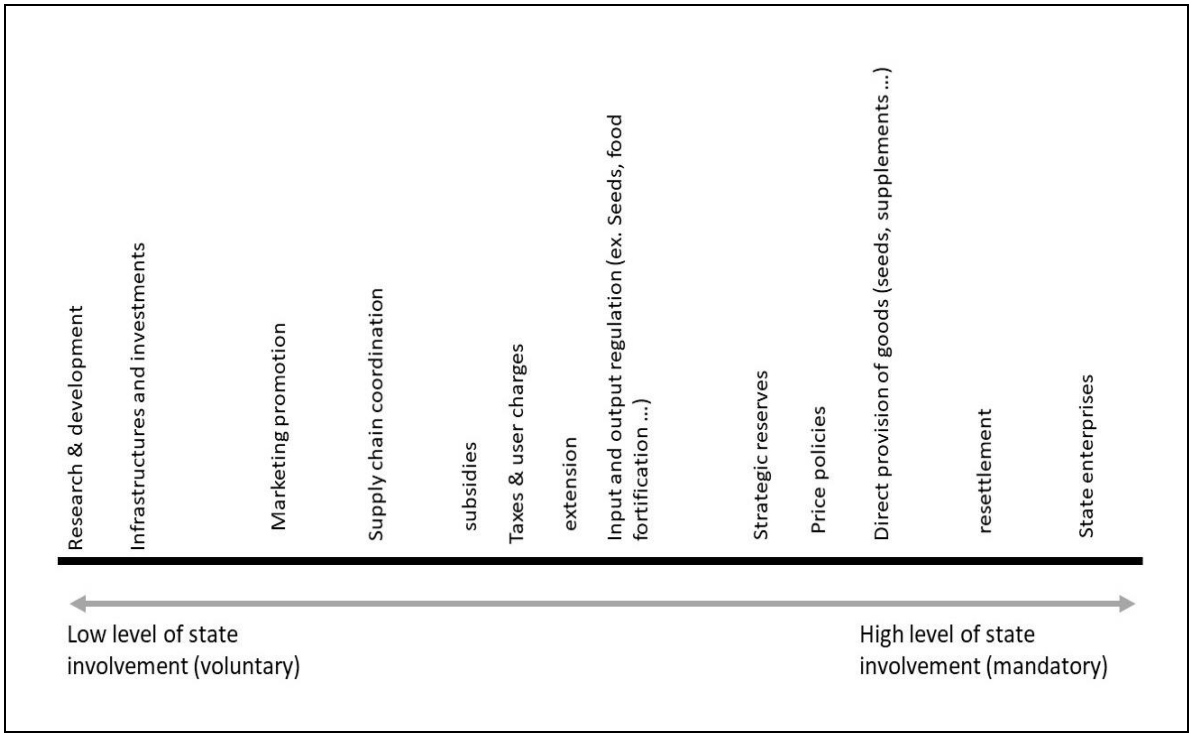


Fig. 3.2 Spectrum of state involvement

Source: Modified from Howlett and Ramesh, 1995

Policy classes are dichotomised as "low level of state involvement" (instruments mix towards "voluntary") and "high level of state involvement" (instruments mix towards "compulsory"). Proportional electoral systems, fiscal space, resource rents, taxation, state capacity and legitimacy are associated with higher levels of state involvement. The effect of other drivers, such as veto power and trust, is more debated.

The advantages of this taxonomy lie in its contribution to identifying similarities and differences among actual cases. With an exhaustive list of dimensions, it allows the study of relationships in African food security policies. While they define classes better than the typologies reviewed in Chapter 2, the classes are still made of mutually exclusive and predictable policies and their range is wide enough to capture all the current food security interventions in Africa, not just those in agriculture.

3.4 Outline of the methodological approach

While an excursus of the method is provided in this chapter, specific methods adopted during various steps of this research are described in the following chapters.

From a methodological point of view, the outline of this work is organised as shown in Fig. 3.3.

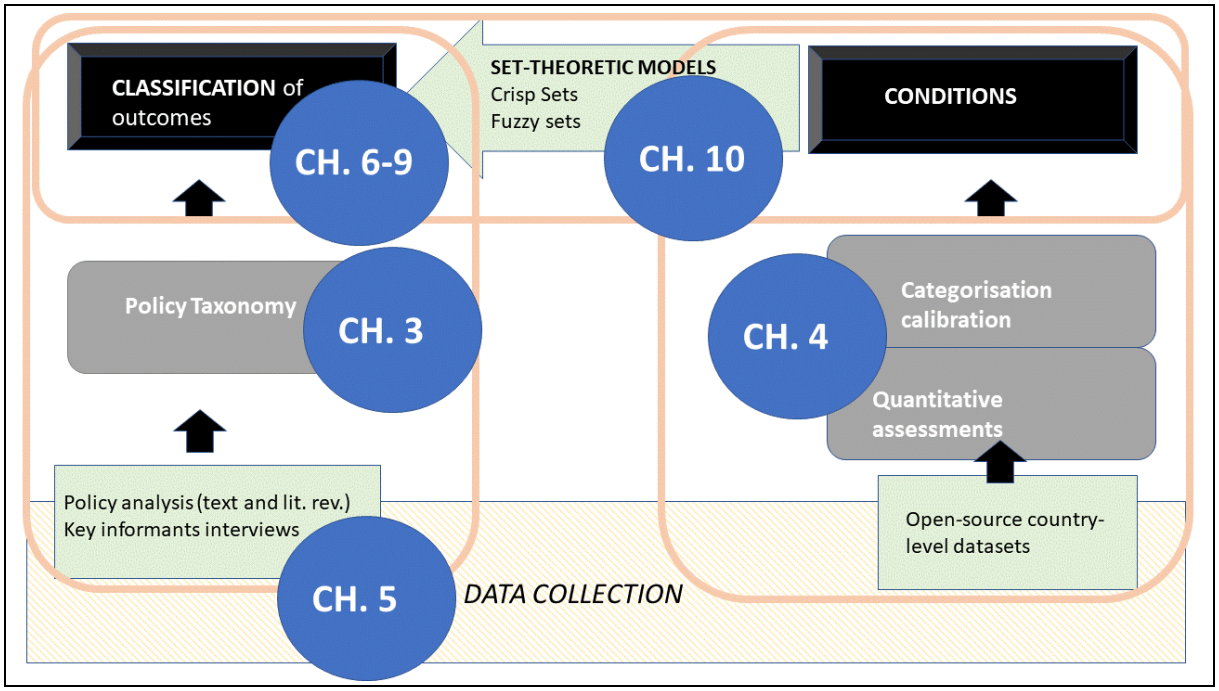


Fig. 3.3 Methodological outline of the chapters

This chapter not only presents the general approach but also introduces the taxonomy of the policy classes that represent outcomes in the analysis ("dependent variables"). The taxonomy is applied to eight cases presented in Chapter 5, along with the specific classification tools used. Chapters 6, 7, 8 and 9 address the actual classification of empirical cases, i.e., whether and to what extent policies are coordinated, geographically biased, oriented towards producers or consumers, and their level state involvement. Each of these chapters corresponds to a taxonomic principle.

The conditions, i.e., the coded "independent variables" used to model the classes, are presented on the right side of Fig. 3.3. Drawn from literature discussed in Chapter 2, they are designed to measure aspects, conditions, and conjunctures that are thought to influence the policymaking process. They include:

- the formal institutional architecture, in particular, constitutional rules (governance system and electoral rules) and constraints to executive power;
- the weight of agriculture in the economy;
- a country's fiscal space and whether budgetary resources depend on mineral rents and taxation;
- generalised trust;
- the accountability of policymakers to voters; and

- state capacity and legitimacy.

An important feature of this study is the use of secondary data to assess the importance of these factors, measure their indicators and attribute conditions. This adds value to the study because it allows for easy replication and testing, and also the ability to confront the model with new cases.

Many indicators, however, are unavailable as direct measures. It is necessary to use different proxies and factors to identify the latent variables that best capture the concept behind the use of conditions. Different statistical techniques are used to this end and are applied to all the countries in the universe of study (sub-Saharan Africa), and not just to the cases of the sample. This is done in order to situate the cases along different dimensions in the African context, which remains the domain of this research, and to strengthen the attribution of conditions by broadening the analysis. As shown on the right side of Fig. 3.3, a more detailed description of the methodology used to attribute conditions and calibrate indicators is provided in Chapter 4, so that coding rules for assessing set membership are transparent and explicit.

The upper part of Fig. 3.3 relates to the examination of set-theoretic relationships between casually relevant conditions and policy classes. This analysis is undertaken in Chapter 10, where eight models are elaborated, one for each classification principle (considering the asymmetry of causation). Once conditions are operationalised and selected policies classified, the analytical process involves five steps (Wagemann and Schneider, 2010):

i) representing data in the form of a truth table;
ii) checking data consistency;
iii) testing the hypothesis and theories;
iv) overviewing the basic assumption of the analysis; and
v) developing a causal hypothesis based on observable patterns.

Consistency and coverage measures are reported, as they express the adequacy of the analysis (Ragin, 2006). However, the "empirical significance of a path, measured by the degree of coverage of the outcome to be explained is not equivalent to the theoretic significance. Some paths with high coverage can be theoretically uninteresting or even trivial. Likewise, researchers should not focus on any minimum value of consistency and hide those cases that deviate from broad patterns" (Wagemann and Schneider, 2010: 20).

Chapter 4. The modelling conditions and research suppositions

The selection of conditions is guided by theoretical criteria in the literature and best practices (Berg-Schlosser and de Meur, 2018). Indicators not only capture the drivers of food security policymaking identified in Chapter 2 but are also explicative proxies of the process. Some measure latent concepts (which cannot be assessed directly) that could, in principle, be assessed according to either lower-order constitutive (causal) variables or higher-order substitutable (effect) variables. The latter are used for assessing the interaction of formal and informal institutions. Moreover, indicators, either constructed or selected, must respond to the following requirements:

- There should be open access to the data. As mentioned, data used to inform the attribution of conditions were sourced from secondary data, publicly available database, for rigour and contextualisation of the cases within the domain of this study.
- Data should be available for most African countries. Indicators with limited coverage in Africa are excluded.
- Where principal component analysis (PCA) is used, indicators should be specific enough to point to clear policy actions that can be taken to change scores.

A summary of the indicators used is provided in Table 4.1. The conditions for the set-theoretic analysis are derived from these indicators. Because this study uses both crisp- and fuzzy-set analysis of the data, indicators are categorised (for crisp sets) and calibrated (for fuzzy sets) into conditions.

All conditions are discussed in terms of indicators that capture different aspects of the driver in question. This chapter describes the indicators and the analytical strategy to identify and construct them, how conditions were attributed to the cases, thereby presenting the rule to code indicators as conditions in other situations, i.e., to other countries or to the same cases at different times. The thresholds for dichotomisation used in crisp sets are discussed for each indicator. The criteria used were drawn from the available literature and, when this was not possible, Nielsen's (2011) methodology was used as an indication for grouping country cases. The calibration used for fuzzy sets is presented in Section 4.4. The last section, drawing from the policy taxonomy and the definition of conditions of this chapter, presents the suppositions to be tested.

Table 4.1 Summary of indicators and sources used for the conditions

Category	Indicator	Source	URL
Constitutional institutions	Electoral rules	Database of Political Institutions (Scartascini et al., 2017)	https://publications.iadb.org/en/database-political-institutions-2017-dpi2017
	Governance systems	Database of Political Institutions (Scartascini et al., 2017)	https://publications.iadb.org/en/database-political-institutions-2017-dpi2017 /
	Executive constraints	Polity Project (Marshall et al., 2017)	http://www.systemicpeace.org/polityproject.html
Structural country-characteristics	Share of rural population	Databank (World Bank, 2019a)	https://databank.worldbank.org/home
	Cereal dependency ratio	FAOSTAT Main Database (FAO, 2019)	http://www.fao.org/faostat/en/#data/FS
	Share of government revenues in the GDP	World Economic Outlook database (IMF, 2019)	https://www.imf.org/external/pubs/ft/weo/2019/01/weodata
	Share of resource rents in the GDP	Databank (World Bank, 2019a)	https://databank.worldbank.org/home
	Share of non-resource taxes, including social contributions	International Centre for Tax and Development (ICTD/UNU-WIDER, 2016)	https://www.ictd.ac/dataset/
Institutional environment	State capacity	Policy Management score (Mo Ibrahim Foundation, 2018) Safety and Rule of Law score (Mo Ibrahim Foundation, 2018) Legitimacy score (Marshall and Elzinga-Marshall, 2017)	http://mo.ibrahim.foundation/iiag/ http://www.systemicpeace.org/inscrdata.html
	State legitimacy	State legitimacy (Fund for Peace, 2018)	https://fragilestatesindex.org/
	Accountability	Accountability score (Mo Ibrahim Foundation, 2018) Fractionalised Elites (Fund for Peace, 2018) Executive Corruption Index (Coppedge et al., 2017)	http://mo.ibrahim.foundation/iiag/ https://fragilestatesindex.org/ https://www.v-dem.net/en/data/data-version-9
	Trust	Ethnic Fractionalisation (Alesina et al., 2013) Judicial Corruption Index (Coppedge et al., 2017) Baysian Corruption Index (Standeart, 2015)	https://nsd.no/macrodataguide/set_v2.html https://www.v-dem.net/en/data/data-version-9/ http://www.sherppa.ugent.be/BCI/BCI.html

4.1 Constitutional rules: elections, governance systems, and veto power

The vast majority of countries are now multiparty electoral regimes, but a great heterogeneity is revealed among formal constitutional rules and constraints on executive decision-making (Van de Walle, 2009). Data are sourced for electoral rules, and governance systems are from the Database of Political Institutions (Scartascini et al., 2018).

4.1.1 Electoral rules

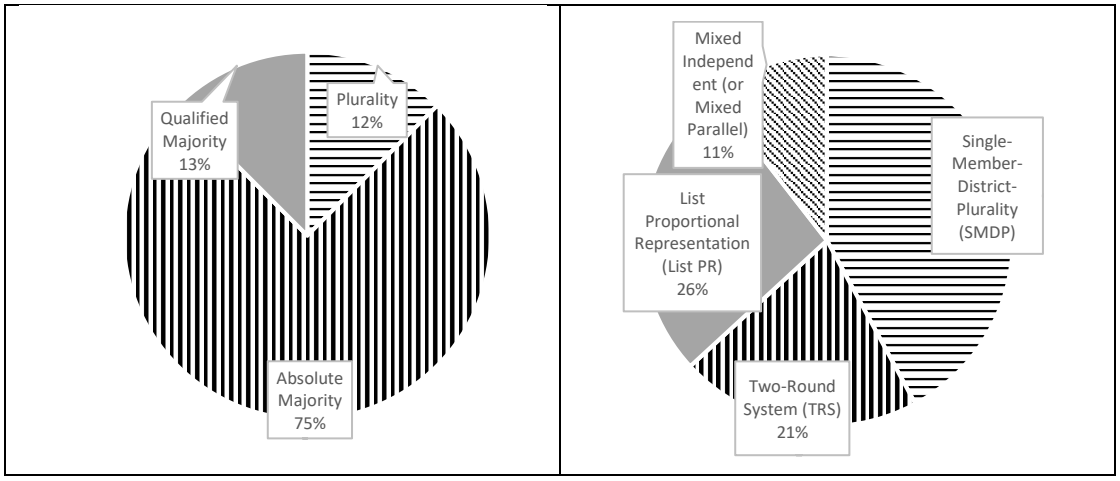


Fig. 4.1 Electoral rules for presidents **Fig. 4.2 Electoral rules for legislatures**

Source: Author's calculations from the Database of Political Institutions (Scartascini et al., 2018)

Electoral rules differ in important ways (Fig. 4.1 and Fig. 4.2). Following the discussion in Chapter 2, the effects of different electoral systems depend on Duverger's Law. The dichotomous distinction retained is therefore between proportional rules and mixed type on the one hand and either majoritarian or "first past the post" on the other (schematised in Table 4.2) because the two groups are comparable in terms of Duverger's Law (see discussion in Chapter

2). Table 4.2 shows the categories used: some countries (i.e., Eritrea, Eswatini and others) do not feature here, as they have never had elections.

Table 4.2 Electoral rules

Plurality (First Past the Post)	Majoritarian	Proportional	Mixed
Coded as 0		**Coded as 1**	
Botswana Chad Ethiopia Gambia Ghana Kenya Malawi Nigeria Tanzania Uganda Zimbabwe	Central African Republic Congo Cote d'Ivoire Djibouti Gabon Madagascar Somalia South Sudan Zambia	Angola Benin Burkina Faso Burundi Cape Verde Congo, Democratic Republic Equatorial Guinea Guinea-Bissau Liberia Mozambique Namibia Niger Rwanda Sierra Leone South Africa Togo	Cameroon Guinea Lesotho Mali Mauritania Senegal Sudan

Source: Scartascini et al., 2018

Rules can differ on whether elections seat presidents (Fig. 4.1) or parliaments (Fig. 4.2). Nevertheless, because of the importance of presidents in African politics, presidential electoral rules were considered in this work.

4.1.2 Governance systems

Governance systems do not vary as much as electoral rules: only three countries in Africa are currently parliamentary regimes (Botswana, Ethiopia and Lesotho – see Table 4.3) and, in three countries, presidents are assembly elected (Eritrea, South Africa and Togo). This work considers whether the governance system was presidential (coded as 1) or not (coded as 0).

Table 4.3 Governance systems

Presidential			Parliamentarian	Assembly-elected
Coded as 1			**Coded as 0**	
Angola	Gambia	Chad	Botswana	Eritrea
Burundi	Guinea-Bissau	Eswatini	Ethiopia	South Africa
Benin	Equatorial Guinea	Kenya	Lesotho	Togo
Burkina Faso	DR Congo	Liberia		
C. Afr. Rep.	Madagascar	Rwanda		
Cote d'Ivoire	Mali	Sudan		
Cameroon	Mozambique	Sierra-Leone		
R. Congo	Mauritania	South Sudan		
Gabon	Malawi	Tanzania		
Ghana	Namibia	Uganda		
Guinea	Niger	Zambia		
	Nigeria	Zimbabwe		

Source: Scartascini et al., 2018

4.1.3 Executive constraints to decision-making

The variable used in this work to measure the extent of institutionalised constraints on the decision-making powers of chief executives is the "Executive Constraints (Decision Rules)" indicator in the Polity Project database (Marshall et al., 2017). This has been used as a proxy for veto power, following Eckstein and Gurr (1975). The Polity Project is one of the most widely used data sources to this end (Harden, 2017). The focus of the executive constraints indicator is therefore on the checks and balances between the various parts of the decision-making process.

This indicator assessed how veto powers *de facto* limit the executive authority and used a seven-category scale (Fig. 4.3), from 1: "unlimited authority and no regular limitations on the executive's actions" (where, for example, constitutional restrictions are ignored, the constitution is frequently revised or suspended, there is no legislative assembly, or it is called and dismissed at pleasure, etc.) to 7: "executive parity or subordination" (where veto players have effective authority equal to or greater than the executive in most areas of activity).

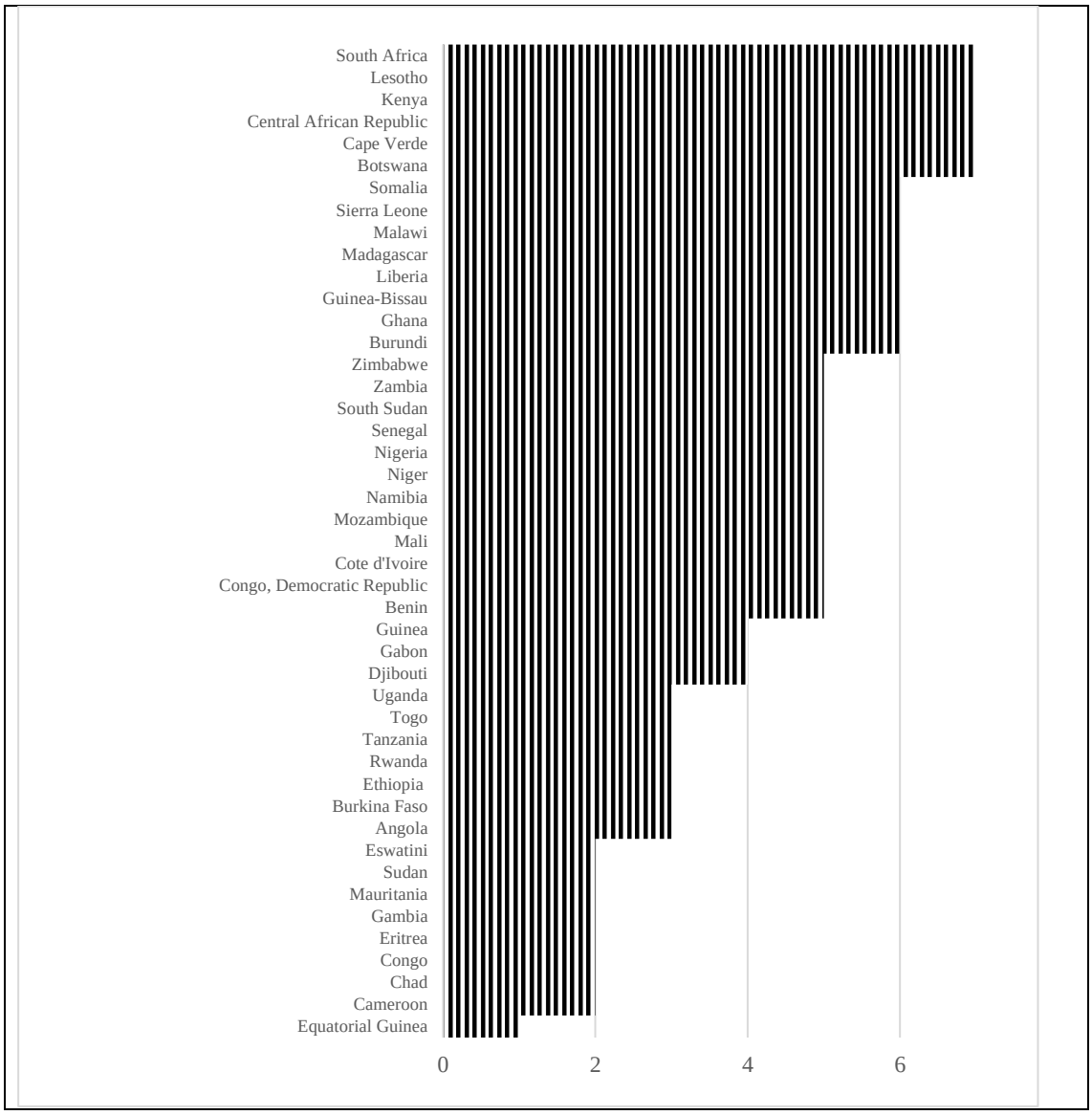


Fig. 4.3 Executive constraints scores

Source: Marshall et al., 2017

Following Besley and Mueller (2016), in dichotomising this condition, a country that had a value according to this indicator of between 1 and 5 was considered to have weak constraints to executive decisions. A country with an indicator of 6 or 7 had strong constraints. The key switch point between these dichotomised sets was category 5 ("substantial limitations on executive authority"), where the executive has more effective authority than veto players but is subject to substantial limitations.

4.2 Structural characteristics: agriculture and resources

As discussed in Chapter 2, key country structural characteristics are important factors affecting food security policy choices. Two indicators of the importance of agriculture in a country were

operationalised: the share of the rural population and the cereal dependency on imports. Three indicators of state resources were examined: government revenues, taxation and resource rents.

4.2.1 Share of the rural population

The share of the rural population in the total population was sourced from a World Bank (2019a) database (Fig. 4.4). In fixing the threshold for cases belonging to the "rural" set, it was important to align with the considerations made in Chapter 2. This indicator should provide the basis for formalising suppositions of government accountability to the preferences of the rural population where these constitute the majority of the population.

In this regard, the "urban bias theory" (Lipton, 1977; Bates, 1981) calls for further discussion. The theory is still debated (Bezemer and Headay, 2008; Jones and Corbridge, 2010; Jones and Corbridge, 2010). Although many authors report that, after the end of authoritarian regimes and the process of democratisation in the 1990s, better democracies (Varshney, 1993) and liberalisation (Krueger, 1996; Anderson and Kovacic, 2009) contributed to the mitigation of bias against the rural population in many African countries, the theory is relevant for framing the assumption of government accountability to rural voters. Political isolation, lack of infrastructure, low education levels and poverty would constrain the formulation and articulation of political demands in rural areas. The isolation and low population densities in such areas pose difficulties for the consolidation of pressure groups (Binswangner and Deinenger, 1999; Herbst, 2000; Bates and Block, 2009). Using a 50% threshold to classify countries in this regard would not have been realistic to test the suppositions related to accountability to rural voters. Instead, a slightly higher threshold of 60% was used for classifying "rural" from more "urbanised" countries.

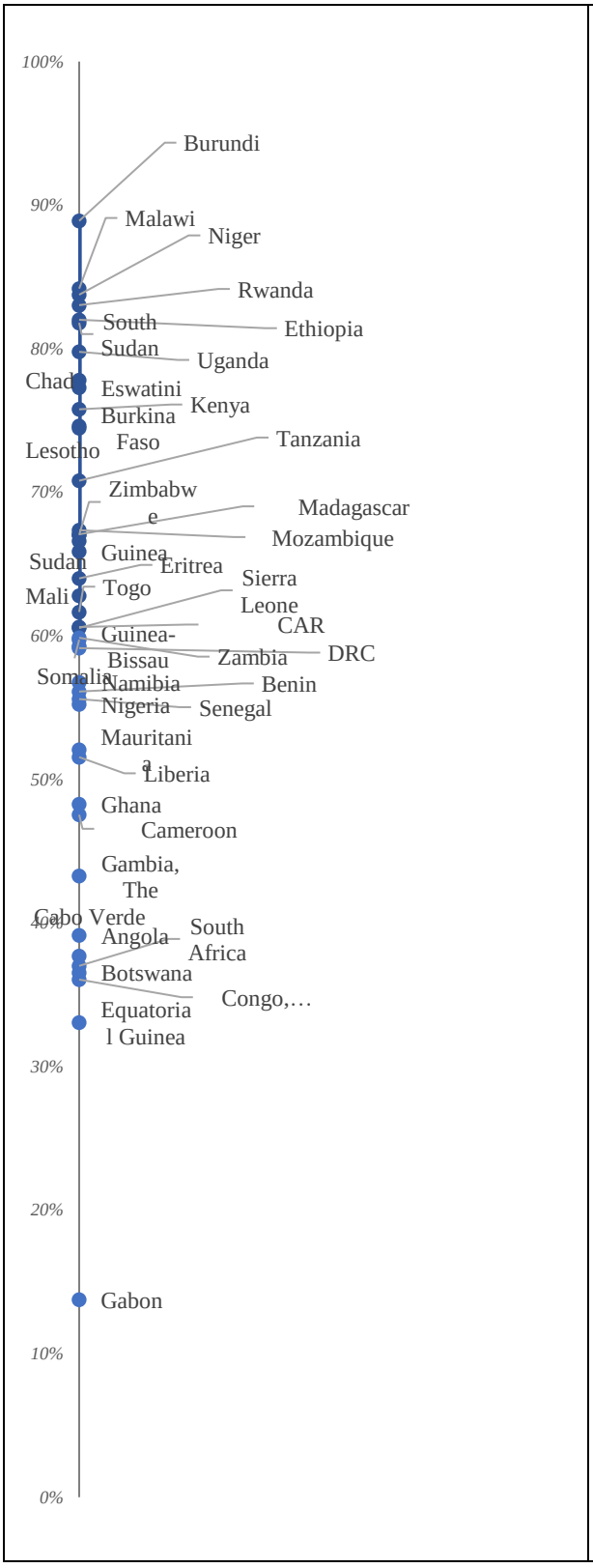


Fig. 4.4 Rural population (as % of total)
Source: World Bank, 2019a

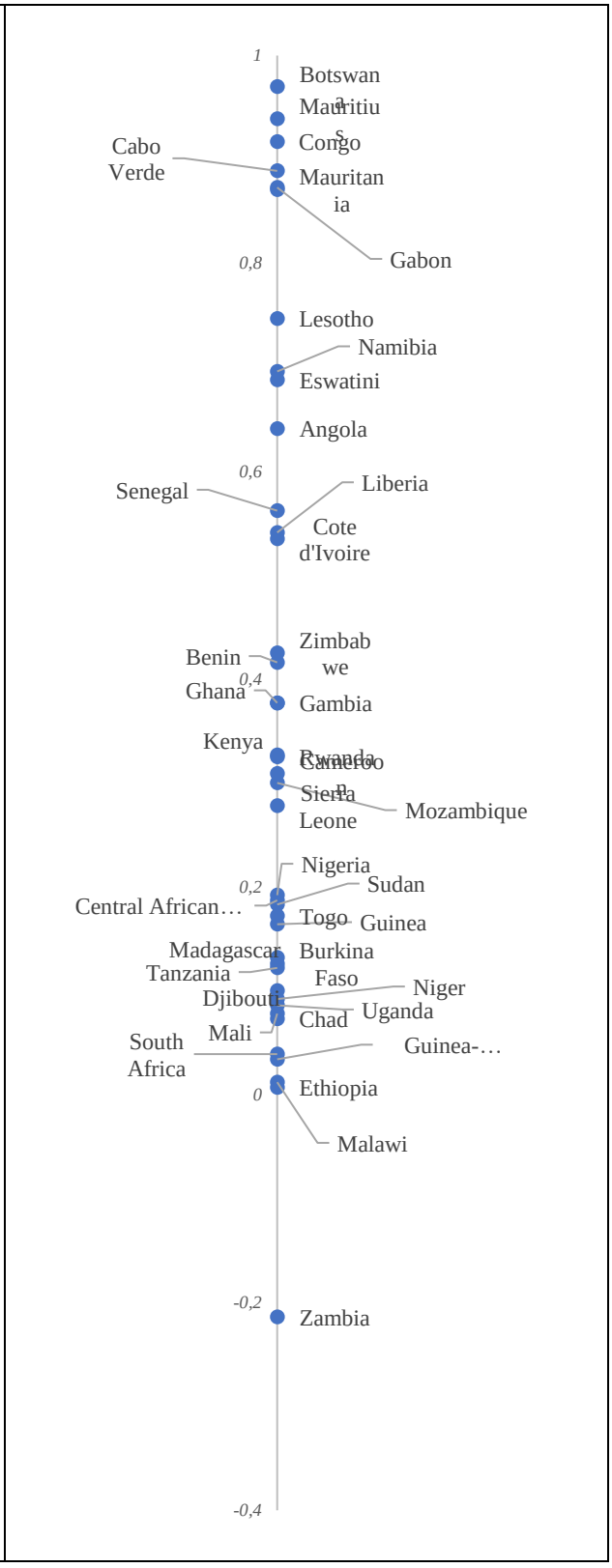


Fig. 4.5 Cereal dependency on imports ratio
Source: FAO, 2019

4.2.2 Cereal dependency on imports ratio

The cereal dependency on imports ratio is part of the FAO suite of food security indicators (available since 2017 – FAO, 2019) related to the food security dimension, "stability". The indicator is calculated in three-year averages (to reduce the impact of possible errors in production and trade estimates) and reports how much of the available domestic food supply of cereals has been imported and how much comes from the country's own production. It is computed as:

$$\frac{(\text{cereal imports} - \text{cereal exports})}{(\text{cereal production} + \text{cereal imports} - \text{cereal exports})} * 100.$$

The measure is, therefore, a measure of the dependence of a country on cereal imports: the greater the indicator, the higher the dependence. Most African countries are import-dependent, but with great variation (Fig. 4.6). In general, if cereal dependency is high, a country has an uncompetitive agricultural sector that cannot profitably supply food to a large share of the domestic population, or has a competitive advantage in other sectors of the economy (such as mining, oil, etc.), or has cash crops to export (Rakotoarisoa et al., 2011). For this reason, the indicator also distinguished countries in terms of income (Fig. 4.6). Among the high-income countries, only Mauritius was a net exporter because of its sugarcane sector. This allowed for the operationalisation of the argument regarding domestic production as a strategic policy issue, but the indicator also signalled the presence of powerful actors in the cash crop subsector (Rakotoarisoa et al., 2012).

Otero et al. (2013 and 2015) suggested that cereal dependency on import ratios above 20% is characteristic of import dependency. But an examination of the graph in Fig. 4.6 suggests that this threshold needs to be higher to account for more recent trends in trade (Anderson, 2010; Rakotoarisoa et al., 2012; Alfa-Shaban, 2017), especially among middle- and high-income net importers, and in particular after the 2008 food crisis. In this study, the threshold is fixed at 25%.

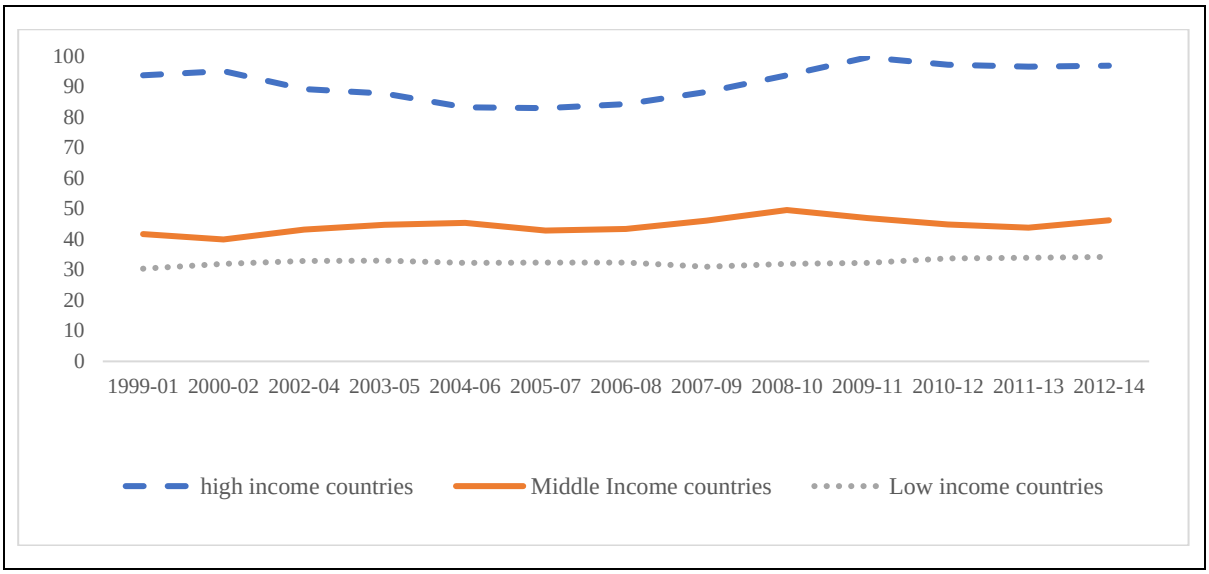


Fig. 4.6 Cereal dependency on imports ratio by income (trends)

Source: FAO, 2019

4.2.3 Government revenue

Fiscal space is a measure of how much leeway national governments have to increase growth-enhancing spending. It is viewed by the OECD in terms of long-term debt sustainability (IMF, 2016), which is, in turn, related to the capacity of a government to finance its operations, to service its debt obligations and to ensure its solvency. In this approach, fiscal space is interpreted as the distance between actual debt levels and a theoretically higher level of debt that is, nonetheless, considered safe for solvency. Yet, measures centred on long-term debt levels are inappropriate in most low-income countries (Baum et al., 2017), because these typically do not have the same access to markets as OECD countries, are more vulnerable to macroeconomic shocks, and rely on a greater range of financing sources, including donor assistance.

Fiscal space is better considered on a forward-looking basis. Medium-term expenditure frameworks (MTEF) could potentially provide this information, but there is no guarantee that these frames will be respected. The capacity to generate resources (following Baum et al., 2017) provides a more appropriate indicator of fiscal space. This study takes government revenue, as shares of GDP, as a proxy for the fiscal space (Fig. 4.7). Data were sourced from the IMF's World Economic Outlook Database (IMF, 2017), in which government revenue consists of taxes, social contributions, grants receivable and other revenue.

The threshold used to distinguish wealthy from poor countries took into consideration qualitative assessments (including IMF, 2015 and 2016) and was fixed at 30% of government revenue.

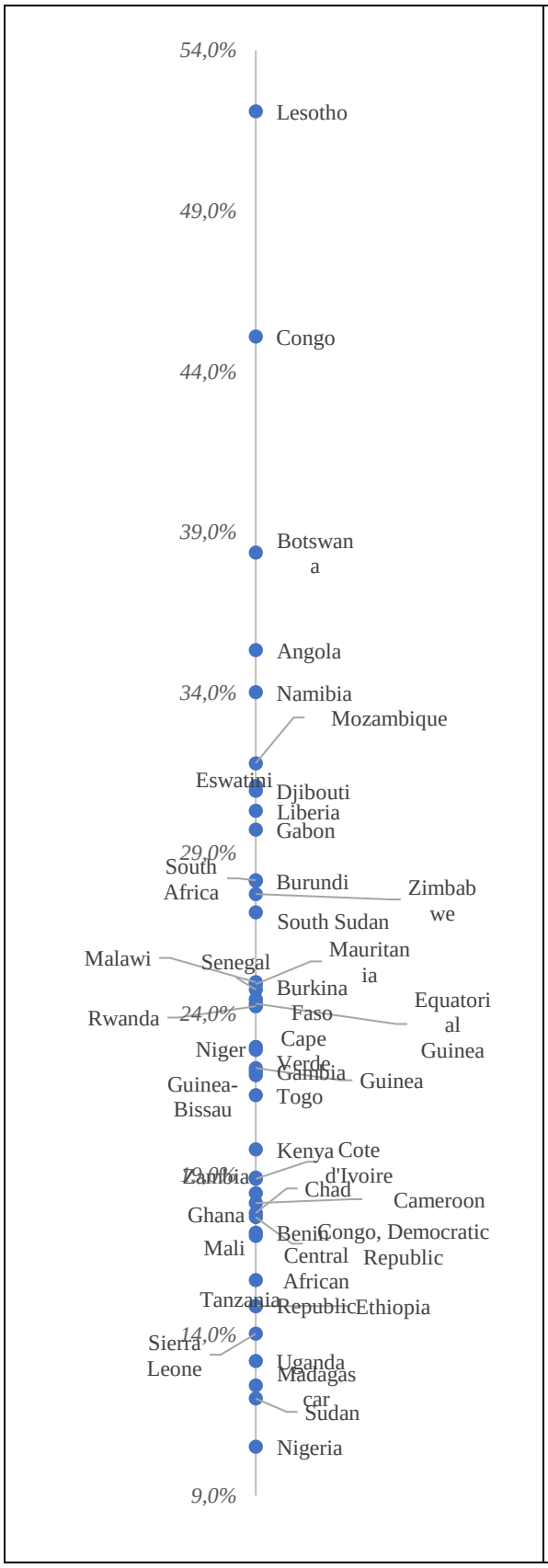


Fig. 4.7 Government revenues (% of GDP)
Source: IMF, 2017

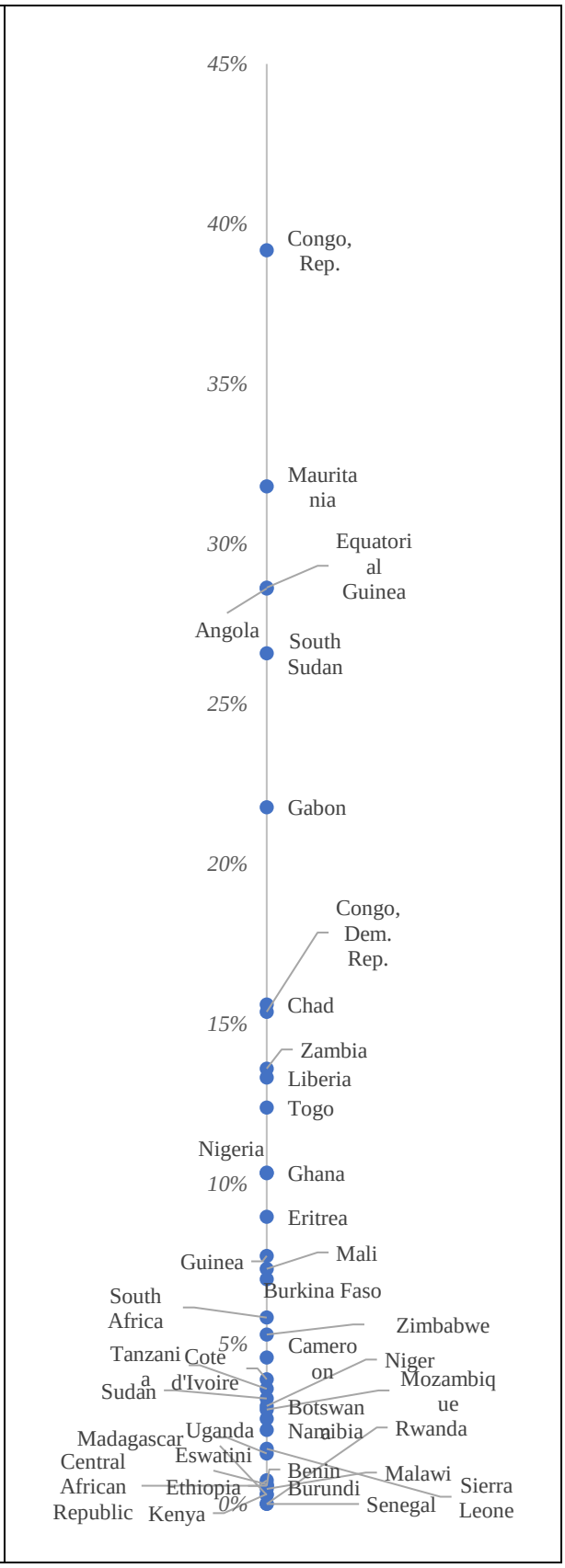


Fig. 4.8 Resource rents, 10-year averages
Source: World Bank, 2019a

4.2.4 Resource rents

To assess revenue from mineral and other natural resources, data from the World Bank Database relative to ten years of average rents from oil, coal, natural gas and minerals were summed as shares of GDP. Fig. 4.8 shows the differences between countries whose resource rents averaged lower and higher than 5% of their GDP over the last ten years. In countries with resource rents of 5% or higher, this share varies more than in resource poorer countries, because higher resource rents make them less vulnerable to international prices, extraction capacity, capital flows, etc. Observing data in more depth reveals that, among the countries with a 10-year average rent lower than 5%, annual resource rents rarely exceeded 4% or 5% of GDP, explaining the significant gap between the lines in Fig. 4.9. The threshold was set at 5% share of GDP to classify countries based on whether a country is significantly resourcing rent from natural resource extraction for financing policy implementation.

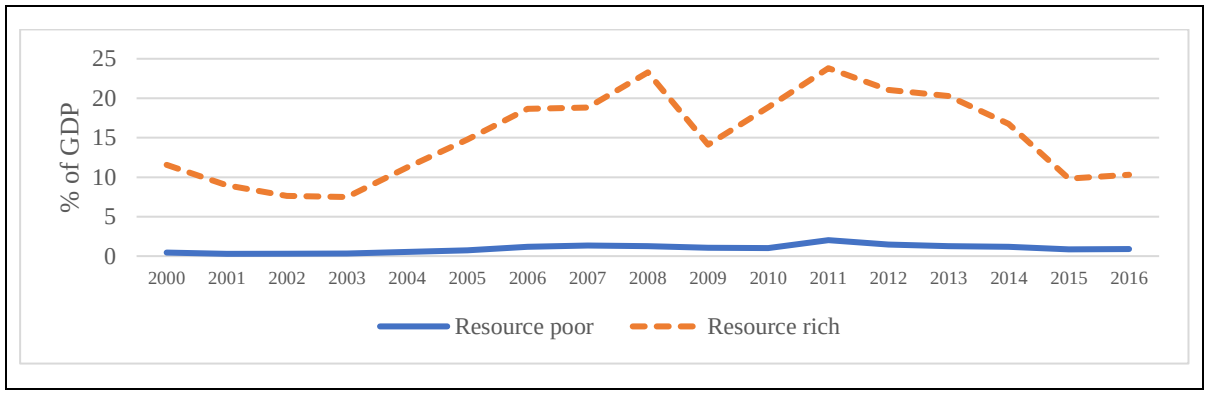


Fig. 4.9 Resource rents over time

Source: WB, 2019a

4.2.5 Taxes

In assessing taxation, data were drawn from a Government Revenue Dataset (GRD) developed through the International Centre for Tax and Development (ICTD) (ICTD/UNU-WIDER, 2016). The dataset combines data from several major international databases, as well as those compiled from IMF Article IV reports (ICTD/UNU-WIDER, 2016). The indicator chosen was "total non-resource tax revenue, including social contributions". This was calculated as "taxes including social contributions" minus "resource taxes". The indicator had an average of 36% of GDP in OECD countries, but only 15% in Africa (Fig. 4.10). This average was biased by the high tax shares in a few countries such as Eswatini, Lesotho, Namibia and South Africa. For

this reason and following the discussion in Magashula (2010) and Owens and Carey (2009), the threshold for the dichotomisation of this indicator is set at a lower level of 12%.

Fig. 4.10 Non-resource taxes including social contribution (share of GDP)

Source: ICTD/UNU-WIDER, 2018

4.3 Institutional environment: state capacity, legitimacy, accountability and trust

The institutional environment is characterised in this study by four components: state capacity, state legitimacy, accountability and trust. This section describes the indicators used.

4.3.1 State capacity

The literature on state capacity and its measures is rich and draws from diverse data sources (Khemani, 2019). Simplistically, state capacity can either be measured by what the state produces (its outputs and outcomes, such as in health and education) or by looking at how the state functions, specifically its bureaucratic procedures, capacity and autonomy. The former approach was preferred as it emerges from the interaction of formal and informal institutions. Principal component analysis (PCA) was therefore performed with three indicators:

- Public Management: one of the four sub-categories that have been used to calculate the Sustainable Economic Opportunity category score of the Ibrahim Index of African Governance (IIAG), Mo Ibrahim governance index (Mo Ibrahim Foundation, 2017). This index measures and monitors governance performance in African countries. It consists of nine indicators from nine data sources.
- The Rule of Law: one of the four sub-categories that have been used to calculate the Safety and Rule of Law category score of the Mo Ibrahim governance index. It consists of six indicators from nine data sources. These data were also drawn from the Mo Ibrahim Foundation's (2017) IIAG.
- Legitimacy: this indicator is a policy performance measure and is less concerned about how the state is perceived by a citizen. The score sums four performance dimensions: security, political, economic, and social, from the Centre for Systemic Peace dataset drawn from Marshall and Elzinga-Marshall (2017).

The performance of the PCA was assessed with Kaiser-Meyer-Olkin's (KMO) and Barlett's sphericity tests (in this case, 0.667 and 73.888). The extracted component (the only one with an eigenvalue less than 2) was used to build a state capacity score for the majority of African countries, as presented in Fig. 4.11. The threshold was fixed at a score of 37, based on substantive knowledge of the group of countries with similar index values.

Fig. 4.11 State Capacity score

Source: Fund for Peace, 2018

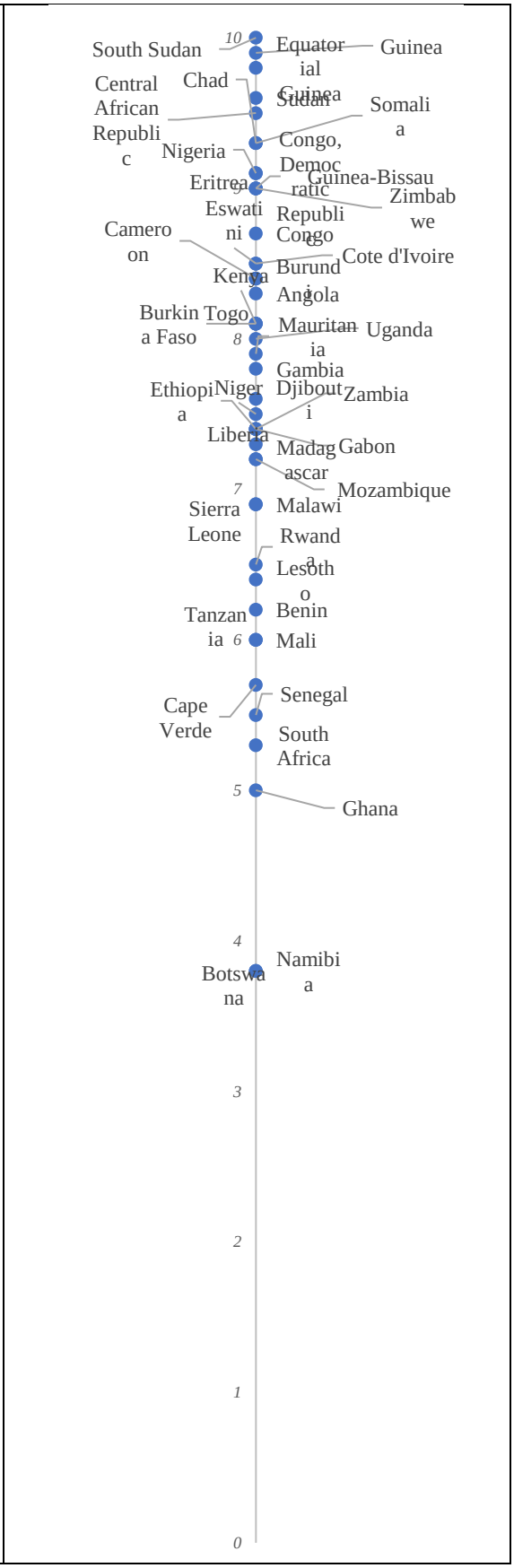


Fig. 4.12 State Legitimacy score

Source: Fund for Peace, 2018

4.3.2 State legitimacy

State legitimacy classification is drawn from the Fund for Peace's (2018) Fragile States Index (FSI). This index was used to assess the normal pressures that all states experience but also identifies when those pressures are pushing a state towards the brink of failure by forces affecting its legitimacy. The Fund for Peace dataset converts data into a score representing the significance of each of the various pressures. The score was further triangulated by Fund for Peace with both quantitative analysis and qualitative inputs based on major events in the countries examined.

The resulting sub-indicator of this index, State Legitimacy, assesses the lack of representativeness in government that undermines social contracts. The index included pressures and measures related to political participation, electoral process, illicit economy, drug trade, protests and demonstrations, and power struggles. Data referred to 2016 and varied from 0 (most legitimate) to 10 (less legitimate) as shown in Fig. 4.12. The threshold for the dichotomisation was fixed at 7.50, based on substantive knowledge as well as Gilley (2006).

4.3.3 Accountability

The best known and used indicator of accountability is the Ibrahim Index of African Governance (Mo Ibrahim Foundation, 2018). However, accountability is only one of the four sub-categories used to calculate the Safety and Rule of Law category score, measured through eight indicators from nine data sources. While the relevance of this data source was not under question, the use in the context of this work faced some limitations. In the policy process, accountability results not only from the electoral process and its competitiveness but also from the work of the state administration (Medina and Stokes, 2007).

To assess accountability, and in particular patron-client relationship, as a driver of food security policymaking, the concept was refined to include a measure of corruption as part of accountability. Clientelism and corruption are not synonymous. Although both involve political actors using public and private resources for personal gain, corruption is commonly defined as dishonest and fraudulent conduct by those in power, typically involving bribery. However, resources needed for patrons to maintain the clientelist system could necessitate illicit means of obtaining goods. More importantly, in the framework of this work, some policies may have been designed to favour certain interest groups, for example, through a corrupt system, in order to maintain patron-client relationships.

A PCA analysis (KMO 0.682, Barlett's sphericity test 73.713) was performed to assess accountability at country level, using the already mentioned IIAG accountability index (Mo Ibrahim Foundation, 2018) and two additional indicators:

- The Factionalized Elites indicator, a measure of flawed elections and political competition when local and national leaders engage in deadlock and brinkmanship for political gain. The indicator is published by the Fund for Peace (2018).
- The Executive Corruption Index, from a survey question included in the Varieties of Democracy (V-Dem) Project (Coppedge et al., 2017; Pemstein et al., 2018), namely "How routinely do members of the executive, or their agents grant favours in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use?" The index is formed by taking the average of the point estimates from a Bayesian factor analysis model of the indicators for executive bribery and executive embezzlement.

The extracted component (the only one with an eigenvalue greater than 2) was used to build an accountability score for the majority of African countries, as presented in Fig. 4.13. The threshold for the dichotomisation of this indicator is fixed at 13, using substantive qualitative knowledge and Nielsen (2011).

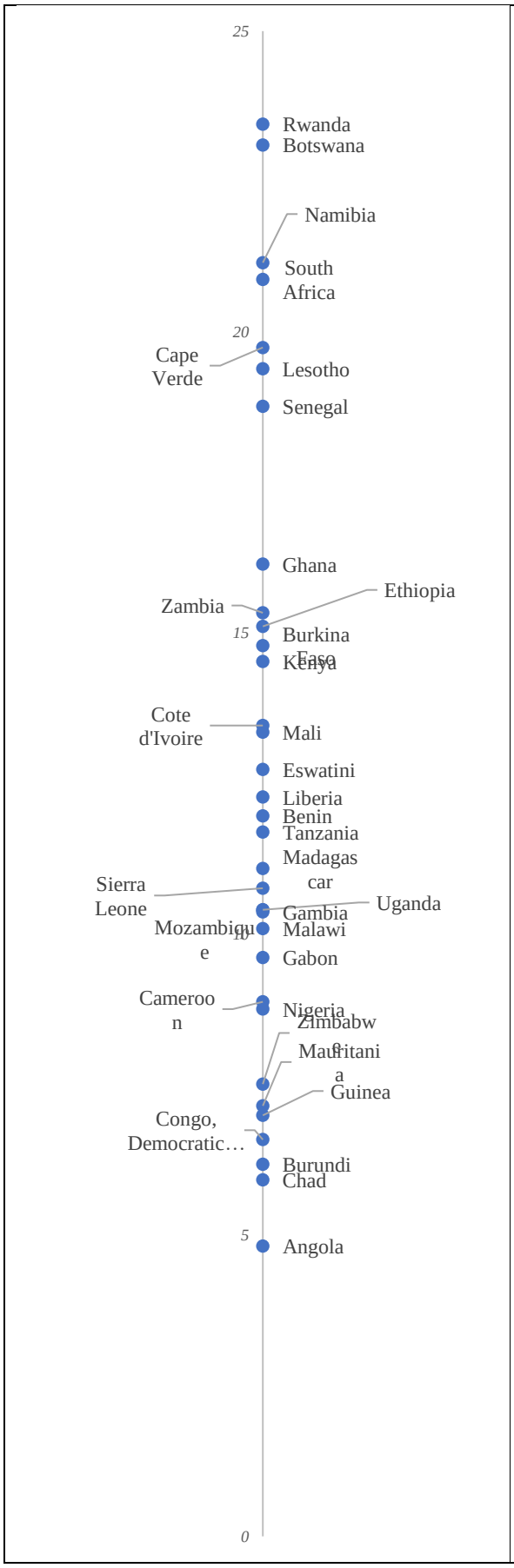


Fig. 4.13 Accountability score

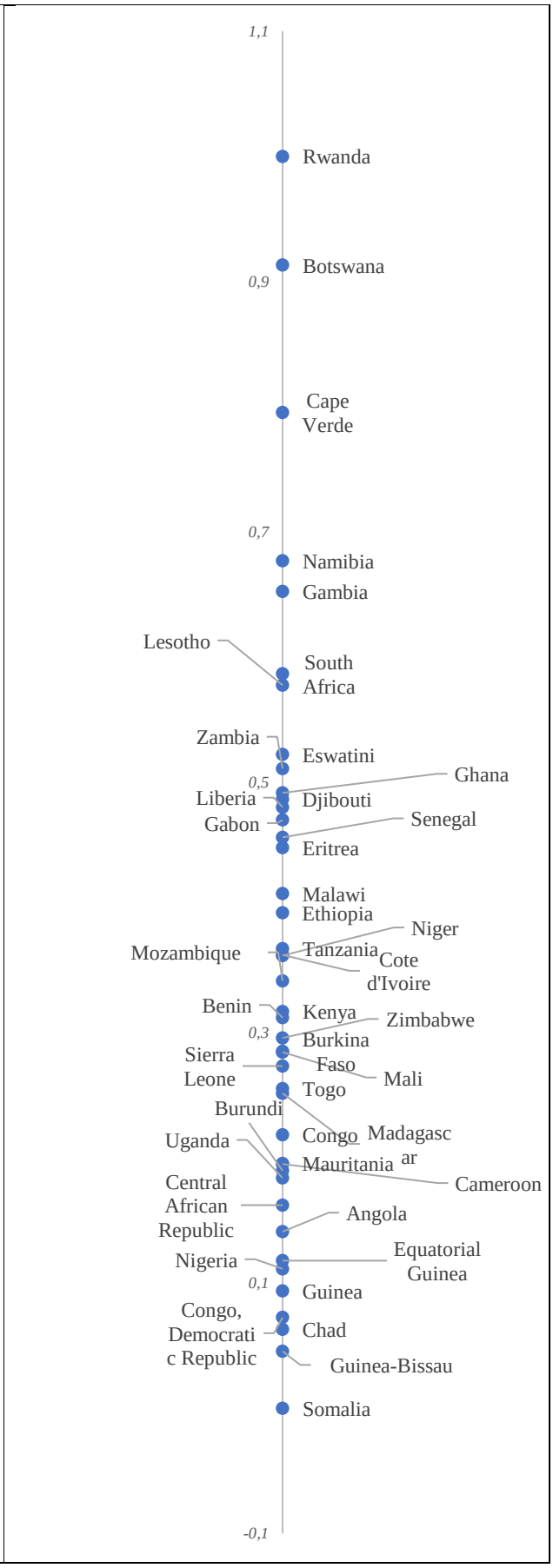


Fig. 4.14 Trust score

4.3.4 Trust

Trust is broadly defined as a cooperative attitude outside the family/inner circle (Algan and Cahuc, 2013). It is most frequently assessed through surveys (first by Almond and Verba [1963] in their study on civil society in after-war Europe). The World Value Survey and AfroBarometer both use similar questions to assess trust, such as "Generally speaking, would you say that most people can be trusted, or that you can't be too careful when dealing with others?", with possible answers ranging from "most people can be trusted" to "need to be very careful". However, these surveys still have little coverage in Africa, and cannot be used in the framework of his study. Other methods, such as experimental games (Berg et al., 1995) are not practical.

The trust classification was therefore derived for this research from a latent variable in a PCA. The PCA had to include measures of ethnic diversity, following Easterly and Levine (1997) and Alesina et al. (1999), as well as measures of corruption (following Uslaner, 2002). When asked whether other people can be trusted, responses can be interpreted as their assessment of the moral standard in their society (Delhey and Newton, 2004). The target of this exercise was to uncover interactions between the formal rule of law and moral values. Trust can exist in the absence of formal institutions that define a legal rule, but with other reputational sanctions, for example, at the village level. This implies that trust reflects a sense of solidarity and the belief that various groups in society share a common fate. It is a bond that people share across ethnic groups and classes, linking us to people who are different from ourselves. When a society is divided along ethnic lines, each group tends to look out for its own interests and places little faith in the good intentions of others (Rothstein and Uslaner, 2005).

Corruption leads to greater inequality and is strongly associated with mistrust (Uslaner, 2005). There are strong theoretical reasons for this association: corruption is based on loyalty to corruptors, not to the broader society. It also transfers resources from the mass to elites (Tanzi, 1998), functionally consisting of an extra tax on citizens that does not contribute to budgetary resources (Mauro, 1997). In addition, by fostering inequality so that people think the only route to prosperity is through dishonesty, social tensions rise (Csepeli et al., 2004). Optimism about the future makes less sense when the rule of law is bent, as there are less than equal opportunities and higher levels of discrimination (Uslaner, 2005).

The indicators included in the PCA (KMO and Barret's sphericity tests, 0.753 and 47.3, respectively) were:

- Ethnic Fractionalisation (the probability that two randomly selected people from a given country will not share the same ethnic group). This indicator was sourced from Alesina et al. (2003).
- Judicial Corruption Decision. While not measuring morality directly, this indicator informs on the pressures to bend the rule of law on the assumption that others would reciprocate. These data were sourced from the question: "How often do individuals or businesses make undocumented extra payments or bribes in order to speed up or delay the process, or to obtain a favorable judicial decision?" from the Varieties of Democracies (V-Dem) project (Coppedge et al., 2017; Pemstein et al., 2017).
- The Bayesian Corruption Indicator. This indicator, sourced from the Sherpa Ghent University (Standeart, 2015), was used as a measure of corruption. Its focus, however, is not limited to judicial decisions. The indicator consolidates results from different surveys on corruption. The Bayesian Corruption Indicator values lie between 0 and 100, with an increase in the index corresponding to a rise in the level of corruption. There is no objective scale on which to measure the perception of corruption so the scaling was largely arbitrary. However, Standeart (2015) gave the index an absolute scale (0 where all surveys evaluate that there is no corruption, and 100 when all surveys show that corruption is "as bad as it gets" according to their scale).

The extracted component (the only one with an eigenvalue greater than 2) was used to build a trust score, presented in Fig. 4.14. Because of the objective difficulty of assessing generalised trust in a country, the thresholds chosen for the crisp set analysis were twofold (consistently with Nielsen, 2011): dividing African countries into high trust (below an index of 0.35), medium trust (between 0.35 and 0.4) and low trust (above 0.4).

4.4 Calibration of conditions

Conditions were calibrated for use in fuzzy-set analysis and to make measurements of the concepts of interest (or their proxies) interpretable (Byrne, 2002). The focus of this exercise was on the degree to which cases satisfy membership criteria. Precision came in the form of quantitative assessments of the degree of membership in a set, ranging from 0 (full exclusion) to 1 (full inclusion). Criteria for assessing membership were external, provided by the references used in the dichotomisation and the author's substantive knowledge, which reflects

standards based in social science or collective scientific knowledge, like the thresholds set for the dichotomisation (Ragin, 2000; Smithson and Verkuilen, 2006).

The direct calibration method used was based on important qualitative anchors to the datasets for each calibration (Ragin, 2000). The method implies the calculation of the odds of membership, converted into a logarithmic scale (transforming interval scale variables into log-odds metrics in a way that represents the labels of qualitative statements), and used to assess the relative distance to the anchors. The anchors, statements and membership scores used in this technique are presented in Annexure 1.

The remainder of this section presents the results of calibrations as graphs that compare the indicators with their membership scores. The exception is the Constitutional Rules condition: executive constraints to decision-making are calibrated but, because they have 7-category scores, their calibration is better shown in the table in Annexure 1. The other conditions were dichotomous (Fig. 4.15 and Fig. 4.16).

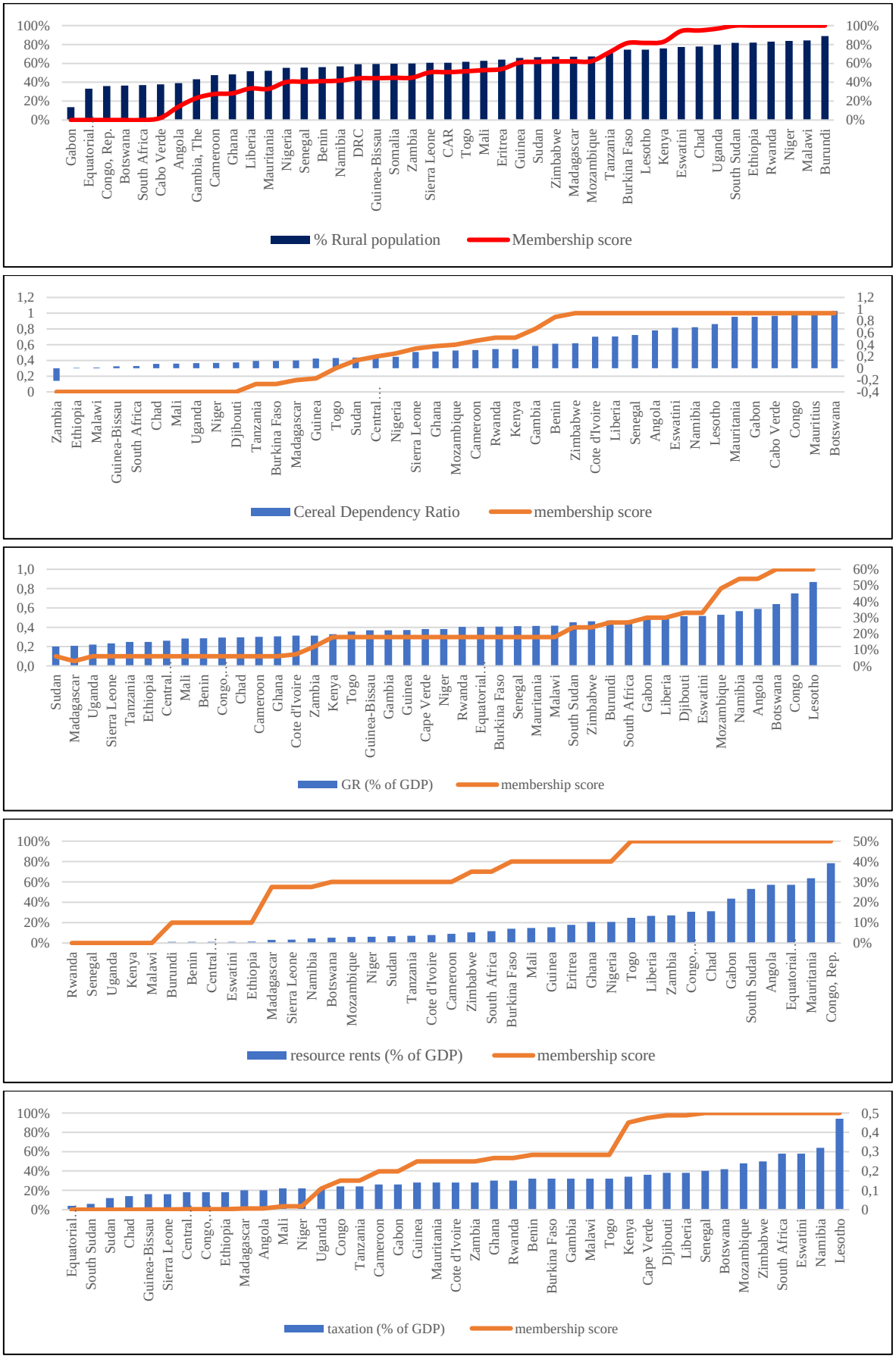


Fig. 4.15 Results of calibration of the country-characteristics indicators

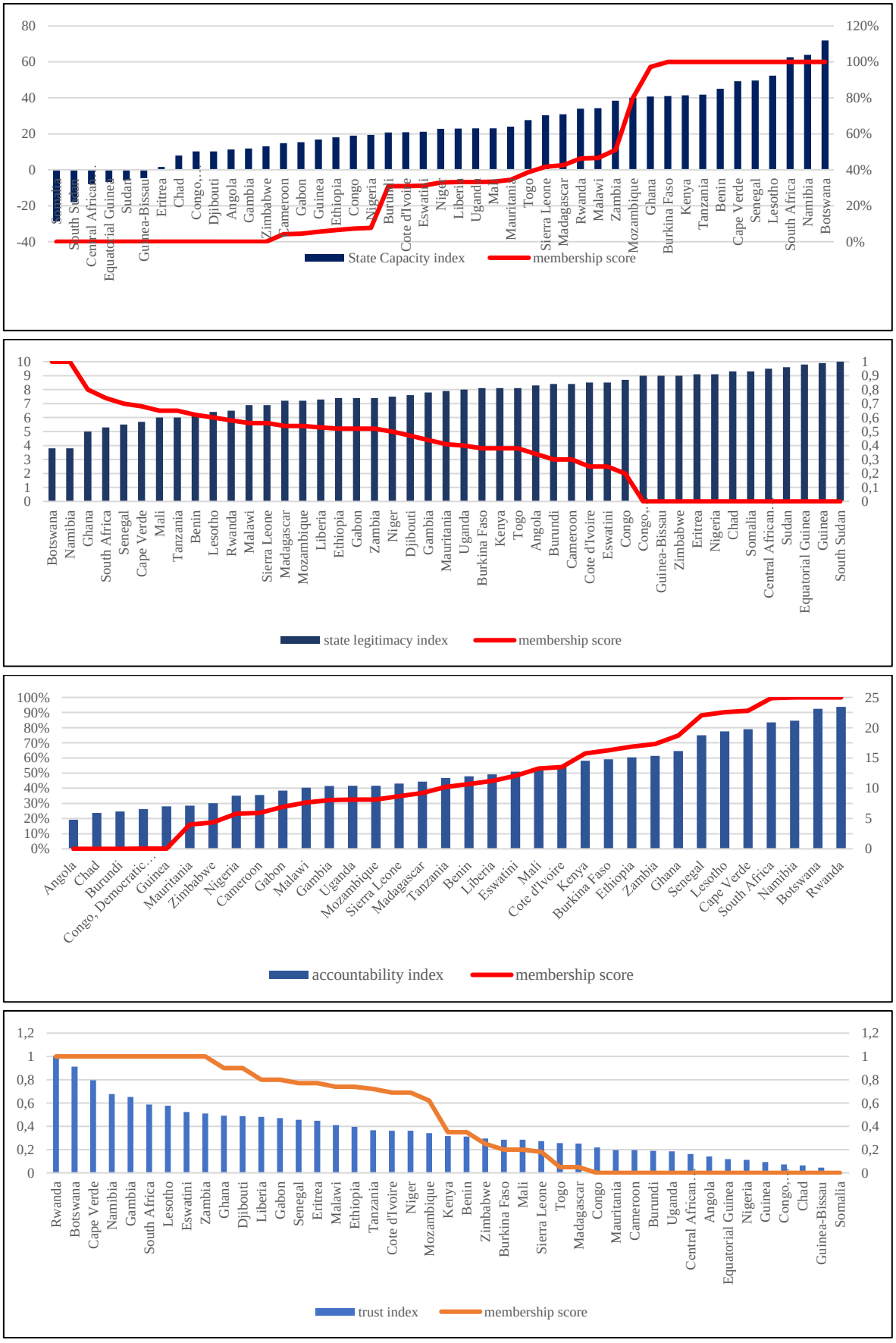


Fig. 4.16 Results of calibration of the indicators of the institutional environment

4.5 Neo-patrimonialism as style and suppositions

Tribalism, regionalism, patronage, cronyism, prebendalism, predation, etc. are terms used to describe neo-patrimonialism, contributing to its "conceptual muddle" (De Grassi, 2008: 112).

4.5.1 The features of neo-patrimonialism

In order to operationalise the suppositions related to neo-patrimonial features, it was necessary to characterise this notion according to the conditions described here. To operationalise this concept in the analysis, neo-patrimonialism was considered here as a style of governance. This notion is arguably closer to its original framework, in which both formal and informal institutions play a role in each other (Médard, 1982). The original notion not only acknowledged that African countries are not equally patrimonial, but also that there are variations in how specific institutions influence each other, i.e., there are differences even among countries considered neo-patrimonial. "There is more than neo-patrimonialism in Africa. This concept should be used as an ideal type: in systematically checking, for each particular political system, the reality of the model, we can measure the distortions" (Médard, 1982: 51). This stylisation draws from various descriptions of the neo-patrimonial logic, in particular, O'Neil (2007), Bach and Gazibo (2012) and Bratton and Van de Walle (1997).

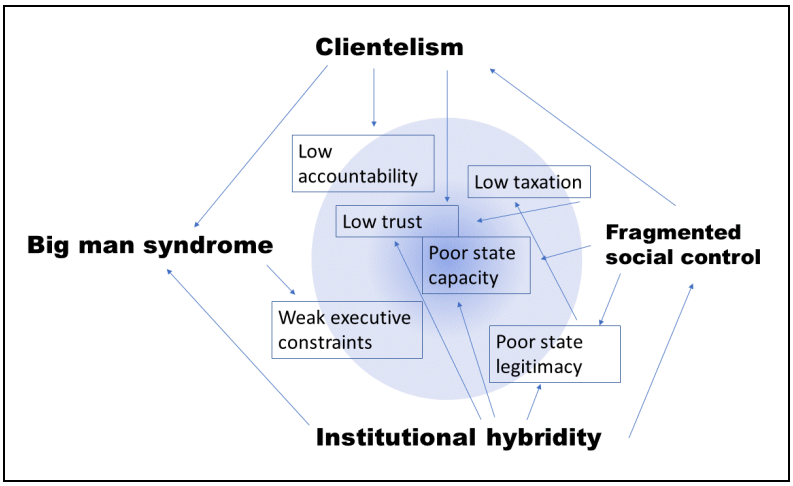


Fig. 4.17 Stylisation of neo-patrimonialism

First, states lack a common set of predictable rules and have contradictory formal rules (O'Neil, 2007). Modern states are understood as incorporating incentives to depersonalise the state, constrain its power with accountability institutions, and overcome the power of kinship/family networks over a generalised trust in impersonal rules. Therefore, one could argue that neo-patrimonialism is more evident in state-constraining institutions, such as accountability and the rule of law, rather than statehood. However, neo-patrimonialism tends to originate a mix of two types of domination that directly affect statehood. Elements of patrimonial and legal-rational bureaucratic domination penetrate each other where personal and impersonal legal-rational relations coexist (O'Neil, 2007). Because

actions of state institutions are not calculable, all actors strive to overcome their insecurity by operating on both the formal and the informal logic of neo-patrimonialism. A major consequence of this is that the maintenance of patron-client relationships is crucial to preserve security and wellbeing.

Ambiguity in the application of formal rules (because elites derive political and material gains from uncertainty) makes the economy an "economy of affection" (Chabal and Daloz, 1999), where patron-client ties rarely extend further than local levels. This implies low trust outside the family/inner circle. Besides, because of this clientelistic relationship, political accountability is likely to be low, resulting in weak incentives for civil servants to implement formal rules, and in resources being allocated based on accommodation *vis-à-vis* peers and strong men. Neo-patrimonial countries are also described as subscribing to the "Big Man Syndrome" (Hyden, 2006). Subordination to patrons, but also deference to the legitimacy of the executive to make decisions means that, in addition to low accountability, weak executive constraints are typical of this style. Although not all countries regarded as neo-patrimonial show the same characteristics in terms of electoral rules and governance systems, many do (Bleck and Van de Walle, 2018). Majoritarian elections and presidential governance systems also feature in the style.

The fragmentation of social control means that the public sector becomes a microcosmos of hybridity (O'Neil, 2007). Contestations about legitimate rules produce uncertainty about which ones apply (Leftwich, 2000; 2006), resulting in low state legitimacy. Because of the poor legitimacy, but also because of the low extractive capacity (Callaghy, 1990; Lindberg, 2001; Van de Walle, 2001b; Van Soest, 2007 and 2010; Bräutigam et al., 2008; Sigman and Lindberg, 2019), state capacity is also usually poor (Fig. 4.17). Politics and policies are then determined by particularistic interests and orientations (O'Neil, 2007). A country with a neo-patrimonial style of government would be characterised by:

- a majoritarian electoral system,
- a presidential governance system,
- weak executive constraints,
- low state capacity,
- low state legitimacy,
- low accountability,

- low trust, and
- low taxation.

However, it was not possible to describe a neo-patrimonial country based on:

- share of the rural population,
- cereal dependency on imports,
- government revenues, and
- resource rents.

There are examples of neo-patrimonialism in Africa with both a high and a low rural population (such as Chad and Congo), high and low cereal dependency (such as Angola and Malawi), high and low government revenues (such as Congo and Nigeria) and high and low resource rents (such as Gabon and Central African Republic).

4.5.2 Suppositions

Chapter 2 discussed country-level characteristics that were expected to have some influence on the choice of food security policies. In Chapter 3, the outcomes, in the form of policy classes (comparable to dependent variables) were organised in a specific taxonomy. Suppositions can, therefore, be formulated for policy outcomes by linking these to the drivers operationalised into indicators in this chapter. Linking indicators to outcomes allows a rigorous formulation of the testable suppositions. Conditions are expected to have an impact on one or more taxonomic criteria. These suppositions are organised in Table 4.4, for simplicity, where S stands for supposition.

Table 4.4 Suppositions (three pages)

Conditions/Classification principles	Policy coordination	Geographic scope	Orientation	Level of state involvement
Electoral rules	**S 1a.** Majoritarian elections are linked to more policy coordination for being more assertive and decisive (IDB, 2006)	**S 1b.** Majoritarian politics, being linked to geographic constituencies, lead to narrower geographic scope than proportional politics (Perrson and Tabellini, 2000)	**S 1c.** Proportional systems have a producer orientation effect, depending on the majority of the population's preferences (Olper and Raimondi, 2012)	**S 1d.** Proportional rules lead to larger welfare spending, and therefore higher levels of state involvement than majoritarian rules (Austen-Smith, 2000)
Governance systems	**S 2a.** Presidential regimes lead to more decisive decision-making, including policy coordination, than parliamentary regimes (Rocha Menocal, 2011)	**S 2b.** Parliamentary regimes lead to broader geographic scope (Perrson et al., 2000)	**S 2c.** Non-presidential systems are associated with consumer protection (Olper and Raimondi, 2012)	
Veto power	**S 3a.** Less constrained executive decision-making leads to broader coordination (Linz, 1994; McCubbins, 2001)		**S 3b.** Constraints to executive power favour producer orientation where past policies mostly focused on agriculture (Tsebelis, 1995)	**S 3c.** Contradictory: constraints to executive decisions might lead to lower state involvement (Huber et al., 1993; Primo, 2006; Posner and Park, 2007) or higher state involvement (Henisz and Zelner, 2001)
Rural population			**S 4.** The greater the share of the rural population, the more production support	
Cereal dependency	**S 5a.** Countries that depend on imports have broad coordination	**S 5b.** The dependency on imports for cereal supply leads to narrow geographic scope	**S 5c.** High cereal dependency on imports favours producer orientation	

Conditions/Classification principles	Policy coordination	Geographic scope	Orientation	Level of state involvement
Government revenues		**S 6a.** More revenues allow for more spending, and therefore broader scope (Asher et al., 2018; Kose et al., 2018)		**S 6b.** More revenues allow for more spending, and therefore higher distributive policies (Asher et al., 2018; Kose et al., 2018)
Tax revenues	**S 7a.** Taxation leads to more coordination, as more efficiency in government intervention is demanded (Ross, 2004 and 2012)	**S 7b.** The higher the taxation, the broader the geographic scope (Perrson, 2001; Prichard, 2015)		**S 7c.** The higher the taxation, the higher the level of state involvement (Perrson, 2001; Prichard, 2015)
Resource rents		**S 8a.** The higher the resource rents, the narrower the geographic scope (Ross, 2011; Barma et al., 2012)		**S 8b.** The higher the resource rents, the higher the level of state involvement (Jensen and Wantcherkon, 2004)
State capacity	**S 9a.** State capacity allows for better planning and leads to broader coordination (UNDESA, 2017)	**S 9b.** State capacity is associated with a broader geographic scope (Acemoglu et al., 2011)		**S 9c.** Contradictory: state capacity is associated with redistributive policies and more regulation enforcement (Etsioni-Halevy, 1983; Rothstein and Uslaner, 2005). But state capacity allows the withdrawal of state involvement, focusing on the provision of public goods such as contract enforcement, training and the strengthening of the economic environment for private transactions (Biswanger, 1997)

Conditions/Classification principles	Policy coordination	Geographic scope	Orientation	Level of state involvement
State legitimacy				**S 10.** Low state legitimacy provides incentives for distributive policies (Biswanger, 1997)
Accountability	**S 11a.** Accountability makes policy coordination more difficult (Peters, 2018)	**S 11b.** Accountability leads to broader geographic scope (Kitchelt and Wilkinson, 2007)		
Trust	**S 12a.** Higher trust allows broader coordination (Selingman, 1997)			**S 12b.** Contradictory. Higher trust facilitates the provision of state involvement (Sorok et al., 2007; Leibrecht and Pitlik, 2014). But low trust leads to more interventionist policies (Anghion et al., 2010)

Chapter 5. Introduction and overview of country cases

5.1 The selection of cases

In order to test the suppositions formulated in the previous chapter, eight cases of food security policy were included in this study. Many countries were considered (as presented in the previous chapter). Cases were selected to include a diverse set of conditions to be tested. Countries that consistently occupied the top and the bottom rank for most indicators described in the previous chapter were excluded, in order to focus on the "moderate" performers. The eight countries selected varied in both conditions and outcomes. Research in food security typically focuses on one, some or all its conceptual pillars (availability, access, utilisation and stability). This work does not limit food security policies to the elements they target to achieve diversity in policy outcomes considered.

Good practices for case selection in the set-theoretic analysis (Berg-Schlosser and de Meur, 2012) were followed in selecting the countries. This included ensuring:

i) that all cases shared enough background characteristics;
ii) that the definition of the outcome to explain (the classification of cases in this chapter) was duly justified; and
iii) that both "positive" and "negative" outcomes were included.

In addition, the cases were finally limited to eight, considering the availability of secondary data for the conditions, the availability of sources for the classification and, finally, their interest.

The countries and policies selected for this part of the analysis included:

i) Benin's *Programme National de Sécurité Alimentaire* (2014)
ii) Burkina Faso's *Politique Nationale de Sécurité Alimentaire et Nutritionnelle* (2014)
iii) Ethiopia's Food Security Programme 2010–2014
iv) Ghana's Food and Agriculture Sector Development Strategy (2007)
v) Kenya's National Food and Nutrition Security Policy Implementation Framework 2017–2022
vi) Madagascar's *Programme Sectoriel pour l'Agriculture, l'Élevage et la Pêche* (2014)
vii) Malawi's Fertiliser and Input Subsidy Programme (various years)
viii) Mozambique's *Estratègia de Segurança Alimentaria e Nutricional II* (2007).

Calibrated conditions for the eight country cases were extracted from the indicators presented in Chapter 4. These are presented in Table 5.1 below.

Table 5.1 Summary of calibrated conditions

Country	Executive constr.	Elect. rules	Gov. system	Rural Pop.	Cereal Dep.	Gov. Rev.	Res. rents	Taxation	St. Cap.	St. Leg.	Acc.	Trust
Benin	0.40	Prop	Pres	0.4	1.0	0.1	0.2	0.6	0.9	0.6	0.4	0.2
Burkina Faso	0.25	Prop	Pres	0.8	0.1	0.1	0.8	0.6	0.9	0.3	0.5	0.1
Ethiopia	0.25	Maj	Parl	1.0	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.8
Ghana	0.90	Maj	Pres	0.3	0.9	0.2	0.8	0.6	1.0	0.8	0.6	0.8
Kenya	1.00	Maj	Pres	0.8	0.9	0.3	0.2	0.6	0.6	0.3	0.5	0.2
Madagascar	0.90	Maj	Pres	0.6	0.6	0.1	0.6	0.1	0.4	0.5	0.3	0.0
Malawi	0.90	Maj	Pres	1.0	0.0	0.3	0.2	0.6	0.6	0.5	0.3	0.8
Mozambique	0.40	Prop	Pres	0.6	0.6	0.8	0.6	1.0	0.9	0.5	0.3	0.6

5.2 Classification tools

For each case, literature and policy documents were examined together with key background strategies (such as growth, rural development and poverty reduction strategies), operationalisation plans (such as investments and action plans), relevant legislation, initiatives and events to put them in in their respective policy context. Atlas.ti v8 software was also used to assist the desk review and identify points for further exploration during the interviews.

An open-ended informant interview questionnaire was used to deepen the researcher's knowledge and familiarity with the cases. Key informants were identified based on their familiarity with the policy examined, and selected so as to have the broadest possible representation among government officials of different ministries, donors and UN agencies involved in the food security policy process. A total of 18 interview sessions were held (a list of key informants per country and details for each session is in Annexure 2).

The questionnaire (in Annexure 4) was organised according to the steps in the policymaking process in order:

- to match the policy discussions easily with the steps in the process,
- to capture the evolution of policies during the process,
- to identify the actors involved in shaping and implementing public policies (what were their ideas, interests, interactions), especially the role of individual actors (policy entrepreneurs, leaders or champions), or the role played by high-level leadership or commitment; and
- to capture the background behind the policy design and implementation .

Insights from the desk review helped to customise a questionnaire for each country case. The questionnaire also aimed at contextualising key elements: the cognitive aspects (ideas) of public policies, the vision or perception supported in policy documents and actors' discourses about what the public problem was, what solutions should be implemented, and the policy contents of policies, reflecting the choices in terms of orientation and instruments. The interviews also assisted in clarifying elements from the analysis of documentation pointed. Information from the desk review was triangulated with the discussions with key informants.

In addition, the interviews were intended to help compare policies consistently with the definition of a taxonomy. Discussions were therefore steered towards practical examples and evidence-based comparisons.

The questionnaire included questions aimed at uncovering possible causal mechanisms for a certain goal or instruments, such as particular conjunctures of events, path dependency and the presence of policy champions to support the classification.

This chapter discusses the policies selected and the processes that led to their design and implementation. Some notions of recent political history are included to identify path dependency and paradigm shifts in the same processes. While many African countries shared an interventionist and socialist history until the 1980s, pursued liberalisation until the 1990s, and experienced their first democratically elected governments thereafter, there are specificities to be highlighted in these apparently common paths that influence perceptions of the role of public policies.

5.3 Benin: *Programme National de Sécurité Alimentaire* (2014)

The period from independence (1960) to 1972 was for Benin (Dahomey, at the time) characterised by chronic political instability (six coups and eight governments), resulting mostly from economic crises, short-lived shifting alliances, and rivalry between groups supported by the three regions (Mongbo, 1995). The main components of government intervention during this time were that the involvement of the state in the administration of agricultural development was taken for granted, and that policy in rural areas leaned essentially on cooperatives, often established by the state (Dissou, 1970).

However, during this period, the issues around nutrition were approached holistically for the first time (Laga, 2015), in particular through "family gardens", spread by rural community animators trained by the *Service Dahoméen d'Alimentation et de Nutrition Appliquée* (SDANA). This agency was created in 1962, and when, in 1974, SDANA became the *Direction de l'Alimentation et de la Nutrition Appliquée* (DANA), its leadership in the domain of food and nutrition was incontestable (Laga, 2015).

In 1970, a presidential election was about to lead the country into civil war (Vlakpa, 2018) until Major Mathieu Kerekou overthrew the president and set up a military national revolutionary council in 1972. In 1974, Kerekou announced Marxism-Leninism as the official national ideology. Agricultural policies included the creation of parastatals and the strengthening of state involvement. Relative to this period, two issues are important: first, the focus on community development in rural areas. The regime, in fact, despite concentrating power, worked for the inclusion of the political system in the villages, where local committees played an active political role. For example, local authorities were elected (with no interference [Mongbo, 1995]), favouring the emergence of a dynamic sociopolitical landscape and the introduction of community development programmes. This focus on rural communities was the logical consequence of enlisting the rural population in local and national politics (Mongbo, 1995). Later, these interventions also played a part in the changing economic context of the 1980s: together with limited liberalisation, the president appealed to civil society to launch private rural development initiatives in collaboration with local authorities, motivating many *associations de développement* to register and be active at local level (Attolou, 1989; Daane and Mongbo, 1991). These became the entry point for food and nutritional interventions in the country for the following years.

Second, the decade from 1974 to 1984 was marked by the introduction of the health component into approaches to fighting malnutrition. Several initiatives were taken, including the creation of the *Commission National Céréalière* (CNC) in 1982 and the *Programme National Complet de Sécurité Alimentaire* (Integrated Food Security Programme, PNCSA), supplying urban centres with cheap food imports (Laga, 2015). In 1984, with the Italian Cooperation, Benin also established a food and nutritional monitoring system that allowed better targeting of interventions (Laga, 2015). It was nonetheless also a period of instability for DANA, which went twice from being the Ministry of Rural Development to being the Ministry of Health before being stabilised since 1984 in the ministry in charge of agriculture (Mongbo, 1995).

Towards the end of the 1980s, in line with the focus on community development, the policy of Community Nutrition was introduced, with the inclusion of Nutrition in the school curriculum. Since 1987, the institutional architecture of food and nutrition actors has been strengthened by the Ministry of Social Affairs (*Ministère des Affaires Sociales*, MAS) which also initiated nutritional screening and community nutrition education programmes through its *Centres de Promotion Sociale* (Social Promotion Centres).

In 1990, the *Conférence des Forces Vives de la Nation* marked the shift to a multiparty political system. Although the main intervention in food security was humanitarian distribution (Laga, 2015), two programmes that had been active since the mid-1980s, the *Programme Alimentaire et Nutritionnel* (Food and Nutrition Programme, PAN, also known as "pre-school programme") and the *Programme Alimentaire et Nutritionnel à Base Communautaire* (Community-based Food and Nutrition Programme) were also coordinated by ONASA (*Office National d'Appui à la Sécurité Alimentaire*, that replaced ONC in 1992).

By that time, DANA had developed nutrition interventions in schools in the form of nutritional education (Laga, 2015), with the important results of introducing theoretic and practical notions of nutrition. In 1994, a National Committee for Food and Nutrition (*Comité National pour l'Alimentation et Nutrition*) was established to improve the institutional governance between ONASA and the Ministry of Health (which had nutrition services in key departments [Laga, 2015]). An Action Plan for Food and Nutrition (*Plan d'Action pour l'Alimentation et la Nutrition*, PANAN) was launched in 1995, with objectives focused on food safety and consumption.

The 2007 Strategic Plan for Agricultural Relaunch (*Plan Stratégique pour la Rélance Agricole*) was renewed for the 2015–2025 period. Its operationalisation is the Food and Nutrition Security

Programme (PNSA – the object of this study), designed in collaboration with FAO. While producers' support is planned (crop intensification, storage, seeds, animal genetic material, etc.) the programme also comprehends an important nutritional component, similar to the interventions in community nutrition. Income-generating activities are also planned. The programme is said to be "a tool for sustainable improvement of food status and a significative contribution to children nutritional status" (Laga, 2015: 65). In 2018 the programme was modified to include more social protection (by the *Agence Nationale de Protection Sociale*, ANPS, created in 2017) and scale up nutritional interventions. The initiative has the ambitious name of *Faim Zéro* (Zero Hunger) Strategy.

5.4 Burkina Faso: *Politique Nationale de Sécurité Alimentaire et Nutritionnelle* (2014)

In contrast with other countries, the evolution of policies in Burkina Faso presents a continuity in agriculture-orientation. Hunger became a public issue during the development of the colonial state, with the establishment of "famine granaries" (Poussart-Vanner, 2006). After independence, the period before 1990 was characterised by strong state involvement in the agricultural sector. Regional Development Offices (*Offices Régionaux de Développement*, ORDs) were created and state enterprises intervened in all fields of the economy (Alpha and Fouilleux, 2018). In the mid-1980s, under the revolutionary presidency of Sankara, food crises continued to be regarded as a result of insufficient cereal production and a strong agricultural policy was implemented (Alpha and Fouilleux, 2018). It must be stressed that the food crisis after the 1973/74 drought greatly marked public opinion, and the emphasis on food production and the creation of cereal banks reinforced (Alpha and Fouilleux, 2018).

During the 1990s, the policy focus was on the prevention and management of food crises in the context of economic reforms, implemented especially in the agriculture sector (*Programme d'Ajustement Sectoriel Agricole*, PASA). The second PASA (1996) led to the liberalisation of input marketing, the liquidation of the National Office of Cereals Marketing (*Office National de la Commercialisation des Céréales*, OFNACER), and the removal of the state price-setting scheme (CNSA, 2014). A Committee of Reflection and Follow-up on the Cereal Policy (*Comité de Réflexion et de Suivi de la Politique Céréalière*, CRSPC) was set up to consult stakeholders in cereal market chains, as well as a Permanent Secretary for the Coordination of the Cereal Policy (*Secrétariat Permanent de Coordination de la Politique Céréalière*, SP/CPC – Burkina Faso, 2003). The framework is still in place today, with the creation of national food security stock managed by the National Society of Management of the Food Security Stock (*Société*

Nationale de Gestion du Stock de Sécurité, SONAGESS) and financial stock managed by the SP/CPC; a National Committee for Emergency Relief and Rehabilitation (*Comité National de Secours d'Urgence et de Réhabilitation*, CONASUR). Access to food, independently of its origin, was emphasised, and the support for domestic production declined (Alpha and Fouilleux, 2018).

As a result of the difficulties faced by the CRSPC (Alpha and Fouilleux, 2018), a National Strategy on Food Security (*Stratégie Nationale de Sécurité Alimentaire*, SNSA) was adopted in 2003 (CSAO-CILSS, 2008; CNSA, 2014). This was the first reference policy document on food security. The five-year National Programmes of Food Security (*Programmes Nationaux de Sécurité Alimentaire*, PNSA) through which the strategy was implemented had well-balanced objectives, but the distribution of the costs shows a strong focus on food production.

In October 2014, the Policy on Food and Nutrition Security (*Politique Nationale de Sécurité Alimentaire et Nutritionnelle*, PNSAN), the focus of this study, was adopted. The process of drafting the policy was steered by the National Council on Food Security (*Conseil National de Sécurité Alimentaire*, CNSA, which replaced the CRSPC in 2003), showing the intention of the government to better integrate food security and nutrition. The policy has five strategic axes:

i) sustainably increase food availability;
ii) capacity to prevent shocks and respond to shocks;
iii) physical and financial accessibility to food;
iv) nutritional status of the population; and
v) the governance for food and nutrition security.

The first phase of implementation (2014–16) took the form of a plan for a multitude of actions (69, with 313 sub-actions). However, the distribution of the costs of the plan shows that, except for building infrastructure, an important proportion of costs is dedicated to the subvention of inputs (Yameogo et al., 2017). A social protection component, although present, is limited in scope and coverage (FAO, 2014a). Before the launch of the PNSAN, costs related to food and cash transfers to vulnerable populations represented, respectively, 1.4% and 3.3% of the action plan (FAO, 2014a), but it has not, according to key informants, grown much since this date.

The PNSAN is designed and implemented in the framework of other policies and strategies. The ones mentioned in the policy document are:

- The National Programme on Rural Sector 2011-2015 (*Programme National du Secteur Rural,* PNSR): adopted at the end of 2012 as the framework of the 2004-2015 Rural Development Strategy (*Stratégie de Développement Rural*, SDR), and the national declination of regional agricultural policies (ECOWAS/CAADP and WAEMU).
- The National Nutrition Policy (*Politique Nationale de Nutrition*, PNN): adopted in 2007, was the basis for the 2010-2015 Strategic Plan for Nutrition when Burkina Faso became a member of the Scaling Up Nutrition (SUN) initiative. The plan constitutes the SUN action plan.
- The 2012 National Policy on Social Protection (*Politique Nationale de Protection Sociale*, PNPS).

5.5 Ethiopia: Food Security Programme 2010–2014 (2009)

A collective military dictatorship called the Provisional Military Administrative Council (PMAC), also known as the *Derg*, came into power after the deposition of Emperor Haile Selassie in 1974. The fall of the regime in the early 1990s coincided with the withdrawal of Soviet military assistance, but also the military victory of the northern rebel group, the Tigray People Liberation Front (TPLF), which enjoyed popular support and saw the rural population as the base of their legitimacy (Henze, 2000).

Emergency food aid was the main tool to address food crisis (Clay et al., 1998) before 1996, when the first comprehensive food security strategy was developed (revised in 2002 during a period of food crisis) (Elleni, 2007; EAS, 2013), clarifying entitlement to and modalities of food aid (Jayne and Daniel, 2005; PANE and EEA, 2006). In the early 2000s, the government launched three initiatives that constituted a radical shift in addressing food insecurity (Giligam et al., 2009):

- The 2002 National Food Security Programme (FSP) aimed to address the underlying sources of chronic and transitory food insecurity with a multidimensional approach (MoFED, 2002). Increased investments in health, education and road facilities to rural areas were identified as support mechanisms.

- The New Coalition for Food Security in Ethiopia (2003) was developed after a study by the Ministry of Agriculture and Rural Development (MoARD) and partners. The key interventions designed over five years included a voluntary resettlement programme, safety nets ("building community assets"), and creating household assets through on-farm and off-farm activities (Haan et al., 2006).
- The 2005 Productive Safety Nets Programme (PSNP) incorporated particular categories of people or any other underlying causes of food insecurity. The country moved away from annual emergency appeals to more development-oriented, multi-annual cash-based safety net programmes (before 2005, there was an appeal for humanitarian assistance every year after the famine of 1984) (Raisin 2001; Smith and Subbarao, 2003; World Bank, 2011). The PSNP added a social perspective to this predominantly agricultural and economic growth-related problem. Consequently, in designing the instruments, there was a paradigm shift from a predominantly short-term vision to a long-term strategic vision (Bishop and Hilhorst, 2010).

A multidimensional approach, the distinction between acute and chronic food insecurity, and the shift to a longer-term vision were all innovative ideas that featured in the Food Security Programme 2010–2014 (published in 2009, MoARD), the object of this study. The concept of graduation from social protection is a prominent feature of the programme (Fig. 5.1). "The programme aims to put chronically food insecure households on a trajectory of asset stabilisation first, then asset accumulation. That is, a series of inputs from the programme and from other development interventions makes households become food sufficient first, then sustainably food secure. In this way, they will graduate from the PSNP first, then from the FSP" (MoARD, 2009: 15). The idea also features in the third five-year development plan (2010–2015), known as the Growth and Transformation Plan (GTP – MoFED, 2010).

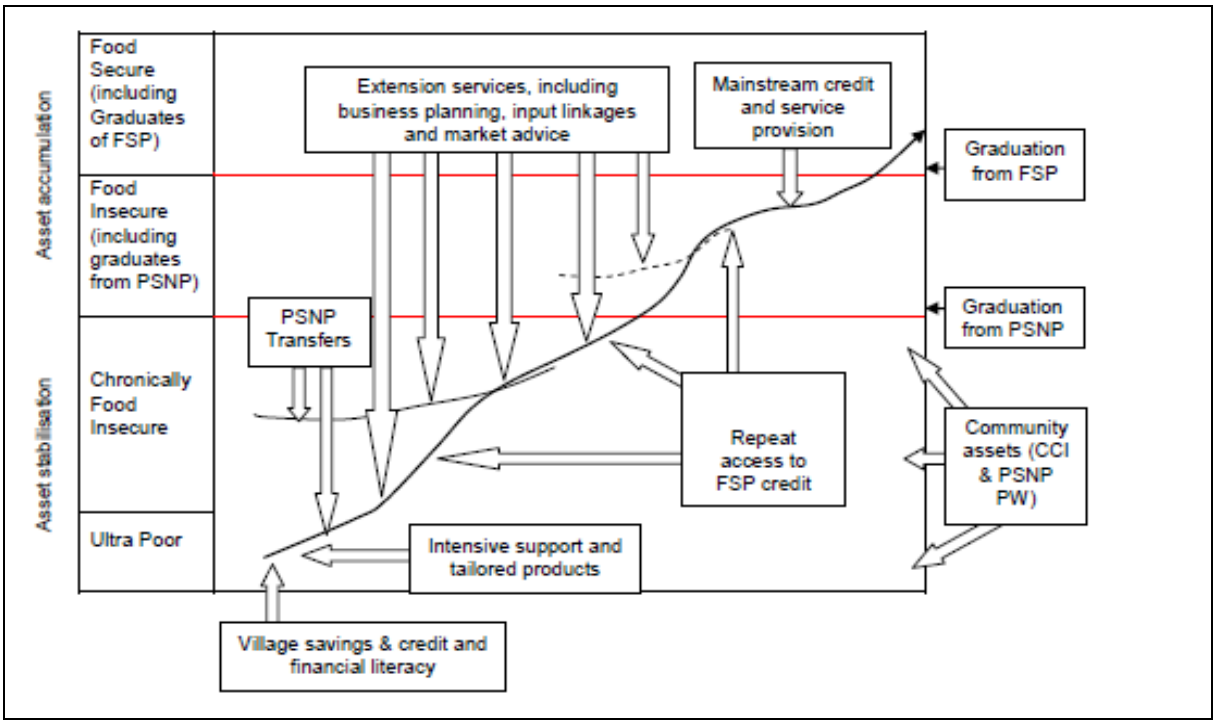


Fig. 5.1 The vision of graduation

Source: MARD, 2009

Complementary to the FSP, other interventions have been launched:

- The Agricultural Growth Programme (2011), focusing on productive highland areas (MoARD, 2013);
- The New Social Protection Policy (2012), based on lessons learned from previous experiences, but with a more comprehensive scope;
- The Disaster Risk Management and Food Security Sector (DRMFSS), established in 2008 for the coordination and leadership of the Disaster Risk Management Policy;
- The National Nutrition Strategy (NNS): after a long period of limited attention to nutrition issues, the NNS was formulated during 2005/06, and again in February 2008, bringing the various interventions into one comprehensive sector-wide approach.

5.6 Ghana: Food and Agriculture Sector Development Strategy (FASDAP II)

Food has been at the centre of Ghanaian political discourse since independence in 1957 and, apart from the open consultations undertaken after democratisation and the decentralisation process (see below), no dramatic change in paradigm is evident from the review of present and past policies, and interviews with key informants. Food security is mostly seen as an agricultural issue (Asuming-Brempong, 2013). In the past, the agricultural policy focus has been on the

production of food and raw materials to feed and supply the metropolitan areas of the colonial power, leading to reliance upon the export crop (Girdner et al., 1980). Only six years after independence, President Nkrumah was overthrown, and military regimes succeeded until the early 2000s (although technically the last two mandates of President Rowling were sanctioned by-elections, he stayed in power from 1981 to 2001). These governments intervened heavily in agriculture until the end of the 1980s (Asuming Brmpong, 2013): cooperative and state farms were a central part of the policy mix; district and regional tractor stations and a Food Marketing Board were set up, and food price control was introduced.

However, smallholding farming was also supported, especially during the 1970s (Lambert, 2019). The programme called Operation Feed Yourself (OFY), launched in 1972, was particularly mentioned as the first (highly government-planned) activity to focus on food production, rather than on cash crops. Kolavalli and Vigneri (2017) highlighted the relevance of cash crops, in particular cocoa, in the national political economy. Unlike other African countries, Ghana did not undergo a full liberalisation process because of the use of marketing boards as instruments of development (Micah, 1989; Breisinger et al., 2008; Kolavalli et al., 2012; Kolavalli and Vigneri, 2017). However, a major focus in agriculture policy after the late 1980s was market deregulation (Asuming-Brempong, 2013).

Despite progress, agricultural transformation remains a challenge (Breisinger et al., 2011; Yeboah, 2019). The expansion of cash crops like cocoa has benefitted farmers in the southern regions, but agriculture in the northern savannah continues to be characterised by staple crop production (Chhokar et al., 2015). The first Food and Agriculture Sector Development Policy (FASDEP) was developed in 2002 as a framework for the modernisation of the agricultural sector. The policy was based on the Accelerated Agricultural Growth and Development Strategy (prepared in 1996), designed to forge links in the value chain. Sector priorities are currently guided by the Food and Agriculture Sector Development Strategy (FASDEP II), the focus of this study, created and implemented by the Ministry of Food and Agriculture (MoFA). It was launched in 2007 to guide development and interventions in the agriculture sector, with some integration of social protection (MoFA, 2007). A value chain approach to agricultural development was maintained, with a focus on meeting the challenges of quality standards in the international market, and on increasing productivity along the value chain. Among the policy principles are decentralisation, partnership with the private sector, and the intent to foster an enabling environment for the provision of key infrastructure (irrigation, roads, storage and energy), input subsidies, extension, and the enforcement of laws and regulations. The policy

was also designed to meet the targets established by CAADP, as well as the Millennium Development Goals.

In Ghana, more than in other countries, government actions with regard to food security were not channelled within a single framework, but result from interventions in different programmes implemented by different actors. These are summarised in Fig. 5.2, which also shows the little change in priorities in the last ten years. Actions in social protection, nutrition, agricultural production and trade, although formally aligned to the President's Coordinated Programme of Economic and Social Policy 2014–2020, are not part of an organic, single policy guideline: almost every year, a new initiative that somehow relates to food security is launched.

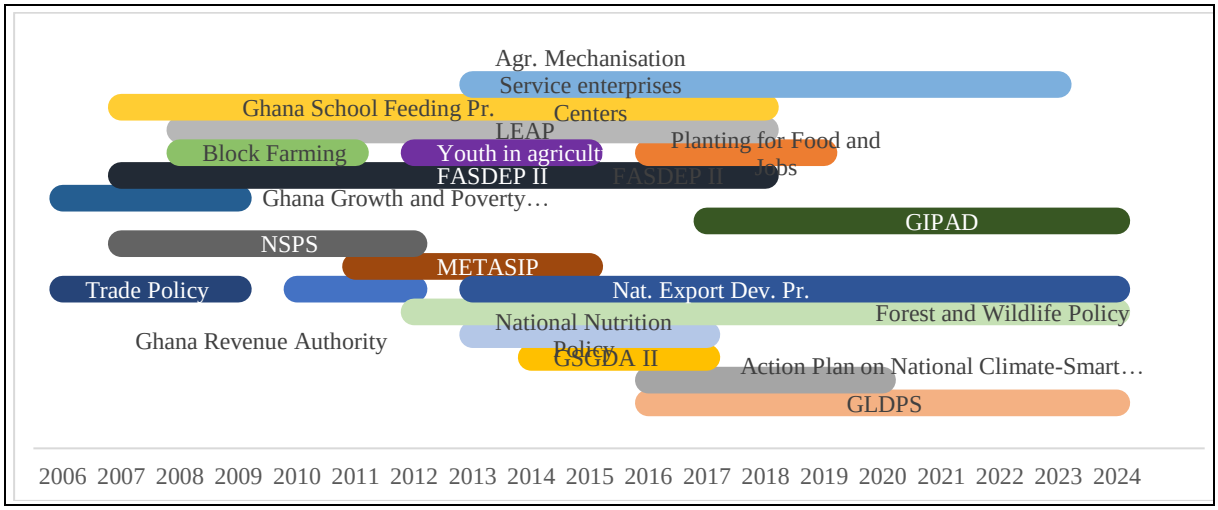


Fig. 5.2 Timeline of the main policies related to food security in Ghana

The most recent and relevant initiatives were:

- The vision of the 2007 National Social Protection Strategy (NSPS) seeks to empower the extreme poor and other vulnerable populations through social grants.
- The Livelihood Empowerment Against Poverty (LEAP) Social Grants Programme aims at eliminating hunger and food insecurity by cash transfers to the extremely poor and stimulating access to social services (health and education in particular).
- The Coordinated Programme of Economic and Social Development Policies (CPESDP) is based on the vision "Change: An Agenda for Jobs-Creating Prosperity and Equal Opportunity for All". Transforming agriculture and industry and strengthening social protection and inclusion are among the priorities.

The 2017 "Planting for Food and Jobs" national campaign for the rapid growth in the production of key staple crops (mainly maize, rice, soybean, sorghum and vegetables) was aimed at

creating jobs, particularly for the youth across the country. The campaign's key pillars of support to over 200 000 farmers covering all the 216 districts included improved seed, fertiliser, extension services, marketing and e-agriculture.

The Ghana Integrated Plan for Agri-Food-Systems Development (GIPAD) 2018–2021 is still in draft form, at the time of writing, but is a continuum of previous policies concerning food security.

In the agricultural sector, the focus of the government has consistently been on transformation and modernisation, even across the plethora of policy initiatives. Since 2012, the trade policy has targetted the sector in terms of agro-processing, provision of basic foodstuffs for the domestic market, and improving competitiveness. Main activities are addressed through effective implementation of the FASDAP II. This policy is complemented by:

- The Medium-Term Agriculture Sector Investment Plan (METASIP), which is the investment plan to implement FASDAP II. The Plan counts on six programmes:
    - food security and emergency preparedness,
    - increased growth in incomes,
    - increased competitiveness and enhanced integration into domestic and international markets,
    - sustainable management of land and environment,
    - science and technology applied in food and agriculture development, and
    - improved institutional coordination.
- The 2016 Ghana Livestock Development Policy and Strategy sought to address the excessive importation of livestock and livestock products, increased incidence of emerging and re-emerging animal diseases, inadequate infrastructure, financing, research and technology dissemination, among others.
- The Action Plan on National Climate-Smart Agriculture and Food Security (2016–2020) is the implementation framework for the development of climate-smart agriculture. The overall goal of the action plan is to facilitate and operationalise the National Climate Change Policy (NCCP) for effective integration of climate change into food and agricultural programmes.

These policy strategies and initiatives have been undertaken in a context of important political reforms, particularly decentralisation. This has implications for policy design and

implementation because the policy process in Ghana is established not only at the federal level but also at the regional and district levels, on the assumption that district assemblies are the most directly linked to farmers and can provide the most insight into local issues and challenges that farmers are facing (Chhokan et al., 2015).

5.7 Kenya: Food and Nutrition Security Policy Implementation Framework (2017)

Policies were marked by state interventions from independence in 1963 until the mid-1980s: the government set farm-gate and consumer prices for all basic food commodities, and its control was strengthened by the creation of several production and marketing parastatals and farmer cooperatives. High public investment in productive infrastructure was also common. The main policy objective during this period was food self-sufficiency (Ronge et al., 2005; Alila and Atieno, 2006; Gitau et al., 2008). The first National Food Policy (1981), later consolidated into the 1984 Sessional Paper on Economic Management for Renewed Growth, aimed to maintain broad food self-sufficiency through government interventions, such as setting grain prices, state monopoly of the input distribution, and fertiliser subsidies.

With the liberalisation of the 1980s, the general policy agenda showed a clear bias against agriculture in favour of the industrial and financial sectors, culminating in the 1996–97 Industrial Transformation to the Year 2020 and the eighth National Development Plan (1997–2001). Following the 1991–94 drought, Kenya's second National Food Policy (1994) promoted a more market-driven approach, but on a limited scope (Republic of Kenya, 2011a). Of the same year is the National Plan of Action on Nutrition but without a clear implementation framework and coordination mechanisms (ACF et al., 2013).

By 2000, the prices of almost all commodities were liberalised, with some specific government interventions, mainly through international trade protection. Since then, government documents have emphasised a stakeholder participatory approach. Largely consultative processes resulted in several new or reformed policies (Alila and Atieno, 2006).

The 2003 Strategy for Revitalising Agriculture (SRA), 2004–2014 (MOA and MOULD, 2004) was a turning point compared with past sectoral strategies in two important aspects. First, the primary goal was no longer food self-sufficiency, but the creation of wealth and employment through a commercial, market-oriented and profitable agriculture. Second, the government recognised the importance of private- and public sector partnership. The main government roles set out in the SRA were the provision of a limited number of goods and services, and a reduced

range of regulatory functions (Alila and Atieno, 2006). The strategy achieved some success in agricultural growth, but the 2007–2008 food and financial crisis had a significant negative impact on some of the advances made. However, the Vision 2030 (Republic of Kenya, 2008) aims at consolidating these successes. Agriculture is identified as a key sector for economic growth, emphasising the transformation of smallholder agriculture from subsistence to commercially-oriented. The revision of the SRA led to the development of the Agriculture Sector Development Strategy (ASDS) 2010–2020 (Republic of Kenya, 2010), with a more market-oriented focus on commercial, rather than subsistence farming (Slater and Nyukumi, 2016).

In 2012, the Food and Nutrition Security Policy (FNSP) was adopted after a process that involved consultations with several stakeholders. The FNSP promotes a multi-sectoral approach to nutrition, focusing on the links between the health and agricultural sectors to improve food and nutrition security in the country. It also provides policy guidance for the implementation of nutrition-sensitive interventions. The Implementation Framework 2017–2022 (FNSP-IF) was drafted in 2017 as a tool for effective implementation of the FNSP, particularly in regard to setting priorities for interventions and implementation methods. This framework is the focus of the current study. During the relatively long period between the drafting of the FNSP and its Implementation Framework, a National Agricultural Extension Policy, a National Seed Policy, a National Horticulture policy, a National Agribusiness strategy, the National Agricultural Research System policy, the Agricultural, Fisheries and Food Authority (AFFA) Act, a Crops Act, the Kenya Agricultural and Livestock Research Act, and the KEPHIS Act were launched.

The implementation framework was designed at the time when agriculture was devolved as a government function. In 2010, a new Constitution was adopted, requiring the number of ministries to be reduced from the then 44 to a number between 14 and 22, which entailed substantial consolidation and reorganisation of ministerial functions. The new Constitution also required the devolution of government powers to the 47 new counties. Resource allocation and programming now take place at county level, while the national government retains the responsibility for policymaking and some programmes (such as the National Accelerated Input Access Programme, and a number of interventions relating to animal health, irrigation, mechanisation, the regulation of farmers' association, credit, etc.), supposedly better delivered at this level.

5.8 Madagascar: *Programme Sectoriel pour l'Agriculture, l'Elevage et la Pêche* (PSAEP) (2014)

Madagascar has had a troubled political history since its independence in 1960. In the 1960s, although development policies in other countries prescribed government interventions (Fig. 5.3), there was little state control over the agricultural sector in Madagascar (with the exception of cash crops). Farmers had access to free markets for products and inputs (Essama-Nssah, 1997), although within an unstable political context and a slow and erratic economic growth (Szal, 1988). The political economy trajectory of Madagascar has been both enigmatic (the population lost a third of its purchasing power between 1950 and 2010 – Razafindrako et al., 2013) and paradoxical (Razafindrako et al., 2017a): whenever the country's economy began improving, the trend was halted by political crisis (Fig. 5.4).

After the 1973 army coup, Didier Ratsiraka was named president in 1975, and announced that the country would follow a socialist course. The government nationalised trading companies and began to extend government control over food marketing. In 1977, policies in favour of the urban sector were introduced: the minimum wage was increased, and basic food items were subsidised (Essama-Nssah, 1997).

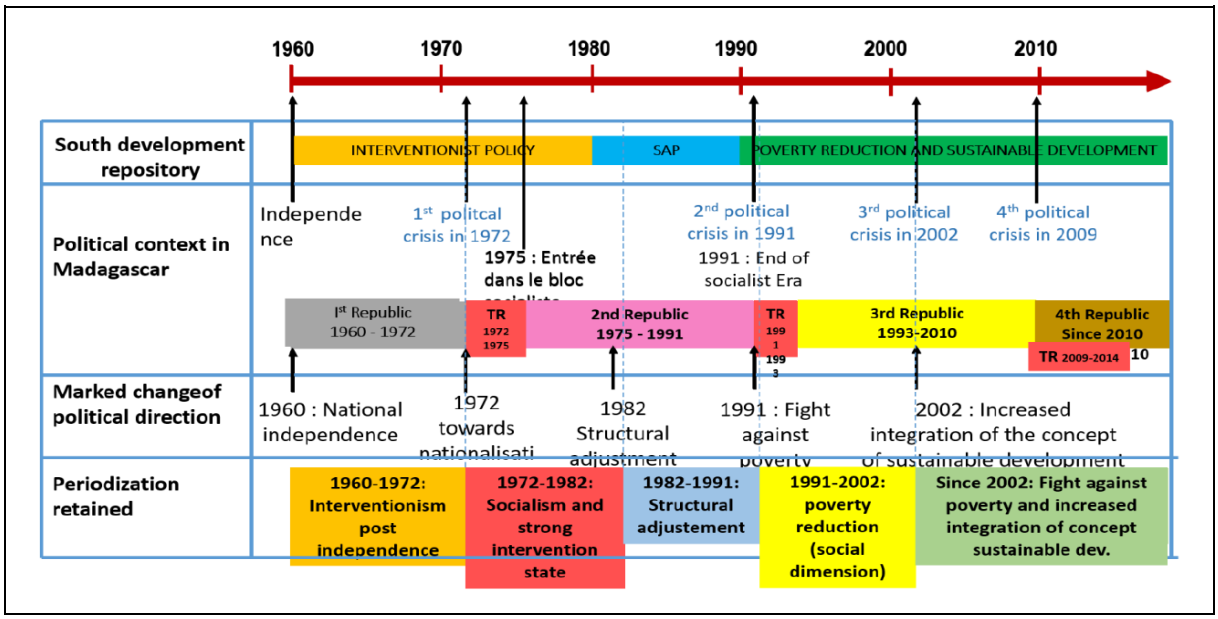


Fig. 5.3 Timeframe of recent Malagasy political history

Source: Raharison, 2014

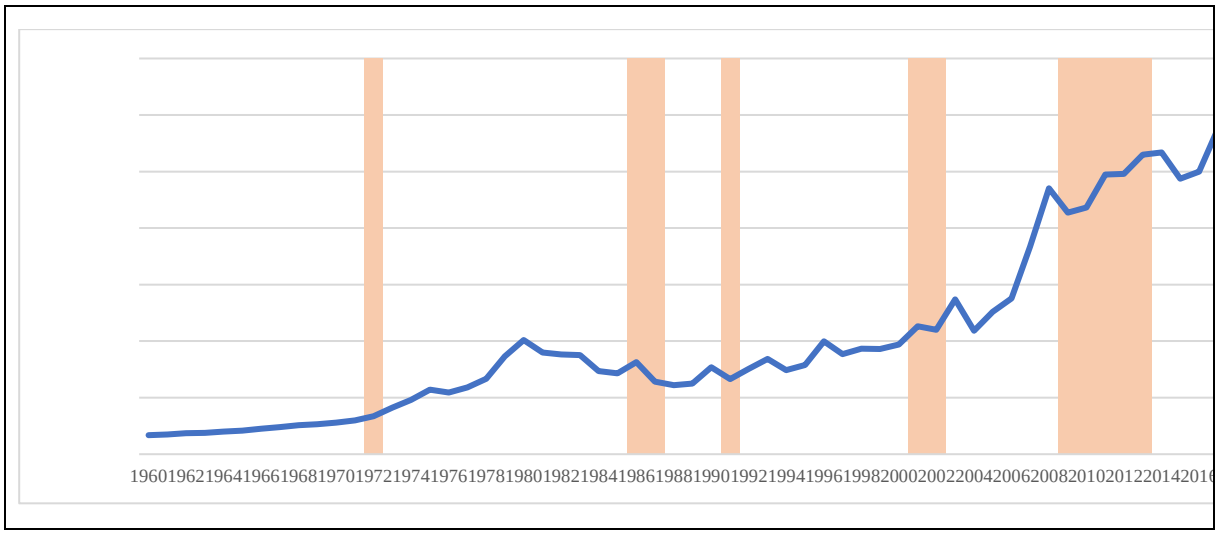


Fig. 5.4 GDP (current USD) and political crisis (shadowed)

Source: World Bank (2019) and author

By the beginning of the 1980s, the food sector was highly regulated, with the government responsible for setting producer and consumer prices, arranging imports and even the distribution at *fokontany* (neighbourhood) level (Shuttleworth et al., 1988). However, trading operations were decentralised: all movement of rice over administrative boundaries required the permission of the president of the local executive committee, with local parastatal trading companies having a monopoly (Barret, 1995). Despite controls, illegal trade took place (Shuttleworth, 1989): at the beginning of the 1980s, rice markets were already divided among the (illegal) private markets, the official trade by parastatals, and the circuit official, set up to replace private trading by licensing operators to distribute low price supplies provided by the parastatals in deficit *fokontany*.

In the 1983–84 season, SINPA – the parastatal in the main rice-producing areas – was temporarily closed for restructuring. Private traders were then allowed to have a more important place in trade (Shuttleworth, 1989). At the same time, Madagascar experienced a severe economic crisis (GDP per capita in 1984–86 was 28% below its historical peak in the 1970s) (Essama-Nssah, 1997), in part due to the failure of the *investissement à outrance* (invest-to-the-hilt) programme launched in 1978. These initiatives led to a short-lived economic boom, high inflation and unsustainable levels of foreign debt. In an attempt to mitigate the negative impact of the crisis, the government, with the help of the international community, initiated a reform programme aimed at liberalising domestic markets and the allocation of foreign exchange (Barret, 1997; Essema-Nssah, 1997). Despite the 1983 “Liberalization”, the government continued to see its role as one of maintaining the consumption level of the population and the

circuit official, its main instrument (Barret, 1997). The desire to keep consumer prices low was at odds with the poor planning of imports, which took very little account of seasonal fluctuations in local production. In the first place, the government agreed to reduce import volumes substantially, without adequate planning to deal with shortages: responsibility for each of these policies lay with the *Ministére des Transports, du Ravitaillement et du Tourisme* (MTRT) which had largely been excluded from the discussions of liberalisation (Shuttleworth, 1989). Imports were previously crucially used to cover for deficits in domestic production, but this possibility was precluded. Besides, the government did not completely eliminate the power of local authorities over inter-provincial trade. This meant that there were still barriers to discourage movement from surplus to deficit areas. The approach undertaken by the regime was double-edged, resulting in glaring policy inconsistencies: for example, Decree No. 83-191 of May 1983 abolished the government's monopoly, but the *Arrété Interministériel* No. 2683-83, only one month later, promptly circumscribed the extent of the libre competition permitted to licensed traders.

A major food crisis erupted in 1984, and the pattern was repeated to some extent in 1986 (though it was lenited by recently introduced buffer stock). In 1987, several towns in Madagascar experienced anti-trader rioting (Walton and Seddon, 1994).

This background of instability was carried forward into the following period. Ratsiraka was re-elected in 1989 in a suspicious election (*L'Express*, 2018) that led to riots but also the multiparty system in 1990. In 1991, Ratsiraka agreed to share power with Albert Zafy, who then won the presidential elections in 1993, to be impeached shortly afterwards for abusing his constitutional powers: he lost the 1996 presidential election again to Ratsiraka. The economic policy of those years focused on the disengagement of the state, with the liberalisation of prices and the transfer of responsibilities to private sectors and producers (Law No. 90-016). The first Food Security and Nutrition Programme was conceived in 1991, but with a limited scope (Rakotoarisoa et al., 2016). Actions were undertaken to facilitate and promote the participation of civil society organisations (farmer organisations, NGOs, etc.) and farmers in the economy (Razafindranovona et al., 2001). In 1993, however, the government launched SEECALINE I (*Surveillance Education des Ecoles et des Communautés en matière d'Alimentation et de Nutrition Elargie*), a community-based nutrition project in only 362 sites in two provinces. The initiative was then renewed and scaled up in 1998 and is still active today (Natalicchio et al., 2009).

The 2001 presidential election contested between incumbent president Ratsiraka and Marc Ravalomanana proved inconclusive, but Ravalomanana claimed the election was rigged, and in 2002 he declared himself president. In response, Ratsiraka proclaimed martial law and set up a rival capital in Toamasina, the second biggest city and port. Madagascar, in effect, had two presidents and two capitals. After six months of civil war, the issue was solved by the High Constitutional Court in favour of Ravalomanana, who then won re-election in 2006. The Food Security Action Plan (PASA) was designed in collaboration with FAO, and dates of 2005. The document (FAO, 2005) highlighted the weakness of the then policy settings in reference to Food and Nutrition: the weak appropriation of the Rural Development Plan of Action (PADR, which was only launched few years before), and the weak presence of the Ministry of Agriculture and Livestock in rural areas, the non-coordination of initiatives, including duplicating studies and overlapping institutional mandates, the geographic limitations of various initiatives, and the short-term political vision (among others).

However, the Ravalomanana years are regarded as the start of a paradigm shift towards the rural population and the agricultural sector, according to key informants. Poverty Reduction Strategies (DSRP 1 and 2) were the general policy framework in the context of food security and nutrition. The agricultural sector was considered a vital sector, and emphasis was placed on the importance of supporting the rural population. The state continued its disengagement process and focused on the establishment of a socio-economic environment favourable for private sector development. Various rural development interventions were carried out, with the objectives of improving agricultural practices and increasing yields and incomes (Rakotoarisoa et al., 2016). The vision "Madagascar, naturally" was established to achieve sustainable development and fight against poverty. Sustainable agriculture was defined as a priority sector with the vision of a Green Revolution. The development of value chains was also a major policy guideline (MAP, 2007) to facilitate access to the markets. Other initiatives included the 2001 Livestock Sector Development Policy Letter, the 2003 Director Plan for Fishing, the 2004 Rice Development Policy, the 2004 Milk Sector and Dairy Policy in Madagascar, the 2004 National Microfinance Strategy (NMFS, 2004–2007), the 2005 Letter of Land Policy/Food Security Policy Letter, the 2006 Policy Letter for Development of BVPI/Letter of Food Security Policy/ National Strategy for the Adaptation of Sugar Sector in Madagascar/National Strategy for Development of Fertiliser Use, and the 2008 National Seed Policy Document/National Rice Development Strategy/National Microfinance Strategy. The state also engaged in a National

Decentralisation and Deconcentration Programme. Some direct support to agriculture was carried out, but mostly in the context of specific projects.

The institutionalisation of the nutrition policy took place in 2004, with the approval of a National Nutrition Policy and the inclusion of its financing in the Poverty Reduction Support Credit. In 2005, the National Office for Nutrition was established. SEECALINE became its executive unit, charged with implementing the National Community Nutrition Programme (Natalicchio et al., 2009). A National Nutrition Council was created to coordinate efforts in the implementation of the National Nutrition Policy.

After a bitter power struggle with opposition leader, Andry Rajoelina, and following violent turmoil, Ravalomanana resigned as president in March 2009. The period from 2009 to 2014 was marked by another political and socio-economic crisis. The political direction remained unclear. Connected to the international political sanctions, some important donors stopped their funding. Among the reforms that were planned but not achieved were the Agricultural Service Centres (CSAs) to be set up in each district to provide information about markets and inputs, and technical-economic advice to farms (Rakotoarisoa et al., 2016).

In 2013, Hery Rajaonarimampianina won the runoff presidential elections, but the country's instability did not cease. The government became more and more authoritarian as various prime ministers were appointed and fired. In 2015, the parliament voted (by a 121:4 vote), but did not succeed in removing President Rajaonarimampianina from office because of alleged constitutional violations and general incompetence.

These past years, however, were considered a period of economic recovery by key informants. In the area of support to agricultural intensification, this relaunch was based on the PSAEP (Programme for Agriculture, Livestock and Fishery Sectors, the object of this study because of its strong emphasis on food security). The overall guidance document for the PSAEP was signed in 2014 and formalised in 2015. The document has five strategic axes:

i) rational and sustainable exploitation of resources and production areas;
ii) sustained improvement of productivity, risk reduction and nutrition;
iii) contribution to food security and promotion of competitive production systems;
iv) improvement of national and international market access, and
v) good governance of institutions and strengthening actors' capacity.

It aimed to achieve greater integration of farms in the markets through the development of contract farming, the organisation of the agricultural profession, and the commitment of the private sector to ensure the commercialisation and the development of agroindustry to process agricultural products (MinAgri and MinEl, 2015).

5.9 Malawi: Fertiliser and Input Subsidy Programme (various years)

The focus of the economic policy of Malawi has evolved over the past few decades. Food security has constantly been at the centre of the political debate, albeit undergoing a dramatic metamorphosis from a politically sensitive issue (Nthara, 2002) to the central tenet of the country's development strategies (Quinn, 1994). Food self-sufficiency was the political motto of the country's autocratic ruler, and its main development objective (DEPD, 1988). Immediately after independence in 1964, Life President Banda pursued an output-oriented, agriculture-based development strategy (Harrigan, 2003) with spectacular results. Between 1967 and 1979, the GDP grew at about 6% per year (Sahn et al., 1990), thanks to the rapid expansion of export crops, although with widening income disparities (Quinn, 1994). Tradeable goods were favoured over smallholder farming (Mpesi and Muriaas, 2012), and the size of the smallholders' farmland declined drastically (Chinsinga, 2011). The sector was regulated as a monopsony by the Agricultural Development and Marketing Cooperation (ADMARC), which had the right to buy grains at a "reasonable" fixed pan-territorial and pan-seasonal price for main commodities, and sell the surplus for profit. Despite its importance to the diet and livelihoods of most Malawians, the post-independence development strategy was in fact export-oriented commodity production (Harrigan, 2003). Although food production has always been a smallholder activity (Jayne et al., 2008), collective action by these poorly capitalised and widely dispersed players had limited significant advocacy for market subsidies, but, on the contrary, efforts were made to suppress prices through ADMARC (Chilowa, 1998).

In response to the economic crisis in the 1970s, Malawi was the first country in the SADC to embrace structural adjustment programmes in 1981 (Chinsinga, 2011). Marketing and price policies were gradually liberalised (Mpesi and Muriaas, 2012).

In 1993, Life President Banda's one-party regime collapsed, and the first multiparty elections were held in 1994. The new government initiated major policy changes, with poverty alleviation at the top of the agenda, as well as a shift in attention from large-scale to smallholding farmers (Harrigan, 2003). In 2000, a maize price ban was eliminated, and the National Food Reserve Agency (NFRA) was made responsible for managing the Strategic Grain Reserve. Another

major policy development was the complete removal of fertiliser subsidies in 1996, and the introduction of the Starter Pack Scheme in the 1998/99 and 1999/2000 agricultural seasons, targeting smallholders. In response to the 2002 food crisis, the programme was expanded to near-universal coverage and known as the Extended Targeted Input Programme (ETIP), representing a "continuity" (Levy, 2005: 5) of previous interventions.

In 2002, Malawi experienced a devastating famine (Daveraux and Tiba, 2007) and the governing party barely managed to remain in power in the following general elections in 2004. The year after the elections, the country experienced a new food crisis, after which President Mutharika, despite warnings from donors, decided to subsidise fertilisers in subsequent years. Two issues are important to mention: the political saliency of maize and the political motivations of the intervention. First, maize is politically salient because, although a wide range of crops is cultivated in Malawi (Chirwa and Zakeyo, 2003), maize is dominant, farmed by 97% of households (Denning et al., 2009). Since food security depends on maize, it is also a political crop, and the legitimacy of politicians is closely linked to its availability and accessibility (Harrigan, 2003; Sahely et al., 2005). Second, the intervention was politically motivated because the distinctive feature of the 2004 electoral campaign was that it "reflected a strong national consensus for the fertilizer subsidy, as all the leading candidates promised some kind of support" (Chinsinga, 2007: 4). However, the elected government did not implement a subsidy programme in the following agricultural season, fearing to jeopardise the relationship with donors. Political events in early 2005 (Rakner et al., 2007) led the president to break away from the ruling party and form his own party, which had no parliamentary representation. This created an opposition-dominated legislature (Chinsinga, 2008; Kanyongolo, 2010) that made it difficult for the government to resist calls for such a programme. The re-introduction of farm input subsidies, through the Farm Input Subsidy Program (FISP) in 2005/06, combined with favourable climatic conditions, led to a series of bumper harvests (FAO, 2015a). While tendering for inputs was initially carried out by an autonomous unit (Potter and Levy, 2005), its main feature was the provision of vouchers to target (in the beginning) approximately 50% of small farmers to receive fertilisers for maize production. Additional vouchers were successively provided for maize seeds and tobacco fertiliser. Vouchers entitled beneficiaries to purchase two bags of 50-kg fertiliser at a subsidised price, a quantity considered sufficient for 0.4 hectares. From the 2008/09 to 2012/13 seasons, maize seeds were also provided free of charge.

Since then, the Farm Input Subsidies have been seen as the most relevant food security and nutrition policy, even if it played in a wider policy framework: the right to food is enshrined in Malawi's constitution, and agricultural development and food security continue to be among the key priorities of the government. The overarching national development framework, the Malawi Growth and Development Strategy (MGDS) 2006–2011, followed by the MGDS II 2011–2016, focused on increased agricultural productivity, diversification and commercialisation. These strategies formally build on the Malawi 2020 Vision, adopted in 1998, that provided the framework to implement medium-term plans for development sectors. Priorities in agriculture were more recently translated into a series of sector-specific strategic documents, including the National Agricultural Policy Framework (NAPF) 2010–2016, the National Irrigation Policy and Development Strategy 2010, and the Agricultural Sector Wide Approach (ASWAp) 2010 (updated in 2011). The latter advocated for and drives strategic investment towards risk management, commercial agriculture, agro-processing, market development, and sustainable land and water management. Instrumental to ASWAp, the Malawi CAADP Compact was signed in 2010.

Currently, the ASWAp includes two major agriculture-sector development programmes: the Farm Input Subsidy Programme (FISP) and the Green Belt Initiative (GBI). In 2014, these programmes accounted for 70% of the total ASWAp budget for food security and risk management (NEPAD, 2014). Input subsidies, in facts, have never ceased to be implemented as part of all the policy documents mentioned above and, in principle, in line with the National Fertiliser Strategy (NFS – FAO, 2015b). In this context, despite differences in implementation, targeting mechanisms, the role of the private sector and scale of the programme, they represent the food security policy under study.

5.10 Mozambique: *Estratègia de Segurança Alimentaria e Nutricional* (ESAN II)

Mozambique was the eighth-most industrialised country in Africa before independence, although most of its population was engaged in subsistence activities (Pitcher, 2002). Independence from Portugal in 1975 was followed by a two-year fall in economic output, and the GDP did not recover until the mid-1990s. The main cause of bad economic performance was the war, from 1977 to 1992, between the FRELIMO government and the RENAMO rebels (Hanlon, 1991). FRELIMO has remained in power since 1975 and, having been predominantly a Marxist organisation, it tried to address the inequalities between North and South with a socialist, centrally planned economy. During the war, the country depended heavily on

imported food, and emergency distribution was the key food policy, with the Ministries of Commerce and Health as leading actors. The perspective changed in the 1980s, with the revival of domestic farming; the main target became domestic self-sufficiency in staple foods, with the leading role taken by the Ministry of Agriculture and Food Security (*Ministerio da Agricultura e Segurança Alimentaria*, MASA). However, the involvement of smallholder agriculture was missing. Between 1978 and 1983, for example, the budget of the ministry was for 90% allocated to address state farms (Mackintosh and Wuyts, 1998, cited in Mosca, 2005). From 1975 to 1987, governments fixed consumer and producer prices through a state marketing institution, AGRICOM (Mosca, 2011).

Since the late 1980s and early 1990s, FRELIMO has gradually adopted economic liberalisation policies (Sumich and Honwara, 2007). With the privatisation of state farms and prioritisation of cash- over food crops (Vunjanhe and Adriano, 2015), agricultural policies were not able to create incentives for the majority of smallholder farmers (Castel-Branco, 2004). Besides, at the beginning of the 1990s, the government's perspective on food security was as a humanitarian issue. At the time, the institution with the most active role was the *Conselho Coordenador de Prevençao e Combate das Calamidades Naturais* (Vunjanhe and Adriano, 2015).

The first party elections, in 1994, marked a first paradigm shift, for two main reasons. First, RENAMO successfully transformed from a rebel group into an opposition party that managed to win almost half of the vote on that occasion, gaining consensus especially in rural areas (which benefitted less from the industrialisation policies of the government). Second, FRELIMO, more and more perceived as corrupt, even by its urban middle-class constituency (Sumich, 2008), underwent a "crisis of authority", as Gramsci would have termed it (Gramsci, 1971; Boys, 2013). Development policies, in fact, were implemented in the context of the post-war collapsed state (Zartman, 1995; Macheve and Phiri, 2014). The main concern for the governing elite was to continue promoting cash crops as a source of revenue for the government (and providing opportunities for rent extraction) (do Rosario, 2011), despite being adverse to smallholder farmers (Mosca, 2011). The agricultural policy of 1995 aimed at a more holistic vision of the sector, acknowledging the duality of Mozambican agriculture, with both family- and commercial farming, but prioritising food crops and self-sufficiency. In 2003, President Guebuza began a more vigorous "promotion of the agricultural sector in the political discourse"

(do Rosario, 2011: 6), launching the 2007 Green Revolution Strategy, the 2008 Food Production Action Plan (PAPA) and other initiatives such as:

- The *Programa Nacional de Desenvolvimento Agrario* (ProAgri I, 1998–2005, and ProAgri II, 2007–2010).
- The *Plano de Acçao para a Reduçao de Probreza Absoluta* (PARPA I, 2001–2005, and PARPA II, 2006–2009), introducing the "Human Right to Adequate Food" in coordination with ESAN (see below). A third phase, the *Plano de Acçao para Reduçao de Probreza* (PARP), implemented between 2011 and 2014, was particularly focused on agricultural productivity as a means to eradicate poverty. The Strategic Plan for the Development of the Agricultural Sector (*Plano Estratègico de Desenvolvimento do Sector Agrario*, PEDSA), 2011–2020, is a very comprehensive document, within the broader context of the Plano Quinquennal do Governo while fully aligned with the CAADP (Cunguara et al., 2013). It aims to transform the agricultural sector from being predominantly subsistence to being a more competitive type of agriculture, integrating the vision of key stakeholders in the sector, and fighting the factors that undermine investor confidence, while also encouraging self-sufficiency (CARE/AA, 2017).
- The National Investment Plan for the Agricultural Sector (*Plano Nacional de Inversão no Sector Agrìcola*, PNISA) is the investment plan that has been developed to operationalise the PEDSA, designed after the signing of the Mozambique CAADP compact in 2011.

However, these policies were still undertaken in a context of growing destabilisation, catalysed by the assassination in 2000 of the well-known journalist and activist, Carlos Cardoso (Braathen and Orre, 2001).

A more definite turning point was the food price crisis of 2008, when riots broke out in Maputo over rising bus fares and bread prices (Howden, 2008; Mangwiro, 2008). These food and fuel riots started a series of violent clashes in the country, leaving six dead and more than 100 injured (Harsch, 2008). More recently, the Mozambican state has intervened more successfully in promoting private sector development, although less so in the smallholder sector and more in commercial agriculture, for example, in the sugar industry (Buur et al., 2012). Currently, agricultural markets (except for cotton) are liberalised.

The National Strategy for Food Security and Nutrition (*Estratègia Nacional de Segurança Alimentaria e Nutricional*, ENSAN) was approved in 1998 and is operationalised through the

National Plan for Food Security and Nutrition (PASAN). Among its achievements were the coordination of interventions and the institutionalisation of food security governance (Vunjanhe and Adriano, 2015). But shortcomings were recognised, specifically for the coordination of activities at the local level and its legislative component. The strategy was revised in 2007, covering the period of 2008–2015 (ESAN II, the object of this classification, *Repùblica de Moçambico*, 2007). ESAN II adopted an integrated approach with a human rights perspective, and builds on evaluating the main limitations of its predecessor, such as not including links with HIV/AIDS, lacking adequate monitoring, evaluation indicators focusing too much on rural food insecurity and not enough on urban food insecurity, not defining target groups, lacking an operational plan for multi-sectoral coordination, not including a human rights approach, and not planning for budget constraints (Republic of Mozambique, 2007). The policy principles adopted were:

i) collaboration among government entities,
ii) permanent Monitoring and Evaluation and implementation of the programme,
iii) adequate resource mobilisation and budgeting,
iv) promotion of institutional capacity,
v) research in food and nutritional security, and
vi) promotion of productivity and alternative livelihoods (Republic of Mozambique, 2007).

Evaluation of ESAN II and formulation of ESAN III is under preparation at the time of writing (February 2020). This new draft law, which is currently awaiting government approval, aims to increase agricultural production and achieve food self-sufficiency in the long run and also to bring agriculture, food security and nutrition together under one umbrella. For this reason, it has been criticised by civil society (CARE, AA, 2017).

This policy framework is complemented by other cross-sectorial policies:

- The Gender Strategy of the Agricultural Sector (MASA, 2005).
- The Rural Development Strategy (EDR), which was developed to ensure all sectoral policies retained a pro-rural approach. It aimed at a threefold increase from 2005-levels of human development in rural areas by 2025.
- The Livestock Production Intensification Programme (*Programa de Intensificação da Produção Pecuària*, PIPEC) 2015–2019.

5.11 Outline of the policy classification

After this introduction of food security policies in the eight cases selected, the classification of these policies is presented in the following four chapters. Specifically, the classification of the policy coordination is presented in Chapter 6, geographic scope is presented in in Chapter 7, policy orientation in Chapter 8 and the level of state involvement in Chapter 9. These classifications made use of calibration in order to assess the cases as degrees of membership to the policy class sets (broad or narrow coordination, broad or narrow policy scope, producer or consumer orientation, and high or low state involvement). They represent the outcomes (dependent variables) of the analysis.

Chapter 6. The classification of policy coordination

The assessment of this classification principle was undertaken following Candel (2018) and Candel and Biesbroek (2016), in three dimensions that were integrated into the questionnaire introduced in chapter 5, but also assessed and triangulated through literature where available[1]:

- Policy Frames. The dimension concentrates on how the problem of food security is perceived, including the institutionalised norms and beliefs. The central question is whether its crosscutting nature is recognised (Peters, 2005). Is food security, for example, predominantly framed as a matter of increasing agricultural production, or are socio-economic and health issues taken into account as well? The issue can be perceived and defined in narrow terms, while other policies (nutrition, social protection) are understood as separate. Or policies can implicitly recognise the multidisciplinarity of food security and challenge the governance system as a whole, with different roles of ministries and directorates.
- Subsystem Involvement. The dimension concerns the range of actors and institutions (such as ad hoc committees, line ministries or sectoral bodies) (Zafonte and Sabatier, 1998) and their coordination efforts. At one end of the spectrum, food security policies are perceived as the responsibility of one ministry (even if inputs from other sectors may be requested during the design); on the other end of the spectrum, different subsystems actively coordinate in a policy embedded in their functions, with higher levels of interactions between and within ministries.
- Policy Goals. This dimension is about the range of policies in which food security concerns have been explicitly adopted, as well as the coherence between these goals.

Candel and Biesbroek's (2016) policy integration framework (Annexure 3) was used as a reference during the interviews but adapted to countries' policymaking processes. Anchored calibration (Legewie, 2017) was used for the calibration and fuzzy-set analysis. Anchored calibration involves the development of a framework to translate information collected along the dimensions into a membership score for each policy to the set "coordination". A concept tree (Sartori, 1970 and 1984; Goertz and Mahoney, 2005; Goertz, 2006a) was developed using Candel's policy integration framework dimensions to disassemble complex and abstract notions (Coppedge, 1999) about policy coordination into one single membership score. Anchor points

1 A fourth dimension in Candel (2018) is the policy instrument, not used for the classification of policy coordination because covered by another criterion, the level of state involvement.

were developed for calibration (including those in the following chapters). This allowed linking qualitative statements to membership scores to a set (in parenthesis hereafter). The anchor points used in the analysis were:

i) Full membership (1), where food security was recognised as a challenge to the governance system as a whole, across all its levels and dimensions. Therefore, food security was embedded within all potentially relevant subsystems, resulting in a high level of interaction among them, and shared policy goals embedded within an overarching policy.

ii) More in than out (0.75), where food security (in the broader sense) was formally embedded within subsystems, such as trade, nutrition, poverty reduction and agriculture. This may have been the result of a regular and formal exchange of information and coordination, possibly through coordinative instruments and the awareness that food (in)security is affected by a broad range of factors and influences.

iii) Cross-over point (0.5), where, as for category (ii), food security was formally embedded within more subsystems and trade, nutrition, poverty reduction and agriculture. However, there was infrequent interaction among different subsystems, and different sectorial strategies were not coordinated. Subsystems did not attempt to develop synergies, as policy coherence was not given attention.

iv) More out than in (0.4), where food security might be defined in broad terms or as an issue related to both consumption and nutrition, but there were infrequent interactions among different subsystems, and different sectorial strategies were not coordinated.

v) Almost completely out of the set (0.3), where food security was defined in narrow terms, but some attention was granted to other dimensions and interactions with other policy efforts. As a result, food security was regarded as the domain of a "dominant" subsystem that framed political discourse and most of the government actions. There were infrequent information exchanges between the dominant subsystem and other institutions and stakeholders.

vi) Full non-membership (0), where food security was defined in narrow terms, for example, as solely an issue of agricultural production. As a result, the matter falls within the jurisdiction of a dominant subsystem, such as agriculture. There are no interactions among different actors because no other subsystem is involved.

6.1 Benin

Interventions on agriculture, nutrition and social protection have been seen as linked since the military regime, despite inconsistencies in poverty-reduction policies in the past (Johnson and Wasty, 1993, cited in Killick, 1998). The policy frame for food security seems well integrated. While institutional governance has changed since the end of the military regime, the need for coordination was demonstrated in the establishment in 1992of ONASA (with an intersectoral coordination function – see Chapter 5). ONASA advises on food security matters and provides active efforts to coordinate the policy among different ministries, community animators, and the Village Social Development Committees (Laga, 2015). All strategies and policies not only made due reference to the larger political vision, but also assessed the gaps in terms of coordination between subsystems in order to respond and fill these gaps. Furthermore, according to key informants, the *Faim Zéro* strategy was designed to better coordinate the actions of the government and UN agencies, and subsystem interactions seem dense and effective. The CAN, which replaced the DANA, is the SUN platform, coordinating and consolidating actions in nutrition with concrete actions, with due reference to the PNSA. The CAN is also a "major actor of agricultural development" when it does not concern cotton cropping (SUN, 2016: 2).

Due to the recognition of food insecurity across all government levels and the frequent interactions among subsystems, the policy membership would be "fully in" the coordination set, but the difference in policy goals among different actors placed the case with a slightly lower score of 0.9.

6.2 Burkina Faso

The PNSAN underlines the cross-cutting nature of food security and the need for better inter-sectoral collaboration, but still shows the much higher importance given to food production. "No significant change in the dominant representation of the problem of food security and of its solutions was brought to the 2014 PNSAN, even though the problem of food insecurity is much more complex now than in the 1970s. Indeed, the tragic events of the 1970s made a profound mark on the collective memory, which today continues to frame food security representations and to shape policies" (Alpha and Fouilleux, 2018: 118–19). Other dimensions, such as those related to nutrition and poverty, lacked sufficient consideration (Alpha and Fouilleux, 2018). The FNS institutional framework is spearheaded by the Ministry of Agriculture and Food Security (MoAFS). The CNSA presents itself as an inter-sectoral body

with the mandate to convoke all relevant ministries and is institutionally anchored under the Ministry of Agriculture. Social affairs and health representatives have a low attendance record in CNSA meetings (Alpha and Fouilleux, 2018). Nutrition-sensitive agricultural interventions only consisted of revising the curricula of the national agricultural school to include nutrition courses (ACF, 2013).

Subsystem involvement was minimal. Nutrition and social protection were discussed in the National Coordination Council on Nutrition (*Conseil National de Coordination en Nutrition*, [CNCN]), created in 2008, the SUN's platform chaired by the Ministry of Health, and the National Council on Social Protection (*Conseil National sur la Protection Sociale*) recently created under the prime minister's department. Therefore, there was no single institution covering all the dimensions of food and nutrition security, but rather "a multiplication of inter-sectoral bodies dealing with each dimension, with the risk of overlaps and confusion" (Alpha and Fouilleux, 2018: 120). This was reinforced by the difficult relations within inter-ministerial food security bodies (Alpha and Gebreselassie, 2015).

The institutional attachment of food security to the MoAFS may partly explain the limited debate within the CNSA on non-agricultural aspects, but the CNCN faces the same weaknesses as the CNSA in mobilising representatives from all relevant sectors and organising an intersectoral dialogue (Alpha and Gebreselassie, 2015). The time horizon of policy interventions seemed limited. Especially since the 2012 response plan, the CNSA was primarily designed to prevent food crises related to cereal production deficits (Alpha and Gebreselassie, 2015; Aragie et al., 2018). Although considered to be efficient in preventing food crises, CNSA's limitations are evident with regard to long-term concerns.

According to some interviewees by Alpha and Gebreselassie (2015), the PNSAN has been elaborated at the request of donors who recall that one performance indicator of the Accelerated Growth and Sustainable Development Strategy was to draft a PNSAN to replace the SNSA. Even if donors were important actors in the policy process, their coordination was also limited, according to key informants. Although potential veto players, as statutory members of the CNSA Technical Committee and although their financial contribution is essential (the implementation programme was funded up to 90% by the development partners) (CSAO-CILSS, 2008), lack of coordination among development partners has been reported (Alpha and Gebreselassie, 2015). The policy therefore has a membership score reflecting food security being more out than in the set (0.4).

6.3 Ethiopia

The policy design and implementation of the FSP 2010–2014 was coordinated, although nutrition issues were included only later (EAS, 2013). The policy holistically recognises all four food security dimensions. Food security seemed embedded in Ethiopian sectors, including those dealing with nutrition and social protection. Several intersectoral coordination bodies, chaired by senior level officials, also existed for the coordination of the PSNP. This includes the Federal FSP/PSNP Inter-Ministerial Management Committee, the Joint Strategic Oversight Committee, Regional/Woreda FSP/PSNP Steering Committee, Community Level Food Security Task Forces and other technical task forces that monitor public works inputs and outputs (Berhanu, 2011).

A National Food Security Council has been established, steered by the Food Security Coordination Bureau in the Ministry of Agriculture and Rural Development (MoARD), where intersectoral linkages have been promoted. It is the MoARD's responsibility to ensure proper consideration of the social and nutrition dimensions of FNS. The MoARD was restructured to this end in 2014 (Alpha and Gebreselassie, 2015). The clear definition of roles and responsibilities in all these fora, and the formalised coordination between all actors, including donors, have also been regarded as important issues by key informants and the literature (Furtado and Hobson, 2011; Berhanu, 2011).

Memoranda of understanding and terms of reference have been developed to define roles and responsibilities. Implementation was rolled out through the tiers of government in Ethiopia with activities at federal, regional and *Wereda* (or district) level administrations and involved a broad range of sector institutions across the government. Outside the government, food security interventions were coordinated through a cohesive donor group led by a combination of permanent and rotating co-chairs (Alpha and Gebreselassie, 2015). Donors work with the government through their Donors Assistance Group (DAG), which forms various joint committees, including the Joint Coordination Committee (JCC), the PSNP Donors' Working Group (DWG) and the Donor Coordination Team (DCT). The JCC provides joint oversight programme implementation and technical guidance on specific and cross-cutting issues (Furtado and Hobson, 2011). The DWG harmonises donor support and the DCT assists the functioning of the DWG and manages research and technical assistance commissioned for PSNP (Domelen and Coll-Back, 2009). These structures help in fostering better harmonisation and alignment and provide analytical work to inform regular policy dialogue (Furtado and Hobson, 2011).

The policy has, therefore, met the requirements for full membership in the coordination set (1). This outcome was arguably consistent with the control and centralisation that have characterised Ethiopia's mode of governance in the last 40 years (Abbink and Hangmann, 2013), whereby even today decision-making takes a "committee-style" form (Van Veen, 2016). The Tigray People's Liberation Front (TPLF), from which the current ruling party emerged, "espoused a clear vision for governance and development … while retaining a closed hierarchical culture" (Van Veen, 2016: 22), thereby facilitating policy coordination.

6.4 Ghana

The review of the policy and literature and key informant interviews indicated that food security in Ghana is regarded only as a production problem. METASIP was designed to implement development policies outlined in the FASDEP II and is consistent with its objectives (Boateng and Nyaaba, 2014), but several factors contribute to a lack of harmonisation among its components. First, according to key informants, institutions dealing with nutrition, social protection and agriculture have their own coordination structures with poor interactions among them. For example, Ghana participates in the SUN initiative, a multi-stakeholder platform (MSP) and a Nutrition Cross-Sectoral Planning Group (CSPG) is operational, the latter under the auspices of the National Development Planning Commission (NDPC). Despite the launching of the 2013 National Nutrition Policy, featuring among its objectives, to "establish and maintain a mechanism for regular consultation among stakeholders for planning and implementing nutrition interventions at all levels [and to] strengthen coordination mechanisms at local levels in line with the national-level nutrition architecture and governance to ensure effective implementation of nutrition interventions" (Government of Ghana, 2013: 30), according to key informants there are no concrete actions planned with the MoFA, which continues to be seen as the coordinating agent of food security initiatives.

Second, there seems to be a lack of coordination even among the plethora of interventions (Fig. 5.2) launched by the MoFA. This lack of coordination is also reflected among donors' interventions (Senadza and Laryea, 2012). In addition to groups within the MoFA (Chhokar et al., 2015), other federal organisations are involved in the food policy process. The National Development Planning Commission was established to coordinate efforts between federal ministries. The commission was also involved in the creation of the Ghana Poverty Reduction Strategies, which are government-wide initiatives. However, there are poor coordination arrangements, both for the implementation of the different initiatives and for private-sector

delivery systems (World Bank, 2016 and 2017). NAFCO, set up to manage the government's food security emergency stock and to purchase, sell, preserve and distribute food (Benin et al., 2013; Angelucci and Pierre, 2014), is supposed to initiate purchases from beneficiaries of major programmes, such as the Black Farmers Programme and the Fertiliser Subsidy Programme. Benin et al. (2013: 6) questioned whether "the programmes, as designed, are operating in ways that will lead to the achievement of the FASDAP II goals".

Third, Ghana has had a prevailing decentralisation doctrine since the 1980s, later enshrined in the 1992 Constitution (Ahwoi, 2010; Gilbert et al., 2013; Frimpong Boamah, 2018). After a successful coup in 1981, the military regime committed to a more decentralised governance system, through rhetoric such as "power will not be concentrated at the top any more" (Yeebo, 1985: 66, cited in Awortwi, 2011), "give power to the people," and "participatory development" (Ayee, 1997; Gilbert et al., 2013: 109). This rhetoric was used to ensure that rules for decentralisation maintained the central government's control over local governments (Hayes, 1991; Frimpong Boamah, 2018). Ferrazzi (2006) notes in relation to the 1992 Constitution and Local Government Act that, even though the letter of the rules seems to support devolution, ambiguity remains regarding the actual rules of decentralisation. Although central government functions have been transferred, deconcentrated departments still depend on administrative directives and resources from the national headquarters (Ayee, 2008; Debrah, 2014).

More recently (2009), various government agencies dealing with food security were devolved, empowered with a variety of functions. These agencies ceased to exist as separate entities at the ministerial level; instead, their functions have been incorporated into new District Departments (Government of Ghana, 2009). For example, the district agricultural departments were allocated 25 functions within the framework of national policies (Government of Ghana, 2009). The Agriculture Sector Working Group was designed as a decentralised coordinating body. However, this process remains incomplete, and the absence of fiscal decentralisation is the main hindrance to coordinated policy implementation and service delivery (Crook, 2017).

In general, the consequences of policymaking are related to the capacity of local government to implement consistent interventions (Crook, 2017; Awortwi, 2010; Mogues and Benin, 2012; Yeboah and Obeng-Odoom, 2010). Due to insufficient internally generated revenue and high levels of dependence on the central government for funding, there is a long time-lag before resources are disbursed to local actors (Resnick, 2018). According to key informants, this constrains the coordinating function of the Agricultural Sector Working Group.

Furthermore, the political interests of individual policymakers play a major role in the policy process, undermining coordination and integration efforts (Chhokar et al., 2015). This was evident in one of the most prominent instruments of the policy – input subsidies. The initiative was designed as a response to the 2008 food crisis (Banful, 2011), justified as a temporary measure to address the high cost of fertilisers. Since then, it has been maintained on the grounds of the need for poverty reduction and smallholder participation in the economy (Resnick and Mather, 2016). However, the distribution modalities changed from year to year, as the interests of policy champions switched (Resnick and Mather, 2016). These changes resulted in ambiguity in the targeting strategy (particularly until 2012) (Imoru, 2015), coverage, targeted crops (from maize to rice, then including seeds too) and even goals (from nutrition and food security to poverty reduction – Resnick and Mather, 2016). Distributors and retailers were largely excluded from the policy design, leaving the MOFA to make most of the strategic decisions (Resnick and Mather, 2016).

Considering the initiatives addressing various aspects of food security, but also the poor interactions among key institutions, this country was classified as "more out than in" the coordination set with a membership score of 0.4.

6.5 Kenya

The FNSP and its implementation framework outline an approach integrating different food security dimensions in a holistic and long-term way, as could be expected following the extensive multi-sectoral consultative process discussed in the previous chapter. The FNSP-IF covers all four dimensions of food security and addresses the synergy linking food, nutrition and poverty. For example, the 2011 Food and Nutrition Security policy document emphasised the following key lessons learned from previous policies:

i) "The limited scope and focus on supply-side issues highlights the need for greater attention to access dimensions and nutritional considerations;
ii) Strong linkages between the health and agricultural sectors …;
iii) Broad stakeholder participation …;
iv) […]
v) Overarching policies and sufficiently strong institutional frameworks are prerequisites for success;
vi) Effective intersectoral coordination mechanisms must be acceptable to all stakeholders" (Republic of Kenya, 2011a: 6).

There is a strong consensus among key informants on the quality of the FNSP-IF document, particularly its balanced view of agriculture, nutrition and poverty reduction (ACF et al., 2013). However, different factors contribute to limited integration among the different dimensions, and poor coordination in implementing the policy.

First, the FNSP-IF did not seem harmonised with other key policies. The long process of drafting the FNSP-IF (from 2005 to 2011) implied that synergies with key policies that developed during the drafting phase could not be established. More relevantly:

- The ASDS (2010) is oriented towards economic growth and performance of the agricultural sector merging with the CAADP Implementation Plan. Nutrition and social protection are barely mentioned.
- The National Nutritional Action Plan (NNAP) seemed a version of the ASDS regarding food and nutrition issues (ACF et al., 2013), but the document does not contain concrete interventions.
- The National Social Protection Policy (NSPP) was formalised in 2011 and defines the scope of social protection as "policies and actions, including legislative measures, that enhance the capacity of and opportunities for the poor and vulnerable to improve and sustain their lives, livelihoods and welfare" (Republic of Kenya, 2011b: v). While the objectives of the NSPP include a graduation plan, the strategy does not set out a vision for action either at policy level or through other sectors (Slater and Nyukuni, 2016). The Ministries of Agriculture, Livestock or Fishery are only mentioned in a few places in the policy document.

The Ministry of Public Health and Sanitation (MoPHS) and the Ministry of Agriculture (MoA) do not seem to agree on how to address malnutrition (ACF et al., 2013). Even though the NNAP underlines that "reducing malnutrition is not just a health priority", it "calls for a multisectoral focus". For the MoPHS, political priority is being given to high impact nutrition interventions, such as food fortification or micronutrient supplementation, while the main concerns of the MoA are to produce food. Only a small section within the MoA (under-resourced and under-staffed, according to key informants and ACF et al., 2013) has been tasked to deal with nutrition, but it was still dealt at a low hierarchical level. Even within the MoPHS (ACF et al., 2013), health issues are framed in a curative rather than preventative approach.

Second, the institutional architecture of food security seemed ineffective. The FSNP-IF document details the institutional architecture to govern and coordinate implementation. The

National Food and Nutrition Security Council was designed to be the highest decision-making body, providing leadership, policy direction, commit resources, approve and oversight of the Implementation Framework. However, the FSNP nor its implementation framework specify how Nutrition Security Council should achieve its tasks, where it should be housed or which agency should lead it. Despite the numerous existing coordination mechanisms, no formal multi-sectoral system is in place (ACF et al., 2013). Slater and Nyukuni (2016) noted that agricultural staff usually did not participate in social protection coordination groups and that there was poor coordination among UN and donor agencies. Significative time appears to be spent in coordinating policies and frameworks, but this results, at best, in information sharing (Slater and Nyukuni, 2016). Informants interviewed by the researcher reported that the idea behind the role of the FSNP-IF in supporting smallholder farmers was to strengthen "productive assets" since agriculture is the most important livelihood for the targets of the NSPP. However, several evaluations (Sheaham et al., 2014; Poulton and Kanyanga, 2014; Robert and Nie, 2015; Mason et al., 2017) have noted that the FSNP-IF is ambiguous about targeting.

Third, after the 2013 county government elections Kenya completed several steps of the planned decentralisation process (World Bank, 2019b). These, despite the 3-year transition period foreseen by the Constitution, occurred in less than six months and without adequate preparation (FAO, 2015b). This abrupt change compromised the capacities of county governments to effectively deliver their services, hampered by inadequate human and technical capacities, conflicting mandates between the two levels of government and the lack of an effective inter-governmental coordination mechanism (FAO, 2015b). There are several technical fora at the local level, and members of other groups can be invited to food security information-sharing meetings. However, discussions reportedly tend to be technical, and actual participation depends on the participants and local dynamics (ACF et al., 2013). Stakeholders interviewed by Slater and Nyukuni (2016) revealed weak coordination between agriculture and social protection at the local level.

Despite the holistic vision enunciated in the FSNP-IF document, when assessed against the criteria provided for the classification, the policy seems almost completely out of the "coordination" set, due to uncoordinated policy goals and poor subsystem involvement, with a membership score of 0.3. Policy coordination is, at best, limited to emergency responses (ACF et al., 2013).

6.6 Madagascar

Madagascar has no apparent integrated vision of food security and nutrition, partly because of the political instability that has characterised the post-independence period. The timeframe in government and partner intervention was usually short-term and followed a project approach. Also, because food emergencies continue to affect the rural population, intervention priorities are set in UN-led clusters. In Madagascar, these clusters include food security and livelihoods, nutrition and social protection. There are few institutionalised links among ministries, or even within ministries. For example, key informants report that interventions in the livestock sector are not coordinated with those in agriculture, and sometimes contradict them. Furthermore, the various agencies set up by different regimes have overlapping mandates and access to resources (Razafindrako et al., 2013). Only recently, with the establishment of the NVAC (National Vulnerability Assessment Committee) are responses to acute food insecurity and malnutrition better coordinated. The NVAC is led by the *Bureau National de Gestion des Risques et Catastrophes* (BNGRC). This structure, established in 2006, is a key component of the institutional system for risk management. However, its mandate is limited to emergency responses. While emergencies such as cyclones, locust invasions and drought are important drivers of hunger in the country, the structure does not operate on a longer-term vision.

Different donors, UN agencies and development actors share the implementation of the *Programme Séctoriel pour l'Agriculture, l'Elegave et la Pêche*, which is almost entirely externally funded. Various actors "calibrate" their interventions using the PSAEP document as a framework, and do so following their respective mandates, interests, capacity and funds. The key implementation role of identifying actions, and monitoring and advising on disbursements was allocated to the Centre for Agricultural Services, but the services are "used" by different projects without assuring their financial sustainability (Randrianarivelo and Ranaivoson, 2014). Despite the monitoring and evaluation undertaken by the Ministry of Agriculture, Livestock and Fisheries, informant interviews revealed that implementing agencies have "no obligation to coordinate among themselves". The policy is, therefore, fully out of the set, with a membership score of 0.

6.7 Malawi

Malawi has an early historical precedent in *ad hoc* institution-coordinating food security policies. The Food Security and Nutrition Unit (FSNU) in the Department of Economic Planning and Development (under the Office of the President and the Cabinet) was established

in the late 1980s to provide guidance on food security and nutrition matters (Government of Malawi, 1990). However, the FSNU was dismantled after democratisation. Shortcomings in coordination among relevant institutions have been evident since the 2002 food crisis, attributed to bad management of the strategic grain reserves (Chinsinga, 2011), despite a national Joint Task Force set up to coordinate different interventions.

According to key informants, the lack of coordination among different institutions has increased over the past few years.

Within the context of agriculture, the two most relevant institutions remain the Agricultural Development and Marketing Corporation (ADMARC) and the National Food Reserve Agency (NFRA), with the function of price stabilisation. ADMARC's role changed substantially after liberalisation. It is now charged to buy agricultural products but has to compete with private traders. The NFRA runs the country's strategic grain reserves (a function previously performed by ADMARC) but is expected to release grain into the market through ADMARC. This arrangement was meant to ensure that ADMARC operated more efficiently by streamlining its function to focus on buying and selling (Mvula et al., 2003). In practice, the role of these parastatals is not clearly defined, with considerable overlaps and politicised management (Chirwa and Chinsinga, 2013), resulting not in coordination, but rather in "institutional rivalry" (Chirwa and Chinsinga, 2013). This lack of coordination played in favour of large traders, according to key informant interviews and the FAO (2015f).

The government continues to implement input subsidy programmes as short-term measures. Since 2006, donors have advocated for a longer time horizon in planning, to ensure predictable annual planning, as opposed to the *ad hoc* annual planning that has characterised the programme to date. According to key informants, the Agriculture Sector Wide Approach and other multi-annual plans exist, but largely on paper. The timeframe of the policy is relevant for policy coordination, as the policy does not have clear goals and objectives, nor predictable procedures (for example, for procurement and indicators). The programme does not allow adequate planning of other important activities and programmes, such as research, extension and commercialisation and trade. Two drafts of the medium-term plan were produced in 2010, but there was a consensus among both government and donor officials that the plan would not have any significant impact on the design of the programme (Chinsinga, 2011). At the political level, the government had to maintain a short-term approach in order to reward key interests and loyalties under politicians' control (Holden and Tostensen, 2011).

In addition, key informants expressed that the varieties of policy statements, decisions and strategies covering agriculture, social protection, nutrition and trade issued in the past decade (Fig. 6.1) were largely uncoordinated. A strong advocate for coordination, the Ministry of Finance reportedly faced resistance from other line ministries and the president.

National nutrition actors rarely participate in food security discussions outside their subsystem, for example, with the two price stabilisation agencies, ADMARC and NFRA. In 2011, Malawi was the first country to launch the SUN initiative. The National Nutrition Policy and Strategic Plan (NNPSP) 2007–2012, set a framework for the National School Health and Nutrition Strategic Plan and guidelines (2009–2018), the Infant and Young Child Nutrition Policy (2009), and the National Sun Nutrition Education and Communication Strategy (2011–2016). However, key informants felt these strategies seemed to be uncoordinated and poorly linked to food security, and have been almost entirely externally funded (and therefore have different levels of coordination and management).

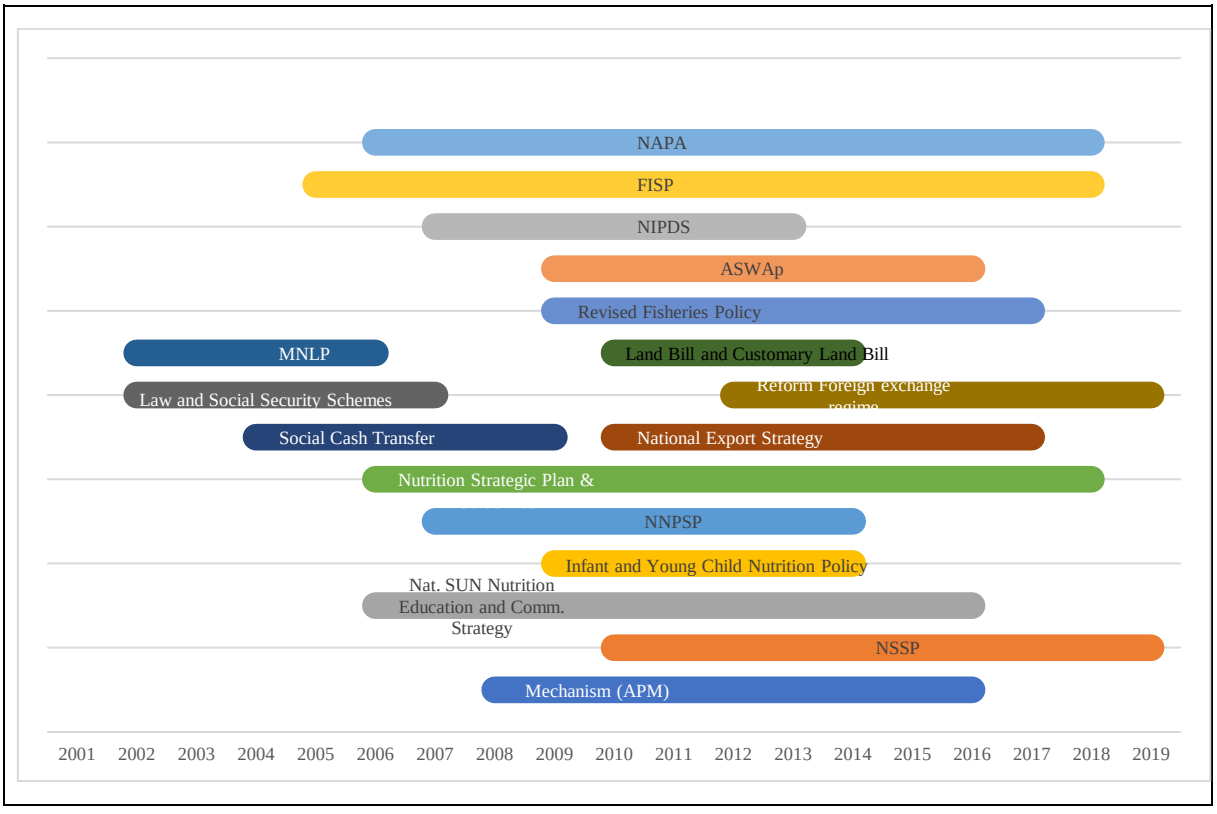


Fig. 6.1 Policies relevant to food security in Malawi

Source: Adapted from FAO, 2015f

Food security seemed defined only in terms of maize production, and there were limited interactions among ministries. Assessed against the criteria for calibration presented at the

beginning of this chapter, the policy is therefore fully out of the coordination set (membership score of 0).

6.8 Mozambique

At present Mozambique enjoys straightforward, solid and harmonious policy architecture. The overall development policy of the country is provided by the five-year plan (*Plano Quinquenal do Governo)* (PQG) that sets the main broad priorities aligned with its Agenda 2025 – the Nation's Vision and Strategies, defined in 2003. The current Five-Year Government Plan 2015–2019 sets goals for social and economic sectors in the current governance cycle.

The Technical Secretariat for Food and Nutrition Security (*Secretariado Tècnico de Segurança Alimentaria e Nutricional*) (SETSAN) was established in 2010 to promote and coordinate interventions in food security and nutrition, in concomitance with the first ENSAN. Although SETSAN has been in existence since the 1990s within the Ministry of Agriculture and Rural Development, it later assumed a nation-wide coordinating role, with administrative autonomy and juridical personality. It is now charged with inter-ministerial and institutional coordination for the implementation of ESAN II, as well as the promotion, evaluation and monitoring of programmes, including those dealing with the right to food, while respecting the responsibilities of other institutions (*República de Moçambico*, 2013). However, it has been argued that SETSAN lacks the autonomy needed to carry out its functions effectively (UN Standing Committee on Nutrition, 2013) and that the institution is still not fully functional due to insufficient strategic and managerial capacities at various levels (EU, 2016; Mogues and Billings, 2019). However, these assessments mostly relate to the beginning of is operation. The first period of SETSAN coincided with the first Policy Reduction Action Plan and ENSAN I. At the time (1998), it had neither the human resources nor the specific food security information to be effective (Acosta, 2009). In the past, it was difficult for SETSAN to ask other ministries to submit reports and be accountable as the unit was perceived as one of Ministry of Agriculture's subordinate institutions and not as an independent institution (CARE/AA, 2017). Only in late 2004 did the government revisit its poverty reduction strategy and, a few years later, the ENSAN, strengthening the coordination role of SETSAN.

SETSAN contributes to the integration of the policy framework. It implicitly recognises the multidimensionality of food security and nutrition, maintains frequent interactions between different ministries, and guides geographic targeting (although, according to key informants, it should provide better food security analysis). SETSAN also oversees the Working Group of the

Multi-sectoral Action Plan for the Reduction of Chronic Undernutrition, which is composed of relevant ministries, CSOs and donors. The Working Group is responsible for the promotion, planning and monitoring of the nutrition plans of the various ministries and for strengthening coordination and accountability (UN Standing Committee on Nutrition, 2013). Key informants and literature report a close association between effective food security governance and SETSAN performance. The Working Group has been decentralised into the 11 provinces through provincial technical working groups.

The coordination of ESAN II was found to be broad, even considering the links with other institutions. Each relevant sector ministry and agency has a focal person who attends planning meetings. Despite room for improvement in the cross-sector coordination for nutrition (Hoddinot et al., 2015; Mogues and Benin, 2015), the coordination is not limited to information sharing, as the PQG has detailed goals related to food security for every potential institution. The policy has been given a membership score consistent with a position of more in than out of the set (0.75), to reflect some gaps, according to key informants, to liaise ESAN II with the safety net programme (see chapter 8).

6.9 Summary of the classification of policy coordination

Table 6.1 presents a summary of the indicators discussed so far. The table includes the calibrated conditions discussed in Chapter 4 for each country case.

Table 6.1 Classification of policy coordination

Country	Policy coordination
Benin	Broad (0.9)
Burkina Faso	Narrow (0.4)
Ethiopia	Broad (1)
Ghana	Narrow (0.4)
Kenya	Narrow (0.3)
Madagascar	Narrow (0)
Malawi	Narrow (0)
Mozambique	Broad (0.75)

Chapter 7. Classification of geographic scope

This chapter presents the classification of countries by geographic integration. The assessment of the selected policies distinguishes those that apply and are implemented across the whole country compared to those that apply a geographical bias, targeting (and favouring) certain areas. Geographic bias can emerge when i) food security is perceived mostly as a problem related to a specific area or areas, including cities; ii) when a particular supply chain, based on an area-specific crop, is seen as a means to achieve food security, or iii) when the policy designs tools that apply to the whole country but implementation favours particular areas (Partridge and Rickman, 2006; Garcilazo, 2011). With very few exceptions, literature on the geographic scope was scarce for the cases selected. To overcome this paucity of information, policy documents and key informant interviews were used to explore inequalities in the implementation of policies, their disbursement, and any specific targeting on a geographic basis.

The following framework was applied for the calibration of policies based on geographic scope:

- Full membership (1) represented a situation where policy rules were uniformly applied across a country.
- Almost completely in the set (0.8) represented cases where rules were uniformly applied, resulting in different implementation in different areas, depending on needs.
- More in than out (0.7) was classified if policies were uniformly but linked to one type of action, resulting in different applications.
- The cross-over point (0.5) was deemed to exist when policies were designed for the whole country, but some parts of the implementation were geographically uneven due to differences in state capacity to implement them or due to *force majeure* (for example, shocks or war).
- More out than in (0.4) referred to the context where policies were designed for the whole country, but differences in state capacity to implement them or *force majeure* made this application geographically uneven.
- Almost completely out of the set (0.3) was characterised by situations where the policy focus was on a specific crop, farmed unevenly across the country.
- Full non-membership (0) was deemed to exist where there were uneven policy provisions on a geographic base as a result of interest groups' action and *force Majeure*.

7.1 Benin

The *Programme Nationale de Sécurité Alimentaire* describes rules and implements actions with a broad focus. The dense interactions among ministries, particularly in the sectors of agriculture and nutrition, contribute to making government responses wide in their geographic scope (Ambroise et al., 2010).

Nevertheless, two additional issues must be considered. First, the differences in rural infrastructures render these responses uneven, in particular between the semi-arid north, where subsistence farming is most common, and the wealthier south, with larger urban areas and well-served cash crops (Honfoga, 2007). Second, input subsidisation is an important policy instrument that has become an important element of any intervention in food security since 2009. The State-owned Company for Agricultural Promotion (SONAPRA) was reorganised to cover basic food crops, maize and rice. It attributes areas of distributions to convened suppliers and retailers (Honfoga, 2013), but without considering the demand for the local supply chains. According to key informants, distribution zones are set on the basis of logistical costs, resulting in an uneven availability of subsidised inputs.

Therefore, while the PNSA is applied uniformly across the country, differences in the capacity of local agencies and bias originated from different needs and economic performances make the geographic scope more out than in the set, with a membership score of 0.4.

7.2 Burkina Faso

The lack of coordination among donors mentioned in the previous chapter would have implied an inequality of policy application across the country. However, the *Conséil National de Sécurité Alimentaire* provided an effective steering and monitoring structure for a geographically even application of the policy. As a result, the rules concerning mechanisms and interventions put in place, especially concerning livestock interventions, are applied uniformly. Key informants commented that, if more interventions seemed to target the northern areas, this was the result of clear rules and planning that reflect objective needs as these areas are chronically in food deficit (CNSA, 2018). However, the fact that needs are expressed mainly in terms of agricultural production (as discussed in the previous chapter) limits the geographic scope, even if it remains broad. The assessment of membership in the set is 0.7 (more in than out).

7.3 Ethiopia

The key informants made a clear distinction between interventions addressing acute vs chronic food insecurity. The Commission for Disaster and Risk Management is a key player in setting geographic priorities for both acute and chronic interventions, even those related to chronic problems, such as livelihood protection and graduation. This indicates that geographic priorities exist. However, these priorities depend on which risks are being dealt with: drought, floods, pest invasions or conflict. Recently, drought has been the most important risk. While the policy principles are applied to the whole country, the beneficiaries of the FSP seem skewed towards the more drought-prone eastern parts of the country. But institutional arrangements are designed to make sure that rules about geographic priorities are respected, including local representation in the commission and the transparent decision-making process. The graduation mechanism has been criticised on various grounds (Bonsa, 2016) and graduation "quotas" may be perceived as ordered from above when they come to *worodas*. However, key informants reported that beneficiary lists were developed based on studies and predictions from previous years.

The Ethiopian FSNP, therefore, seemed consistent with a membership score of 0.8, "almost completely in the set" of geographic scope, because geographic priorities depend on needs and rules that are clearly specified and applied across the country.

7.4 Ghana

There is evidence of differences in the implementation of the fertiliser subsidies policy on a geographical basis in Ghana (Benin et al., 2013; Resnick and Mather, 2016; Abdul-Rahaman and Awudu, 2018). Fertiliser subsidies are a major component of the policy mix in this country. Vouchers were distributed by the MoFA for redemption by distributors linked to three major fertiliser importers, but there was wide variation in voucher distribution approaches, systems and numbers across different areas (Banful, 2009; Ghartey Associates, 2009; IFDC and IFPRI, 2009). Redemption prices varied geographically to provide pan-territorial farmer prices in district capitals, discouraging suppliers from supplying fertilisers in the more remote areas of the north, where neither redemption nor farmer prices covered the costs of transport outside district capitals (Chirwa and Dorward, 2013). Banful (2011) reports that both political and economic efficiency considerations appear to have influenced the distribution of vouchers between districts. Because of the ambiguity of targeting mentioned in the previous chapter, distribution was prominently based on factors such as local connections and influence (Vondolia, 2011; Ragasa et al., 2013; Jatoe, 2016). As maize, mainly farmed in the north of the

country, is the main target of these subsidies, there is a substantial difference in the delivery of the policy on a geographic scale (Chirwa and Dorward, 2013). The geographic scope of the policy is therefore narrow, with a membership score of 0.3.

7.5 Kenya

Sitko et al. (2017a) claimed that ethno-regional patronage politics are instrumental in food security policies in Kenya. The distribution of rents through state expenditure on output and input subsidies helps to garner favour with powerful elites in Kenya's food-producing regions. Following the retirement of President Moi in 2020, a succession of ministers of agriculture came from the same Kalenjin group as the former president. Poulton and Kananga (2014) link this to the priority that Kalenjin maize farmers in the Rift valley defend the rent streams that Moi institutionalised via maize procurement prices and access to subsidised fertilisers (administered through the National Cereal and Produce Board of the Ministry of Agriculture). Accountability towards the Rift valley farmers seemed a powerful voice, because the Kalenjin, one of the largest ethnic groups, produce most of the maize in the markets and have demonstrated the willingness to incite violence when their interests are under threat (Poulton and Kanyanga, 2014).

In addition, the fast pace of food systems transformation has contributed to limiting the scope of agricultural support by making agricultural input prices uneven (Jayne et al., 2019). There are also objective obstacles in applying marketing policies (such as input subsidies) across a country where some areas are dominated by small, poorly capitalised and isolated actors (Sitko et al., 2917a).

The geographic scope for Kenya was, therefore, classified as narrow, with a membership score of 0.3, as the focus of the policy has been consistently on the production of maize, which is farmed in very different conditions across the country and protected by key interest groups.

7.6 Madagascar

The *Programme Séctoriel d'Agriculture, Elevage et Peche* is not designed to have a geographic bias. However, different actors with different geographical coverage implement parts of the PSAEP. Three issues are relevant to consider in the classification of geographic coverage in Madagascar. The first issue of relevance is the salience of rice as a staple food in Madagascar. While rice is farmed in almost all areas of the country, commercial production is concentrated

in few areas, which receive most of the policy support (Sakurai and Arimoto, 2014), except for emergency and rehabilitation actions. The second issue is the importance of *dahalo* operations in some areas. *Dahalo* is commonly translated as "bandits", but it also has historical and cultural references (Defoe et al., 1890) as a rite of passage among some populations in the south of the country (Ribar, 1926; Faublée, 1941; Fauroux, 1989; Scheidecker, 2014; Tarabey, 2014). In the past, cattle raiding had mainly cultural motives (Blok, 1972; Fauroux 1989) but, in recent years, attacks by organised gangs of cattle raiders have reached new dimensions of violence and economic impact. In the most affected southern regions, their attacks have led to the displacement of villagers (UNCT, 2012), and an overall decline in economic activity (Fafchamps and Minten 2006; Goetter, 2016). The phenomenon has political connotations (Gardini, 2016), but the relevant consequence in the context of this study was that the instability of certain areas (the south-east coast today, the Mahafaly Plateau between 2010 and 2014, and the northern highlands earlier) makes the state's presence uneven (Giardini, 2019). The third issue related to the afore-mentioned distinction between government development initiatives and UN-led emergency responses, which are usually better funded. The higher poverty incidences are in the northern regions (such as Sofia), while drought-related food crises frequently occur in the south. This has created a dual response mechanism, with different timeframes and modalities, particularly during the period of international sanctions, when donors continued emergency aid and relief but discontinued development assistance. These issues, together with the tendency to limit government interventions to specific areas and with specific timeframes (see above) makes the geographic scope of the policies narrow, leading to the assigning of a score of 0 for this country.

7.7 Malawi

The use of coupons as an allocative mechanism for the subsidy programme follows, at least in theory, a distribution matrix developed each year based on the area planted to maize, the number of farming households and soil characteristics across districts (Dorward and Chirwa, 2011). However, evidence exists that these allocation principles are not implemented. First, because of irregularities for printing coupons, there are often two rounds of coupon distribution – formal and informal. The distribution of informal coupons is "presided over by political functionaries mainly MPs and Ministers targeting … supporters" (Chinsinga, 2011: 15; Chirwa and Dorward, 2013; Andrews, 2015). The share of beneficiary households in each district varies from year to year. However, a constant feature (Holden and Tostensen, 2011) is the president's home district,

Thyolo, that receives significantly more vouchers than other districts, while Machinga, an opposition stronghold, receives fewer vouchers than other districts (Dorward and Chirwa, 2011). Second, logistics are sometimes uncoordinated and inefficient (Chinsinga, 2011). There is also evidence that FISP has been exploited as a source of rent-seeking in the award of procurement and transport contracts (Holden and Tostensen, 2011; World Bank et al., 2011). This resulted in situations where, even when productive areas are targeted, they do not get enough inputs for farmers to redeem. A key informant, citing a confidential audit report of the programme, claims that virtually 100% of voucher distributions were not executed in the modalities and quantities prescribed, with large discrepancies by districts. Third, the role of traditional authorities was renewed so as to be part of the state apparatus (Cammack et al., 2007). While a state function of local chiefs as state agents is common in other African countries, in Malawi, the role of traditional authorities is to enact policies for villagers (GTZ Malawi, 2003). District Councils have been disempowered (UNDP and UNCDF, 2004), and elected chiefs are considered an integral part of the executive branch of government and as an instrument of government legitimacy (Chiweza, 2010). For this reason, chiefs are practically enmeshed in a patron-client relationship with any government that comes to power, with the government deciding on who does and does not benefit from policies. The devolution of targeting produces political returns (Sitko et al., 2017b), and considerable "leakage" of seeds and fertilisers into secondary markets (Holden and Lunduka, 2013).

More relevant to the policy classification of this study, the justification for the targeting of the subsidy programme is that it ensures that poor smallholders are reached and large farmers do not benefit disproportionately (Dorward and Chirwa, 2011). However, there are concerns regarding the clarity and consistency of the targeting criteria, in particular on a geographic basis (Chinsinga, 2011). Therefore, the programme is geographically biased, with a narrow scope and so assigned a membership score of 0.

7.8 Mozambique

According to key informants, better-resourced commercial farms in higher-potential areas received more support from the ESAN II, but this does not seem to be the result of interest groups, but rather the poor capacity of state structures in less agronomically productive and poorer areas

The coordination of ESAN II at the local level is the responsibility of the decentralised units of SETSAN. However, even if present at the provincial level, there are differences in the budget

and the human capacity of these units to implement action plans, especially with regard to nutrition interventions. Their involvement is said to be “circumstantial” (Vunjanhe and Adriano, 2015), resulting in different applications of the policy, especially at the lower administrative level (district). Key informants also cite the political instability in parts of the country, especially in the last years, as an objective limitation to a uniform application of ESAN II. Islamist insurgency involving militants and Mozambican security forces creates ongoing conflict in the north and north-east of the country, which contributes to the uneven application of the policy of limiting the presence of the state in those areas.

Membership in geographic scope, as assessed against the calibration criteria is, therefore, more out than in (score of 0.4), because differences in the capacity of state actors to implement ESAN II, as well as the ongoing conflict, maintain some geographic bias.

7.9 Summary of the classification of geographic scope and table

Table 7.1 summarises the classifications for geographical scope.

Table 7.1 Classification of geographic scope

Country	**Geographic scope**
Benin	Narrow (0.4)
Burkina Faso	Broad (0.7)
Ethiopia	Broad (0.8)
Ghana	Narrow (0.3)
Kenya	Narrow (0.3)
Madagascar	Narrow (0)
Malawi	Narrow (0)
Mozambique	Narrow (0.4)

Chapter 8. Classification of policy orientation

The policy orientation towards production or consumption is assessed through text analysis, i.e., analysing the relevance of these aspects in the discourse and policy frame (linking to the policy frames introduced above), and the role of consumer and producer organisations in agenda-setting and policy design. The classification implies an evaluation of which element of the food systems is mostly targeted by the policy. In general, the FAPDA methodology (FAO, 2015c) is used as a reference to classify single-policy decisions. But orientation is also assessed by how policy objectives are implemented in practice – in particular through the analysis of expenses – and by how consistent the policy was with other national policies in the same period. Regarding the use of public expenses, secondary data are mostly sourced from the MAFAP and SPEED databases (IFPRI, 2015; FAO, 2019a) and, where not available, through key informants. Because African countries have used input subsidies as an emergency response to food price crises (2005 in West Africa, 2007–08, and 2010–2012) (Pernechele et al., 2018), this is an important expense item in many (but not all) the cases selected.

Particular attention has been given to trade policies: although trade is not the object of this study, many interventions designed to improve food security through supporting domestic production are in fact measures to counter-balance an implicit taxation of the agricultural sector (favouring consumers), while still making highly visible gestures for rural voters and potential instruments of patronage. The Agricultural Nominal Rate of Protection (NRP) is the main indicator to assess support of consumers or producers in trade. Wherever possible, according to the availability of data, 10-year trends were considered: almost every country of this study shows considerable fluctuations, especially between 2009 and 2011, as a result of the use of policy instruments to protect consumers from the food price crisis. Where possible, given the data limitations, the analysis concentrated on three commodities: i) rice: although mainly produced by smallholders, it is not a primary subsistence staple for the rural population (except in Madagascar and parts of Ghana and Benin), but rather a cash crop in competition with imports consumed in urban areas (Pernechele et al., 2018); ii) maize: it is generally less traded internationally, and often a politically sensitive commodity (Pernechele et al., 2018); and iii) cattle: livestock and livestock products have, in general, a particular value to smooth consumption in rural areas, and are often subject to special consideration as a means of making a living.

For the calibration, the following anchor-points were applied:

- Full membership in producer orientation (1), where NRP was significantly positive for all main crops and the policy provides specific producer support decisions. Producers are clear policy targets.
- Almost completely in the set (0.8), where NRP was positive but volatile, and the policy provides for specific producer support.
- More in than out (0.6), where NRP was sometimes positive for some important crops; consumer policies are historically important, but domestic production is still seen as crucial for food security.
- Neutral (0.5), where NRP was 0, with livelihood protection as the main policy intervention.
- More out than in (0.4), where NRP was positive for some cash crops, but not for staples. Measures to increase productivity exist, but in the context of protecting livelihoods. The core objectives of the policy remain on consumption.
- Almost completely out of the set (0.25), where measures to increase productivity existed, but in the context of protecting livelihoods. Consumers are the policy targets and a key to political stability.
- Full non-membership (0), where the food security policy exclusively comprehended measures to protect consumers, such as price interventions, or to increase access and utilisation for consumers.

8.1 Benin

Support in the cotton sector has been historically important and a crucial component of agricultural policies. In the aftermath of the 2008 food crisis, however, direct producer support through input subsidies took place as emergency measures (*Programme D'urgence en Appui à la Sécurité Alimentaire*, PUASA) with a focus on diversification from cotton production.

It is, however, necessary to distinguish between support for maize and for rice production. Maize, the most important staple crop, faces disincentives since 2014 (Fig. 8.1). Rice, on the other hand, was particularly targeted through a specific strategy (*Stratègie Nationale de Dévelopmment de la Riziculture, Gouvernement du Bénin*, 2011a and 2011b) and is a cash crop re-exported to neighbouring landlocked countries (Burkina Faso and Niger) and Nigeria (INSAE, 2016). For this reason, the price paid to producers is fixed by the National Company for Agricultural Promotion (*Société National pour la Promotion Agricole*, SONAPRA), a

parastatal, indexed not on international price but on regional markets. Because SONAPRA is the only large buyer of rice, this form of price control is respected across the country (FAO, 2018d).

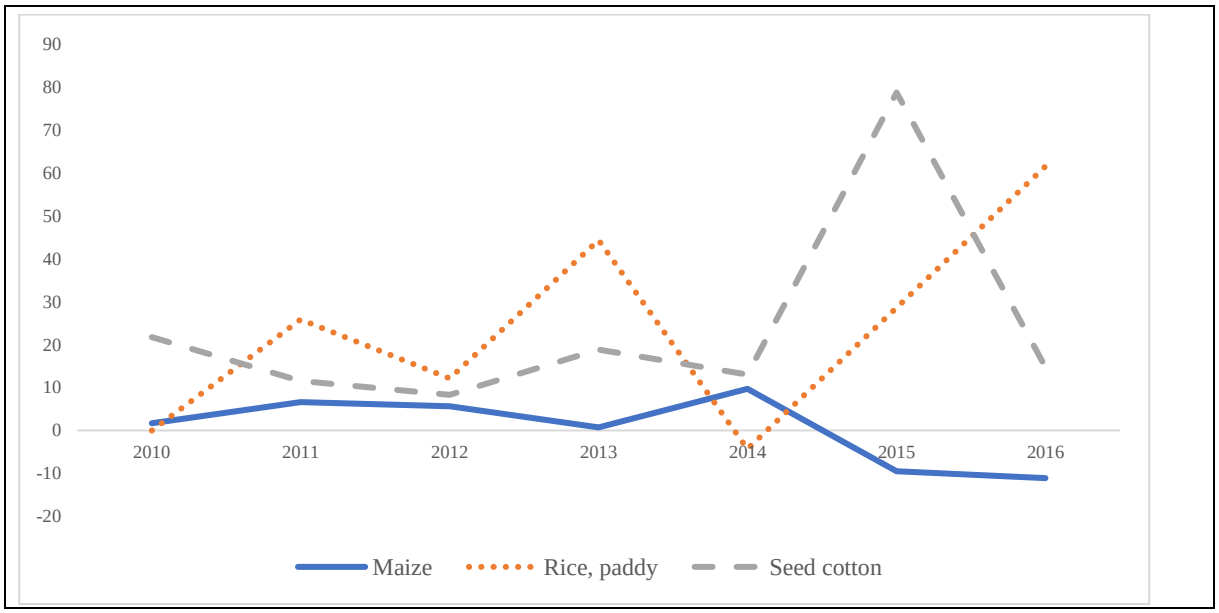


Fig. 8.1 Nominal rate of protection at farm gate, Benin

Source: Author's calculations from MAFAP data (FAO, 2019b)

The protection of poor consumers is targeted by a set of coordinated measures concerning maize and rice marketing (Laga, 2015). ONASA manages buffer stocks for basic food items (Laga, 2015) and rice procured by SONAPRA is distributed at a subsidised price by ONASA in the main cities (as rural areas are considered self-sufficient in grains – MAFAP, 2016). Overall, the policy supports targeted crop producers through marketing and diversification, but this is only in view of raising rural incomes, diversified diets and subsidised food. This explains the still important share of policy transfers to producers (Fig. 8.2): these data, besides, are sourced from the MAFAP database, which does not include nutritional interventions. The policy has, therefore, a consumer-orientation, with a membership score of 0.35, because measures to increase agricultural productivity were mostly framed as livelihood protection, and greater government attention has been given to price control and nutrition for consumers.

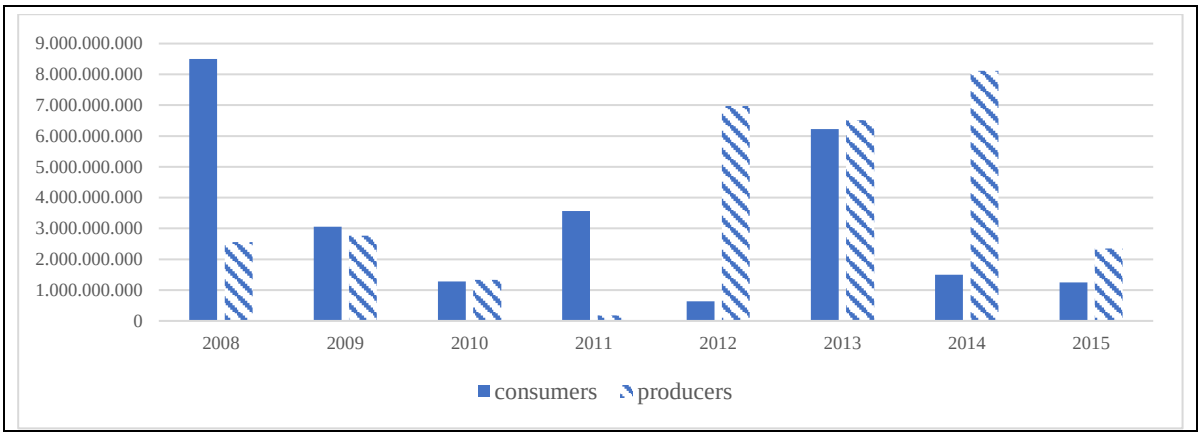


Fig. 8.2 Policy transfers to producers and consumers, Benin (USD, PPP adjusted)

Source: Author's calculations from MAFAP data (FAO, 2019b)

8.2 Burkina Faso

The process of drafting the PNSAN is an example of the agricultural sector's playing a major role in the policy arena. The process has been led by the CNSA under the MoAFS; Civil Society Organisations have been consulted, but the National Federation of Producer Organisation has been particularly active in promoting production issues, while the social movement against the high cost of living (i.e., *Coalition contre la Vie Chère*) has not been involved (Alpha and Gebreselassie, 2015). Especially after the 2008 food crisis, food sovereignty became an explicit government objective, and producer organisations, also thanks to international support, are more organised (Alpha and Fouilleux, 2018).

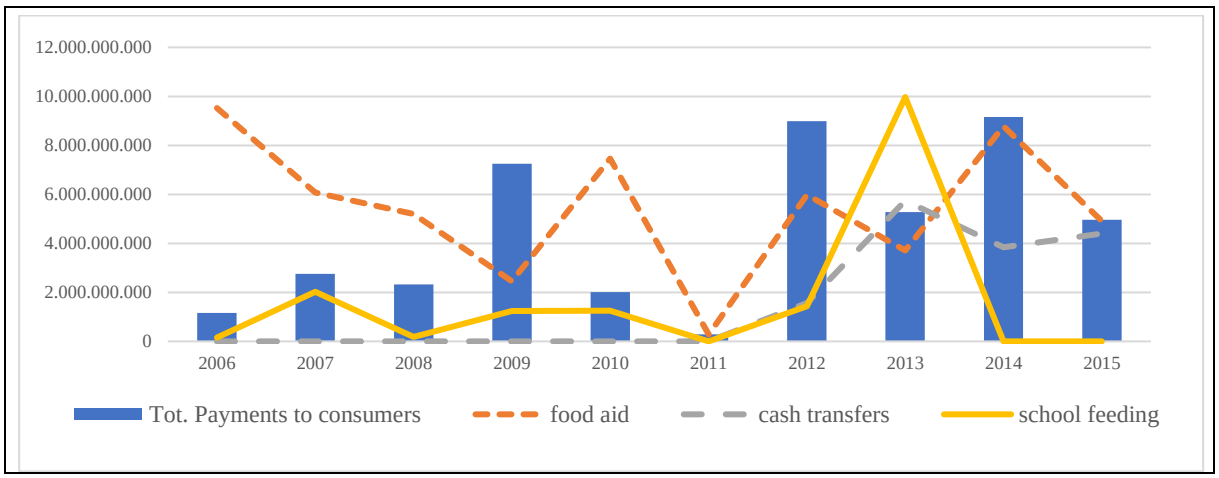


Fig. 8.3 Transfers to consumers by year, Burkina Faso (USD, PPP adjusted)

Source: Calculations from the MAFAP database (FAO, 2019b)

Public expenses specific to agriculture focused on input subsidies, agricultural infrastructure (especially in irrigation, which is to be expected in a Sahelian country) (Pernechele, et al., 2018), extension, and some direct support to consumers. The 2004-2015 average of direct payments shows 80% going to producers (95% of which was for input subsidies), and 18% to consumers, mostly through food aid and school feeding (61% and 23%, respectively). However, these averages hide important fluctuations (see Fig. 8.3), resulting from the emergency response to the 2012 drought.

Producer-orientation is evident even when considering trade policies, particularly after the 2008 food crisis, which pushed the government to support staple crop production. Rice, an important staple, is protected by import tariffs (MAFAP, 2018), and, despite the recent negative NRP, producers are targeted by a large share of agricultural expenditures (FAO, 2014d and 2018a). Despite the weak support for sorghum and maize, public investment aims at improving agricultural production through irrigation and subsidies, and livestock production also enjoys strong budgetary support (FAO, 2014d and 2018a). Cattle production faced heavy disincentives in 2005, but an increasing trend towards protection has been shown ever since (Fig. 8.4). Although to a varying degree, depending on the crop, the orientation of food security policies in Burkina Faso was towards producers, with a membership score of 0.8, as the PNSA provided specific support to producers, albeit volatile.

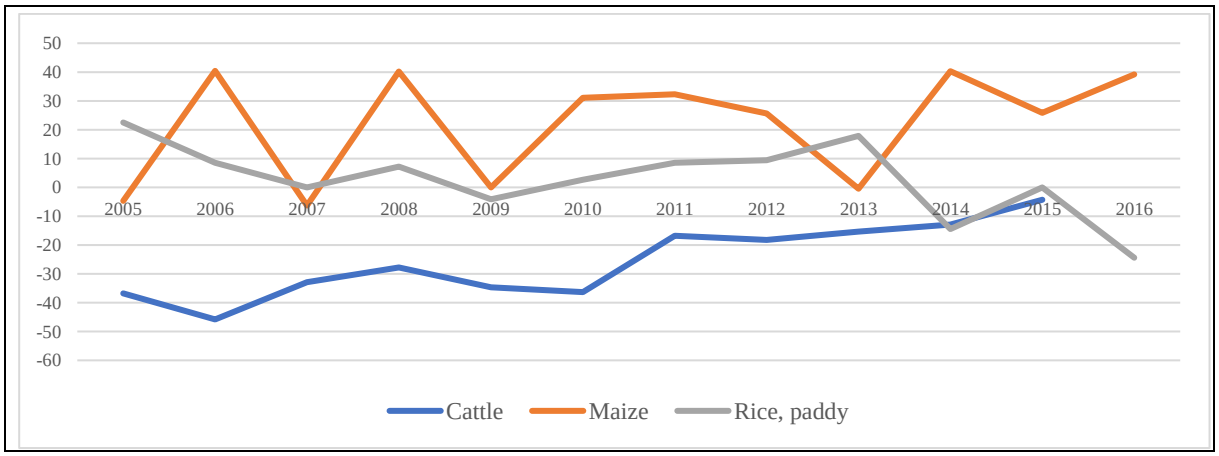


Fig. 8.4 Nominal rate of protection at farm gate, Burkina Faso

Source: Author's calculations from the MAFAP database (FAO, 2019b)

8.3 Ethiopia

Although food insecurity is generally viewed as a rural phenomenon, this is not reflected in the orientation of Ethiopia's initiatives towards producers. Rural consumers, rather, are the main

beneficiaries of the FSP (and trade) policy. Although there is no distinctive target along these lines in the FSP document, it seems to key informants that initiatives in support of agriculture (even its transformation, but also those directed to smallholders) are designed more to protect agricultural livelihoods than to boost productivity. Agriculture-specific expenses over the period 2006–2011 were 70% of the total expenses in the sector (agriculture-supportive expenses being more related to those in rural areas), but the bulk of these were allocated to support consumers, traders and processors, as well as research, markets and storage (FAO, 2014c). Ethiopia is part of a small group of African countries that have allocated a higher share of public expenses to rural health and education (Pernechele et al., 2018). Two important instruments, specific to food security, are the Productive Safety Net Program (PSNP) and the Household Asset Building Program (HABP). The PSNP makes multi-annual predictable transfers, such as food, cash or a combination of both, to chronically food insecure beneficiaries, designed as a very large programme (Galligan et al., 2008; Furtado and Hobson, 2011). The HABP spurs graduation from the PSNP by helping chronically vulnerable populations build resilience through improving risk management and building up household assets. Other tools are the Complementary Community Service (whereby poor households build and maintain rural infrastructure through cash/food-for-work schemes) and the Risk Finance mechanism.

In trade, Ethiopia has experimented with a whole spectrum of agricultural pricing policies (Rashid, 2007). It was noted by key informants that, during the food price crisis, when food inflation exceeded 40%, the government intervened in the market directly through capping prices and banning the export of food grains. The government seems to have continued *ad hoc* implementation of these policies (Alpha and Gebreselassie, 2015). Key food items such as wheat, food oil or sugar are imported and distributed by the government to keep prices affordable for consumers and inflation low, in a context where traders are perceived as using manipulation and predatory trading practices (Yami et al., 2019). Current trade policies prioritise price stabilisation through imports, after experiences in imposing price caps on basic items (Minten et al., 2012). These measures enjoy high general support (Lawrence, 2003), and they have been growing, especially since 2006 (FAO, 2014c). Despite its positive impact in enhancing food access for the poor, this intervention affects producer incentives.

Maize and wheat farmers have faced disincentives, reflected in the negative trends of NRP (Fig. 8.5), both at farm gate and point of competition (PoC), since 2006. Consistent with the analysis of public expenses, trade policy also protects livestock and livestock products, attempting to limit household asset depletion from stress sales, consistent with a goal of livelihood protection. Because of this focus of the policy on livelihood protection and the efforts to control food prices, the membership score for this criterion was 0.25.

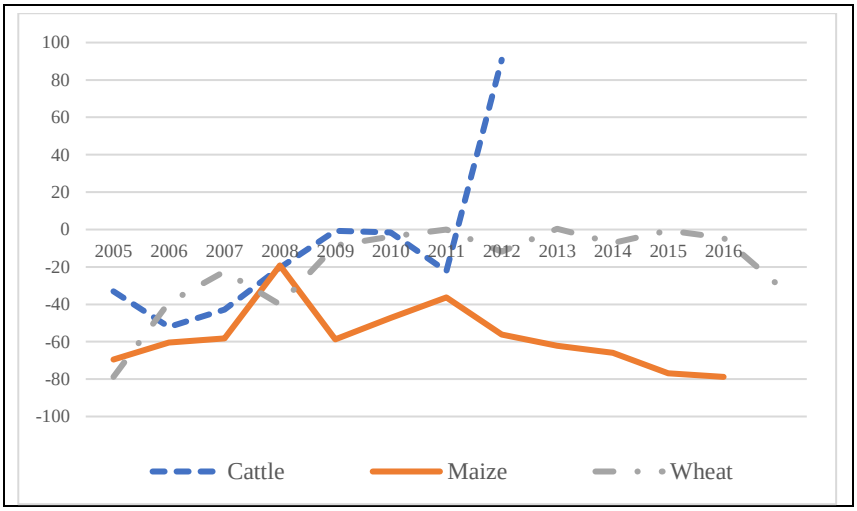


Fig. 8.5 Nominal rate of protection at PoC, Ethiopia

Source: Author's calculations from the MAFAP database (FAO, 2019b)

8.4 Ghana

Consumer-oriented interventions are mainly undertaken in the framework of the LEAP (see Chapter 5) and the School Feeding Programme. The former extended its reach considerably, but its overall low value of cash transfers (between 4 and 8 USD/month), coupled with sporadic payments, limit its impact on consumption (FAO, 2015e). The School Feeding Programme is now nation-wide (HGSE, 2013), and food is procured locally. Fig. 8.6 presents policy transfers to consumers, showing how food aid is still the most prominent measure in supporting food consumption.

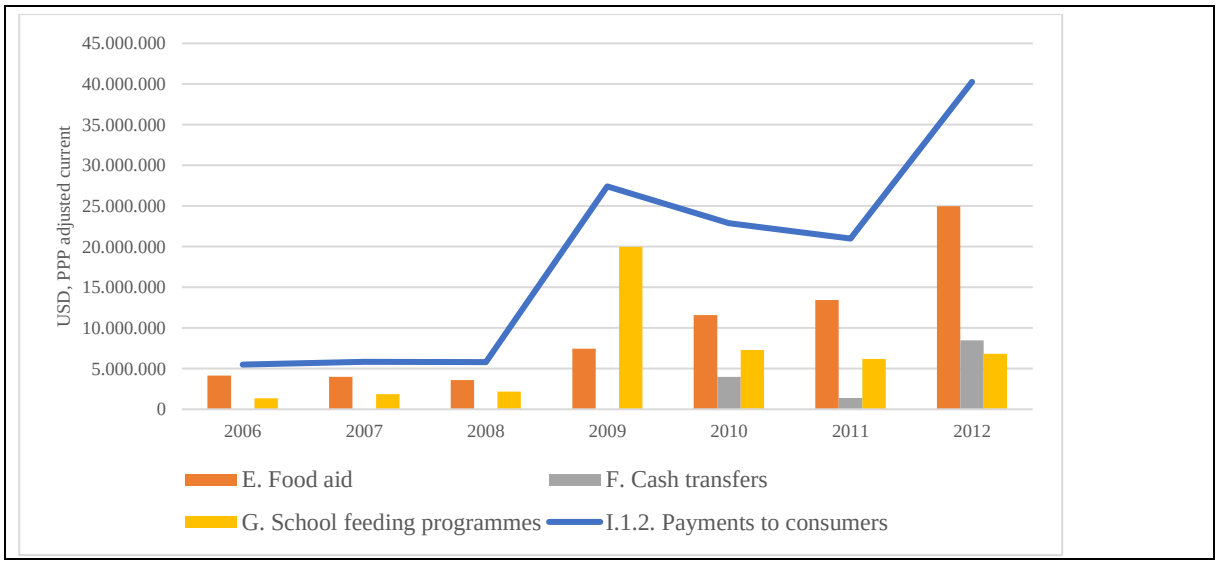


Fig. 8.6 Public expenses to consumer support, Ghana

Source: Author's calculations from MAFAP data (FAO, 2019b)

However, FASDEP II serves the interests of producers: in its framework, irrigation services also attracted important funds, but it is especially the subsidisation of inputs that orients government actions to producers. Especially in the last decade, the support to the agri-food production is evident: it is estimated (FAO, 2014e) that the Fertiliser Subsidy Programme, the Block Farming Programme, Agricultural Mechanisation Centres and the Irrigation Development Programme together comprise about 85% of the ministry's capital budget. The National Fertiliser Subsidy Programme covers all-size crop farmers, by approximately 50% of fertiliser prices. Rather than dismantling the programme after the price crisis, as originally planned, government support to the programme was scaled up (from US$10.8 million in 2008 to US$63 million in 2012, although the overall subsidy was reduced to 21% in 2013 – FAO, 2014e). Input subsidies are a central part of the government flagship programmes – FASDAP II, "Planting for Food and Jobs" and GIPAD – and include seeds, livestock inputs and credit.

MAFAP indicators reveal that the policy- and market environment created a disincentive for food producers only from 2010 to 2014. More recently, the NRP has turned positive even for maize (Fig. 8.7), following a consistently increasing trend. However, although traders benefit the most from recent price policies (FAO, 2018c), food production enjoys more important public sector involvement. Ghana applies a 20% import tax on food commodities, and VAT (12.5% for maize, 17.5% for rice – Ministry of Finance, 2012 and 2013; Norman et al., 2016). Besides import taxes, the government allocates import permits (at the discretion of the authorities – USDA, 2016) and manages the National Food Buffer Stock Company, providing a minimum price for farmers (AllAfrica, 2017 – although operating stocks are not very important compared to traded volumes – FAO, 2018c).

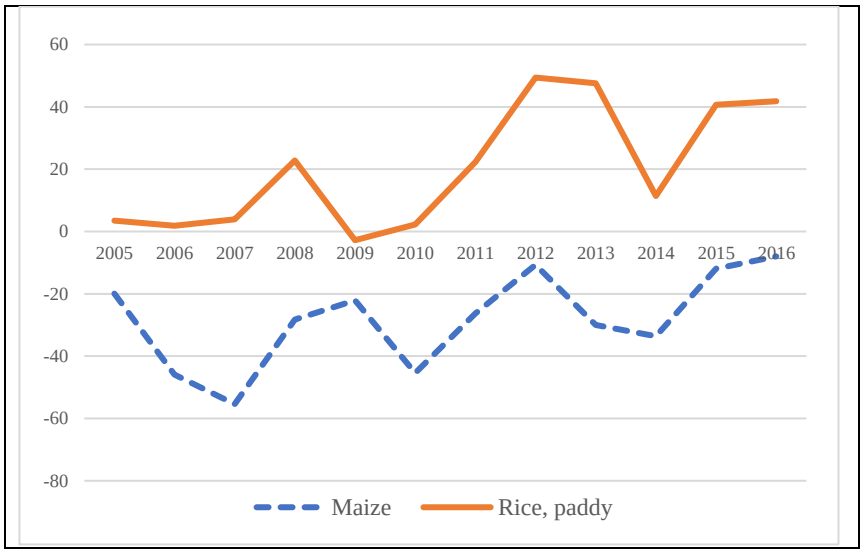


Fig. 8.7 Nominal rate of protection at PoC, Ghana

Source: Author's calculations from MAFAP data (FAO, 2019b)

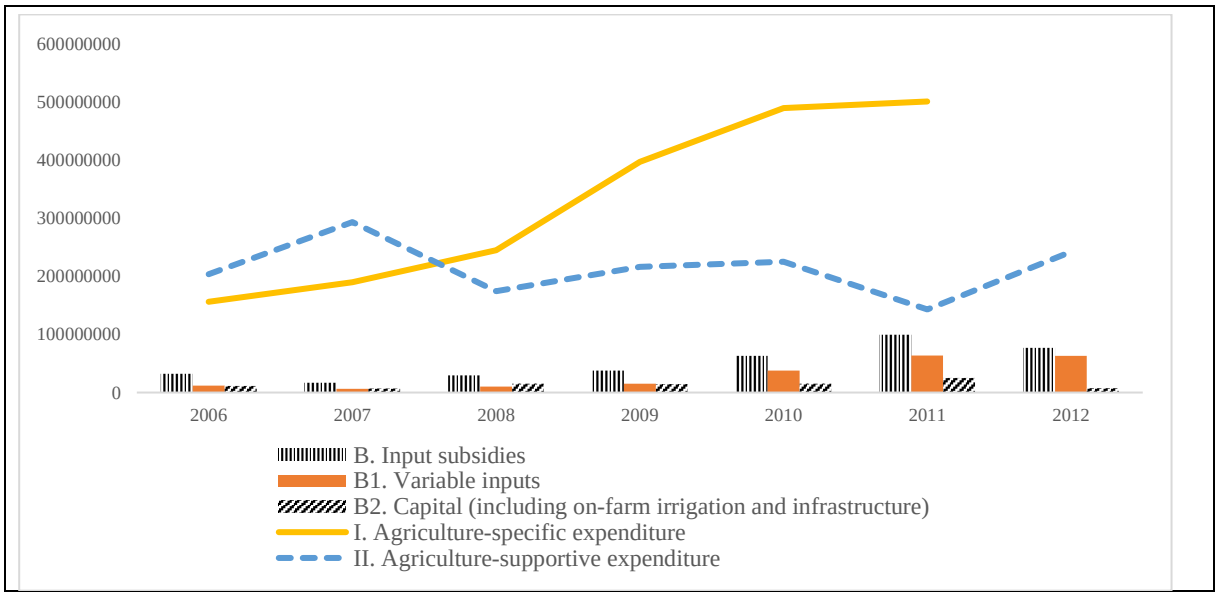


Fig. 8.8 Public expenditure on food and agriculture (USD, PPP constant 2011)

Source: Author's calculations from MAFAP data

Producer orientation is also shown by an analysis of public expenses in the agricultural sector, where transfers to producers are the most important item, averaging about 39% of all agriculture-specific expenditures during the 2006–2012 period (FAO, 2014e). Subsidies and capital expenditures have had an increasing trend since 2006, in particular after the launch of the GFSSP in 2008 (FAO, 2014e). Assessed against the calibration criteria, FASDEP II had a clear orientation towards producers. Because of its specific agricultural support, but also because of the growing relevance of the school feeding programme, the membership score was set at 0.75.

8.5 Kenya

Government's own-funded share of the budget has mainly been invested in agricultural research, in providing extension services to producers, and in improving access to seeds and fertilisers through a subsidy system for smallholder farmers. The National Accelerated Agricultural Inputs Access Programme (NAAIAP) and the Fertiliser Cost Reduction Initiative, all supposedly coordinated with the NFNSP-IF, have been implemented to increase the affordability of inputs and encourage the local manufacture of fertilisers. These initiatives have mainly targeted maize production (MAFAP, 2013; FAO, 2018b).

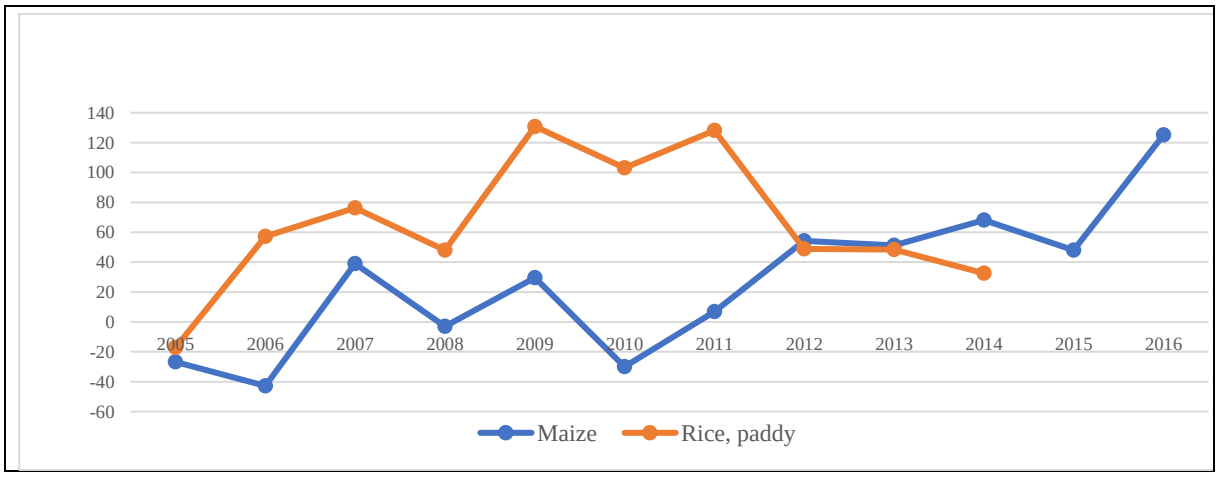


Fig. 8.9 Nominal rate of protection at farm gate, Kenya

Source: Author's calculations from the MAFAP database (FAO, 2019b)

Kenya's policy orientation is towards producers, as also shown by the positive (although volatile) NRP for maize and rice (Fig. 8.9). A prominent example is a set of policy decisions to support maize prices: imports by the National Cereals and Produce Board (NCPB) have a fixed purchasing price, which in 2011 was equivalent to double the market price. The maintenance

of a high tariff rate on maize imports to the port of Mombasa in 2009 is also illustrative. Despite warnings of an impending maize deficit and high global prices, the Kenyan government maintained a 50% tariff on maize imports well after consumer prices in Nairobi spiked beyond import parity (Kirimi et al., 2011). In January, President Kibaki declared a state of emergency and launched an appeal for international food relief, but without waiving tariffs (Sharma, 2016). Producers' policy relevance could be potentially limited by two factors. First, since the late 1980s and early 1990s, Kenya has shifted from being a consistent maize exporter to being a chronic maize importer (Winter-Nelson and Argwings-Kodhek, 2007), weakening the influence of producers. Second, the Kenyan economy generates significant foreign exchange through export agriculture, which creates incentives for a wider range of public investment in agriculture than less diverse countries (Winter-Nelson and Argwings-Kodhek, 2007). These factors may have been the reason for some volatility of agricultural protection in Kenya. However, "the fact that the Kenya government routinely utilizes changes in tariff rates and other cross border trade control mechanisms for maize despite being in a structural deficit position is illustrative of the power of surplus producers" (Sitko et al., 2017b: 248).

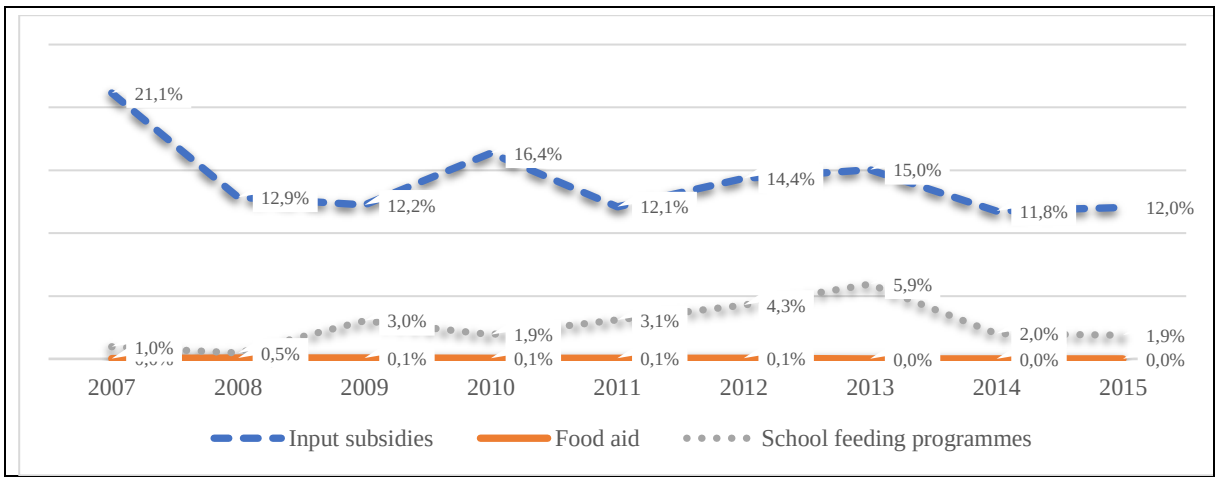


Fig. 8.10 Actual spending as % of agriculture-specific expenses, Kenya

Source: Author's calculations from the MAFAP database (FAO, 2019b)

Some social protection measures and the school feeding programme, which existed before the food price crisis, were scaled up afterwards, intensified and covered a broader range of beneficiaries. However, public expenses allocated to school feeding and food aid are well below those allocated to input subsidies (Fig. 8.10). Another measure to mitigate the effects of food shortages was the Price Control Bill to fix maximum retail and wholesale prices for essential goods. The bill was passed in 2009 and repeatedly reinforced in 2010 and 2011, but it has never been fully implemented (MAFAP, 2018b).

Kenya's membership score in the producer set is therefore as high as 0.8 for its positive (although volatile) support to food producers.

8.6 Madagascar

Since the shift in policy focus at the beginning of the 2000s, policies took a more decisive orientation towards producers, due to the combination of political and economic considerations that would be out of scope to discuss in detail here. In short, despite the instability of individual governments, the Malagasy history is characterised by the maintenance of a rigidly hierarchical society (Roca, 2013; Razafindrako et al., 2017b), with the aristocratic elite at the top of the hierarchy still composed of large landowners in traditional rice-surplus areas. According to political commentators, the paradigm shift towards farmers by president Ravalomanana was functional to find support among some influent aristocratic groups, traditionally big rice producers. Although this speculation is unconfirmed, it is consistent with the political environment of the country, for any arrangement of this kind would be unlikely to have been changed during the recent political crisis. In addition, Ravalomanana took power after a civil war characterised by a geographic divide, highlands vs coast. Producer orientation also served reconciliation with large export crop planters on the coast who – apart from constituting an important source of hard currency – depended on labour by smallholder farmers. Finally, the president himself had important stakes in food production, owning companies with large market shares in production, storage, transportation and processing.

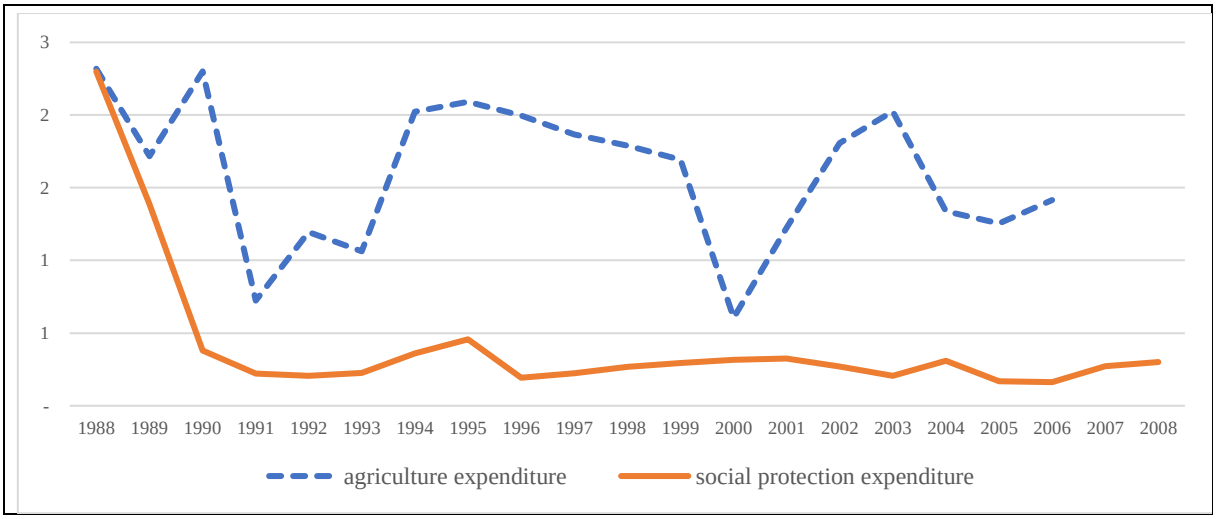


Fig. 8.11 Agricultural and social expenditures as % of the total GDP, Madagascar

Source: Author's calculations, from SPEED data (IFPRI, 2015)

The PSAEP was finalised five years after the crisis that led Ravalomanana into exile, and still has this producer orientation, also playing on the farmers' organisations increasing power in policy promotion (Moulin, 2001; Bockel, 2006). These organisations are especially powerful in rice-producing areas, particularly in the centre-western part of the country and Lake Alaotra.

Interventions in nutrition and social protection enjoyed comparatively less support, as confirmed by Fig. 8.11. The National Programme on School Feeding and Nutrition (2013–2015) has much less reach than agricultural initiatives (Republic of Madagascar, 2012). Madagascar therefore has a membership score of 0.8 for its consistent support of producers.

8.7 Malawi

The orientation of the FISP is clearly towards producers, although the government has launched several measures supporting consumers.

Cash transfer programmes are relatively new but are growing in popularity and budgetary allocations, although still far from levels of the early 1990s in terms of share of GDP (Fig. 8.12). A pilot unconditional social cash transfer programme launched in 2006 was expanded in 2007 and 2009 and, in 2013, the budget allocated was three times that of the previous year (FAO, 2015d and 2015h). In addition, the National School Meals Programme (NSMP) and vitamin A supplementation in the framework of the ERP, has expanded since 2004, with WFP's support.

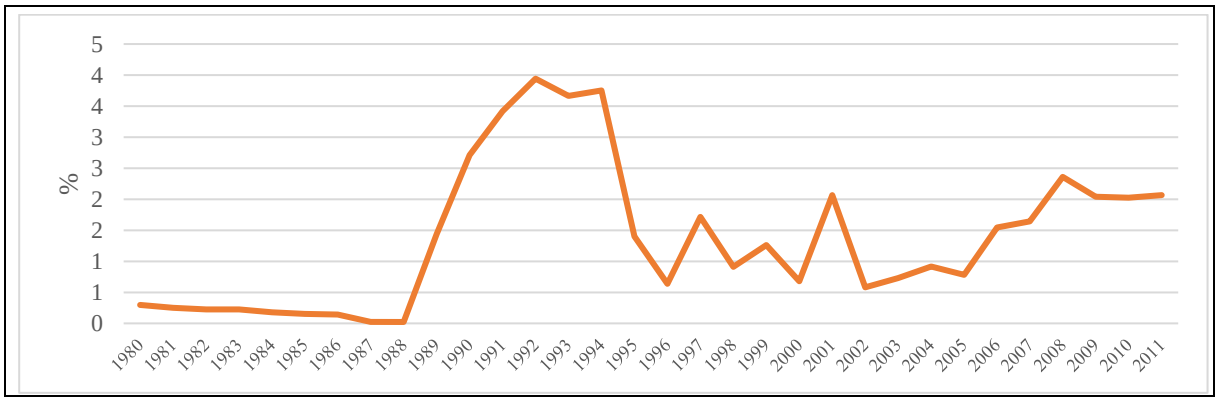


Fig. 8.12 Social protection expenditures as % of GDP, Malawi

Source: Author's calculations from SPEED (IFPRI, 2015)

However, according to key informants, these measures, with the possible exception of school feeding, do not contribute to the political discourse on food security and have a limited impact on consumer prices. Also, 16.5% VAT has been applied since 2012 on previously exempt goods, such as water and meat (FAO, 2015a). In the attempt to control inflation, the government

introduced price bands (with a floor and ceiling for buying and selling) on maize, but with poor results (FAO, 2015), for several reasons: first, although the government expects private traders to observe the price bands, there are no instruments to enforce it. Second, ADMARC has little role in implementing this measure, mostly due to its poor financial position. Third, the price band is too narrow to allow private traders to recover transportation and transaction costs (Jayne et al., 2010). Fourth, for the poor coordination, discussed in Chapter 6, between price and strategic grain reserve management (Chirwa and Chinsinga, 2013).

According to key informants, some donors have recommended linking price interventions, which are still on a lower scale, with the FISP, in order to have a wider impact, but coordination and integration are lacking, as seen in Chapter 6. The analysis of public expenditure confirms the dominance of transfers to producers over consumers (Fig. 8.13).

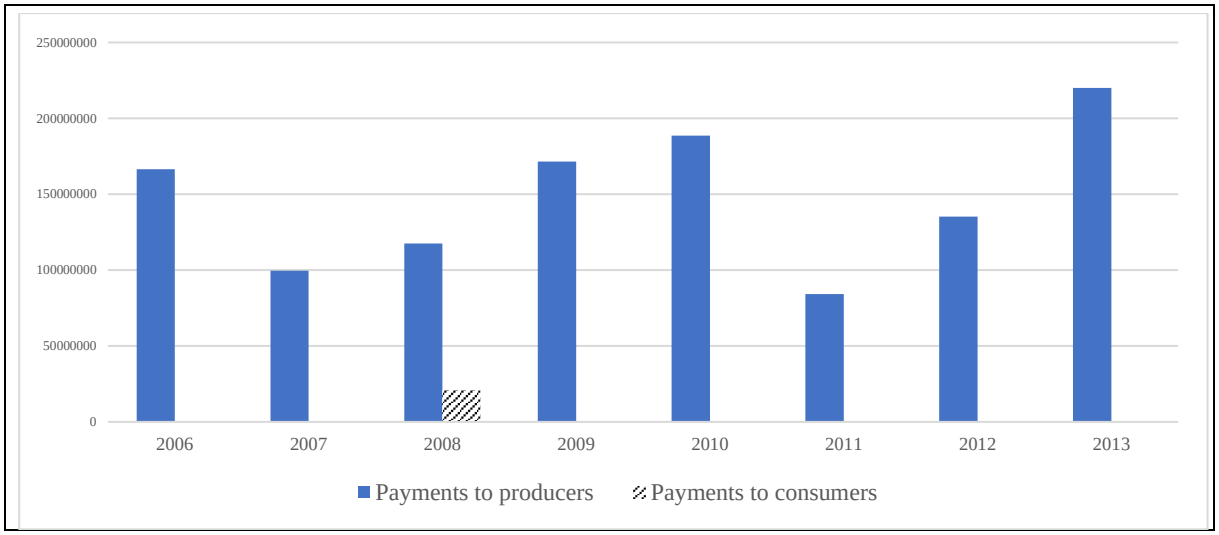


Fig. 8.13 Direct policy transfers in Malawi (USD, 2011 constant)

Source: Author's calculations from MAFAP (FAO, 2019b)

Furthermore, the analysis of the Nominal Rate of Assistance[2], 26% on average during the period 2005–2013, confirms the conclusion regarding the policy orientation.

The trade marketing environment is characterised by high unpredictability due to the changing government role in the market (WTO, 2010; Chirwa and Chinsinga, 2013).

2 The NRA, like the NRP, measures the effect of domestic market and trade policies and overall market performance, but in addition, considers direct support to the value chain, namely commodity-specific public expenditure allocations. Because of the saliency of maize and the large share of resources allocated to the FISP, this indicator is preferable to the NRP. Public expenditure allocated to maize has been added to the price gap at farm gate, reflecting additional incentives farmers receive due to budgetary support.

The key issue for consumers, however, is the distribution of these imports. The import of maize is normally done by the government through a tendering process: once imported, maize is supposed to be distributed across the country at a subsidised price through the network of ADMARC markets, but the distribution of imports has been characterised by serious inefficiencies. Consumers and smallholder farmers, who are mostly net food buyers, are the main losers of trade policies in Malawi (Chirwa and Chinsinga, 2013). The membership score of the policy is therefore 0.9, due to the high producer orientation, its constant policy support, and because producers are the clear policy target, even if in a context of the growing relevance of social protection.

8.8 Mozambique

The most important consumer-oriented measures in Mozambique include social protection, fuel subsidies and humanitarian assistance. Mozambique has one of the oldest of Sub-Saharan Africa's governmental non-contributory cash transfers – the Food Subsidy Programme (*Programa Subsidio de Alimentos*, PSA) – which was launched in the 1990s. In 2008, the subsidy scale increased, and greater attention was granted to the inclusion of eligible dependants as indirect beneficiaries (Veras Soares et al., 2011; Nguyen, 2016). Since 2014, the PSA has been transformed into a larger programme, the Basic Social Subsidy Programme, with larger transfers and coverage (Milhorance et al., 2019; Guzzi, 2016).

However, public spending on producer support is consistently higher than on consumers, and mainly consists of cash transfers (Fig. 8.14), according to key informants. The debate on food security centres around production issues and, above all, the question of whether to focus agricultural development efforts on commercial farms and the better-resourced small farms in the most favoured areas, or whether to spread public investments for broader coverage of smallholders.

Currently, the main food policies emphasise increased farm output and food marketing, focusing on seed improvements (FAO, 2016), irrigation and trade.

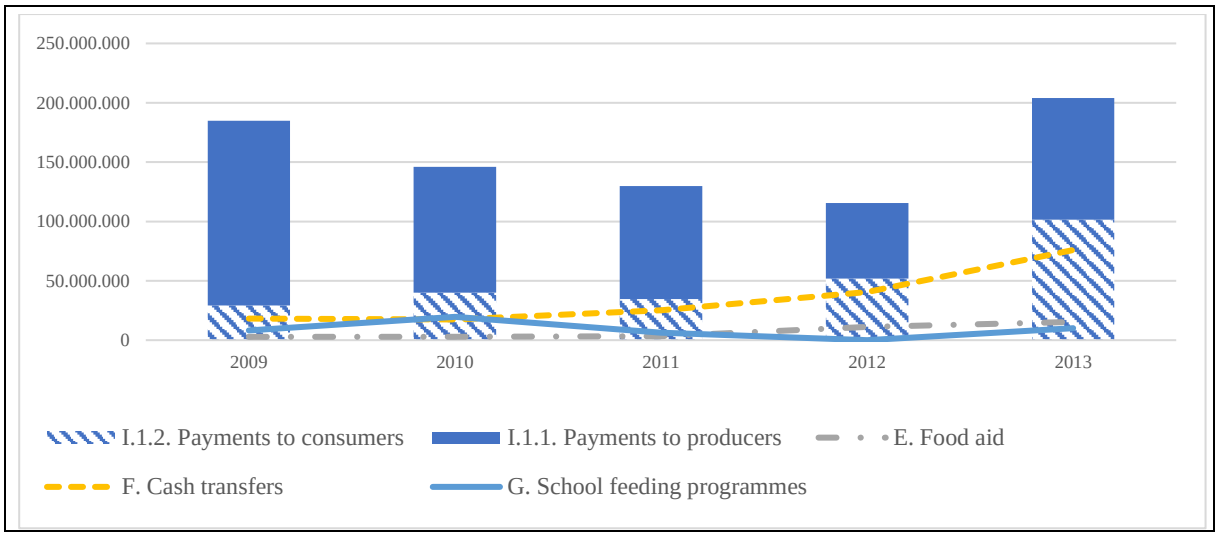


Fig. 8.14 Public spending in Mozambique (USD, PPP 2011 constant)

Source: Author's calculation from MAFAP data (FAO, 2019b)

Government control of prices has been minimal since market liberalisation, and has been applied *ad hoc* (Chilonda et al., 2012; Cunguara, 2012), mostly as a temporary response to food price crises in 2008 and 2010. In trade, some commodities classified as "sensitive" had smaller tariffs, but Mozambique also applies a 17% VAT to some imported food commodities, including maize grain and flour (Tschirley and Abdula, 2007; Chilonda et al., 2012). Since VAT is not applied to domestic production, this constitutes *de facto* a cost disadvantage for imports. As a result, the NRP at the point of competition, despite being smaller than in other countries, exhibits a consistent, albeit volatile, positive trend.

A more significant response was the setup of strategic reserves in order to stabilise prices, and the launch of the Mozambique Commodity Exchange, through which these reserves could be traded, but these measures are still to be fully implemented (CARE/AA, 2017). In conclusion, the policy environment and government priorities are producer-oriented. Assessed against the calibration criteria, the policy is in the 'more in than out' set, with a membership score of 0.6, for the historical and budgetary relevance of support to consumers.

8.9 Summary of the classification of policy orientation

A truth table summarising the classification in this chapter is provided below (Table 8.1).

Table 8.1 Classification of policy orientation

Country	Orientation
Benin	Consumers (0.35)
Burkina Faso	Producers (0.8)
Ethiopia	Consumers (0.25)
Ghana	Producers (0.75)
Kenya	Producers (0.8)
Madagascar	Producers (0.8)
Malawi	Producers (0.9)
Mozambique	Producers (0.6)

Chapter 9. Classification of the level of state involvement

The policy classification of state involvement assessed the state's engagement in the provision of goods and services. This assessment was essentially an evaluation of the instruments used in the framework of the policy. It is common for policies to include several different instruments, sometimes with different levels of state involvement.

The MAFAP initiative analyses national expenditure by direct support to agriculture (direct transfers to producers and consumers flag a higher level of state involvement) and indirect support (to rural development, such as indirect transfers for rural health and education, infrastructure, etc., that usually seek to improve the rural economic environment and lower transaction costs). While informative, this analysis gives only a general indication for the classification.

In the past, there was considerable focus by economists on identifying market failures that would, or would not, justify government interventions (Howlett, 2000). However, it is not only economic calculus that is behind the instrument choice; it is important to attribute a political rationale too (Howlett, 2000, 2018 and 2019). The government's approach to intervention usually goes beyond single-policy instruments. A government may employ a stick-and-carrot approach to a policy goal (for example, through incentives or regulation), but, as seen in Chapter 3, the policy mix may still consistently lean towards a high or low level of state involvement. Particularly in the aftermath of the 2008–10 food crisis, African governments commonly employed market interventions (such as marketing boards to overcome perceived smallholder market failures, support farm gate prices and lower consumption prices), input subsidies and trade policy levers (such as tariffs, export bans and quotas) to address food insecurity (Barrett and Mutumbatsere, 2008; Jayne and Rashid, 2013; Maetz et al., 2011). However, the measures applied varied significantly across Africa (Bryan, 2013), especially in the way states intervened (Sitko et al., 2017b).

Designing and adopting policy mixes of instruments is complex, as is their classification, but evidence shows the importance of "implementation styles" in government choice of policy mix (Howlett and Ramesh, 1995). Cultural norms or previous institutional or political arrangements accord greater legitimacy to some instruments than to others (Howlett, 2018). In practice, although seemingly faced with a wide choice of instruments, governments repeatedly choose from a more limited set of options. This, together with the analysis of public expenses, was assessed to inform the policy classification and calibration in this study.

The question asked for this classification was not "why do policymakers choose certain instruments?", but "why was a particular combination of instruments applied in the specific sector?". A combination of instruments would make the state either a "manager", where its role was seen as direct and involved in economic transactions, or an "enabler", where it took on functions of lowering transaction costs without a primary role in the policy delivery. Particular attention was given to "intermediate" tools, such as supply chain coordination and infrastructure provision (for example, irrigation schemes can be voluntary or mandatory depending on the rules and charges for utilisation). In these cases, interviews explored the government's role in the initiatives in depth with key informants to inform and triangulate the classification.

For calibration, the following anchor points were used:

- State involvement fully in (1) occurred when the state was a manager. In these countries, food security was seen as the result of the active involvement of state agencies in managing the policy only.
- More in than out (0.75) was classified in cases where the state was actively involved in managing its initiatives and implementing policies in various aspects, such as inputs and output markets and the direct distribution of good and services. In this classification, "mandatory" instruments (presented in Chapter 3) were preferred, although efforts were also made to complement them with initiatives to promote marketing, supply chain management and rural infrastructure development.
- Cross-over (0.5) was classified where there were "voluntary" and "mandatory" instruments that were seen as complementary and were reflected in the state budget.
- More out than in (0.3) states were those where the state retained some key functions, such as regulation and enforcement, but "voluntary" instruments had a more important place in policy design and implementation than mandatory instruments.
- Almost completely out (0.25) states were classified when the direct provision of goods and services could still be undertaken by the state in the framework of the policy and "mandatory" instruments were less important than "voluntary" instruments to achieve policy goals. Food security was seen as resulting from market development, but the state enabled market development through infrastructure development, rural investment and research.
- Fully out (0) states were enablers where food security was an individual's responsibility rather than a state responsibility, although some services were ensured

by the state, such as training, research, biodiversity conservation or public infrastructure development.

9.1 Benin

Despite the liberalisation of the 1980s, Benin never ceased to be significantly involved in economic life, both in rural and urban areas (Gisselquist, 2008). This is evident in the PNSA by the importance of mandatory interventions, such as food fortification (since 1994), but also input subsidies (Fig. 9.1), irrigation infrastructure and price control, whereby ONASA engages directly in marketing through *boutiques teimoignes* (Adidehou et al., 2014).

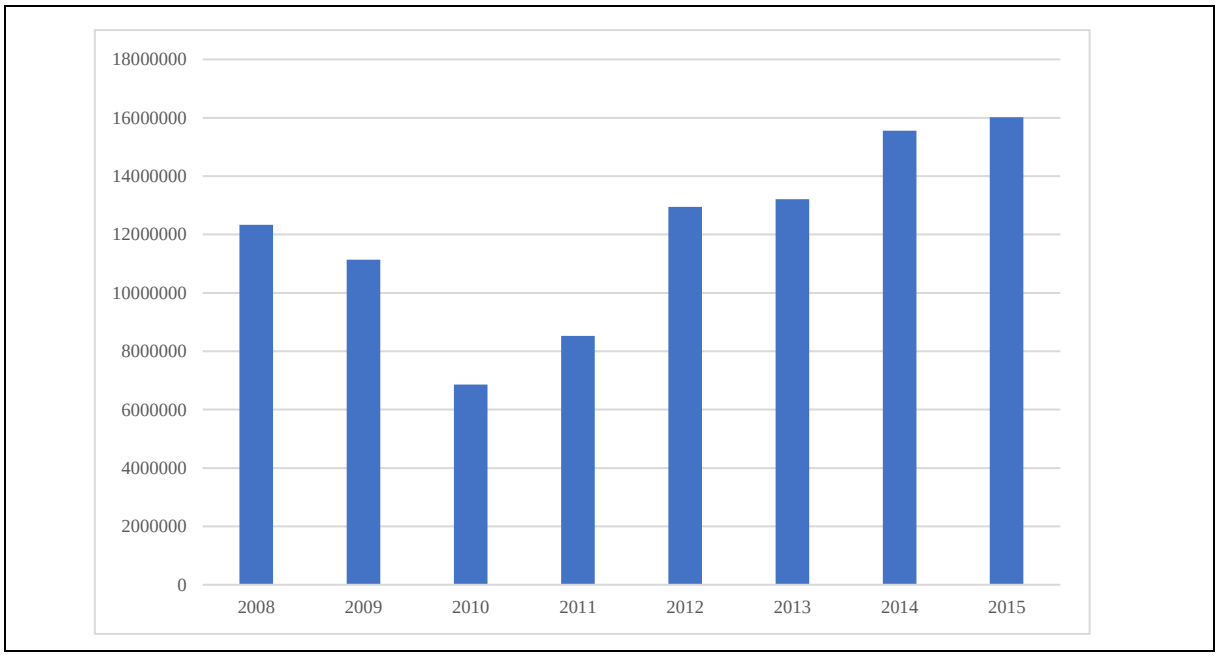


Fig. 9.1 Expenditures on input subsidies, Benin (USD 2011)

Source: Author's calculations from the MAFAP data (FAO, 2019b)

The policy's level of state involvement is high, but the policy focuses on consumers (discussed earlier) and on protecting livelihoods, and moderates the state's managing role for the use of "mandatory" instruments in the policy. For these reasons, assessed against the calibration criteria, Benin's membership score allocated was 0.75 (more in than out).

9.2 Burkina Faso

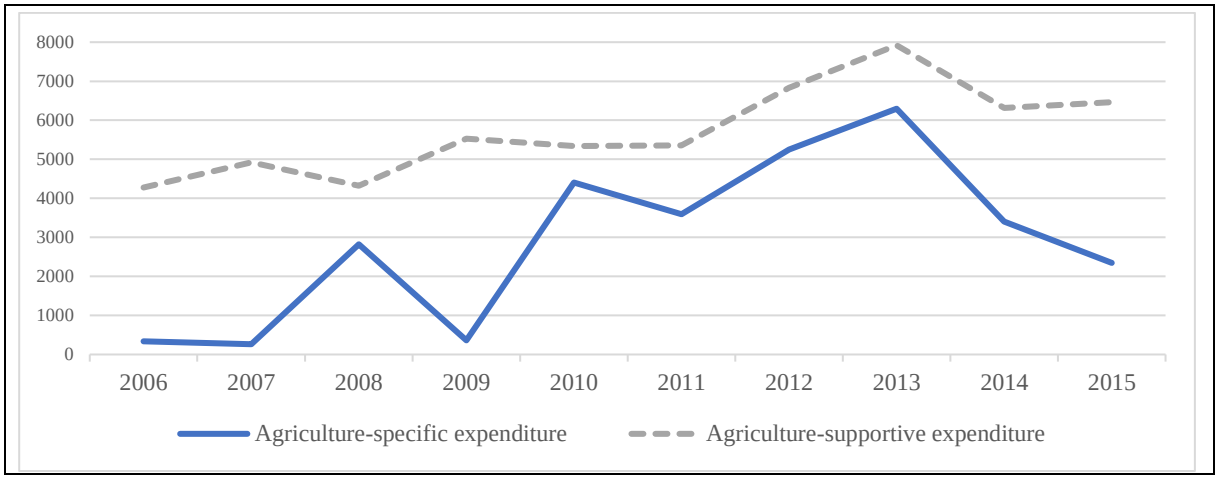


Fig. 9.2 Comparison of agriculture-specific and -supportive expenditures, Burkina Faso (M USD PPP current 2011)

Source: Author's calculations, from MAFAP data (FAO, 2019b)

After nearly two decades of state withdrawal from the agricultural sector, the 2007/08 food crisis pushed the government to actively intervene in food systems (FAO, 2014a). Often the instrument mix implemented involved high state intervention, in particular with input subsidisation (consistent with the analysis of the expenditure, Fig. 9.2). According to the key informants, donors and technical partners implement parts of the three-year work plan through the distribution of inputs and seeds, which are typically "mandatory" instruments – seen as the most pragmatic way to support the sector. However, some policy measures imply some "voluntary" instruments, too, particularly those providing rural and productive infrastructure, such as irrigation schemes. Burkina Faso's membership in state involvement is considered more in than out of the set (0.75), as the policy seemed to prefer "mandatory" instruments and was more aligned with a situation where the state actively manages it through the direct provision of inputs and infrastructure.

9.3 Ethiopia

As mentioned, rural development has a high priority on the Ethiopian government's agenda. Significant public expenses in rural health and education are translated into interventions aimed at improving the general conditions for the rural economy to develop, rather than directly providing goods and services. However, the most important policy instruments rely on high levels of state involvement. According to one key informant, "nothing is done if not by state agencies", in line with a governance model in which "both state and economy are led

by the party 'for the people through the state'" (Van Veen, 2016: 24). State planning and quasi-liberal features are part of a long-term vision of development and growth, stimulated by state-led efforts (Verhoeven, 2015). The graduation concept requires key state agencies and decentralised bodies to actively identify and target beneficiaries, protect assets, regulating public markets and resettling. The state not only has a strong and active role in implementing the FSP, such as in direct distributions, but also in regulating frameworks of the private sector and relief agencies' work.

Despite the fact that the analysis of public expenses showed similar allocation to a agriculture-specific and agriculture-supportive budget in 2011 (Fig. 9.3), the examination of the instruments used in the FSNP consistently indicates a managerial function of the state in the policy, as only active state engagement can lead to its implementation. The Ethiopian policy is fully in the high level of state involvement set (membership score of 1).

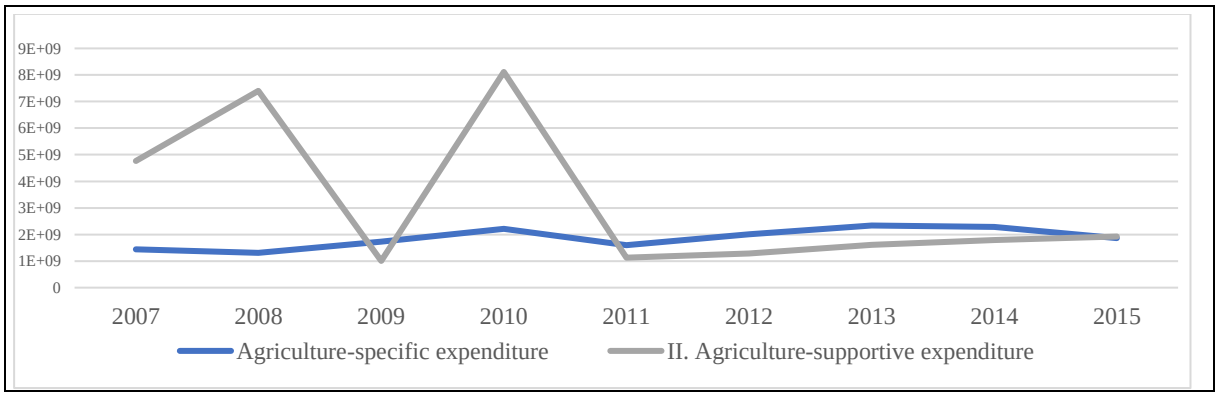


Fig. 9.3 Comparison of agriculture-specific and -supportive expenditures in Ethiopia (BM USD PPP current 2011)

Source: Author's calculations, from MAFAP data (FAO, 2019b)

9.4 Ghana

The development approach undertaken by Ghana has been described as "top-down", "emphasising government, not governance" (Gyampo and Obeng-Odoom, 2010: 248). As discussed in the previous chapter, the share of resources allocated to agricultural infrastructure (feeder roads, irrigation) remains stable, but spending on rural infrastructure has declined considerably in Ghana since 2006 (FAO, 2014b). For over a decade (Diao, 2010), the vision of modernisation in the sector set the involvement of the state as the manager of the development process (Benin et al., 2008). More recent attempts to partner with the private sector for the implementation of food security and agricultural policies have not been successful (Diao et al.,

2019). Agriculture-supportive expenditures or "rural development" (transfers not specific to agriculture, but with a strong influence on the sector, according to the MAFAP terminology – FAO, 2019b) are stagnant in real terms in comparison to more direct interventions, despite investment programmes such as METASIP that catalysed donor investments (FAO, 2014b). By contrast, as seen earlier, expenditure in subsidies (fertiliser, seeds, insurance and credit) increased.

This finding, together with the observation that virtually every policy or strategy in food security in the last decade had a strong component of regulation and market intervention (World Bank, 2016), leads to the conclusion that the level of Ghanaian state intervention is high, although moderated by the growing importance of measures that would fall in the middle of the state involvement spectrum, such as supply chain support. Therefore, the policy was assigned a membership score of 0.75 (more in than out).

9.5 Kenya

Despite the strong forces supporting the active role of the state (Sitko et al., 2017b) and the political importance of the National Accelerated Input Access Programme since 2006 (Houssou et al., 2017), the diverse agricultural economy helps to moderate the scope and scale of the state involvement. Sitko et al. (2017b) argued that the ethno-regional coalition-building required to govern Kenya, coupled with the diversity of the agricultural sector and its associated institutions, leads to a moderate level of state involvement in the market, input subsidy and trade. The government also distributes seeds and fertilisers through cash vouchers, but the implementation has been inefficient in many respects, notably in reaching the targeted producers (FAO, 2015b and 2015g).

Agriculture-specific expenditures since 2008 have been well below expenditures on agriculture support (Fig. 9.4). Overall, limited investment has been directed to the development of markets or the construction of storage facilities. Kenya only occupies a moderate position relative to the other study countries in terms of the scale state involvement in output market interventions, input subsidies and trade restrictions, particularly for maize (Pernichele et al., 2018), despite the efforts to control maize prices discussed in the previous chapter.

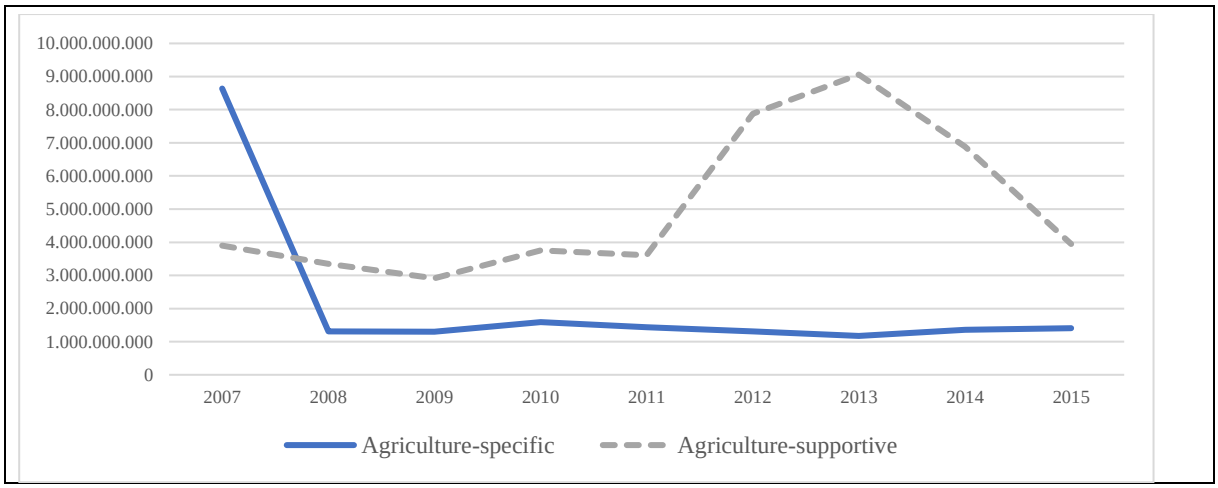


Fig. 9.4 Comparison of agriculture-specific and -supportive expenditures, Kenya (USD PPP current 2011)

Source: Author's calculations, from MAFAP data (FAO, 2019b)

The Kenyan policy is hereby considered to have a low level of state involvement (membership score 0.25), as food security seemed the outcome of market development and "voluntary" instruments seemed less important than "mandatory" ones.

9.6 Madagascar

The PSAEP has a detailed work plan that includes a wide range of instruments. However, according to key informants, the emphasis has been on creating a conducive agribusiness environment in rural areas. Historically, state interventions have focused on public goods and scale economies, such as irrigation, markets and services (Bockel et al., 2000 and 2001).

While there are some policy tools that imply a high level of state involvement in the PSAEP (such as nutritional support, social protection, irrigation infrastructure, input provision), they seemed less important in the policy document compared to other instruments planned, in terms of beneficiaries and budget. In other countries, input subsidies represent an important item of government expenditure but they represent only 7% of the total PSAEP budget in Madagascar. Furthermore, each activity that foresees the involvement of the state is complemented by others. For example, nutritional support is accompanied by nutritional education, and the provision of rice storage units with terms of references assuring state disengagement from their management.

On the contrary, the largest budget line of the PSAEP document is the preservation of resources and their integrated management. One of the few initiatives which seemed coordinated with the PSAEP was the 2012 National Strategy on Agricultural Training. This strategy complemented

the PSAEP precisely in areas such as producer capacity building and resource management, all "voluntary" policy instruments.

In Madagascar, the state is seen as an enabler. According to key informants, there could be a very pragmatic reason for this. For decades (Bockel, 2006), investment in rural infrastructure and agricultural extension have been drastically reduced. In their current state, certain functions that in other countries are taken on by the state (such as the promotion of intensification practices, food or input distribution, and sector regulation) would be very costly or even impossible for the state. The state involvement is low, with a full membership out to this set (0), as the policy does not imply major state engagement in its delivery.

9.7 Malawi

Given the dominance of subsidies and attempts at price control in the political debate and interventions, food security policies are characterised by hefty state involvement. This is confirmed by the inclusion of public expenses in the sector that favour direct transfers and input subsidies in particular (Fig. 9.5).

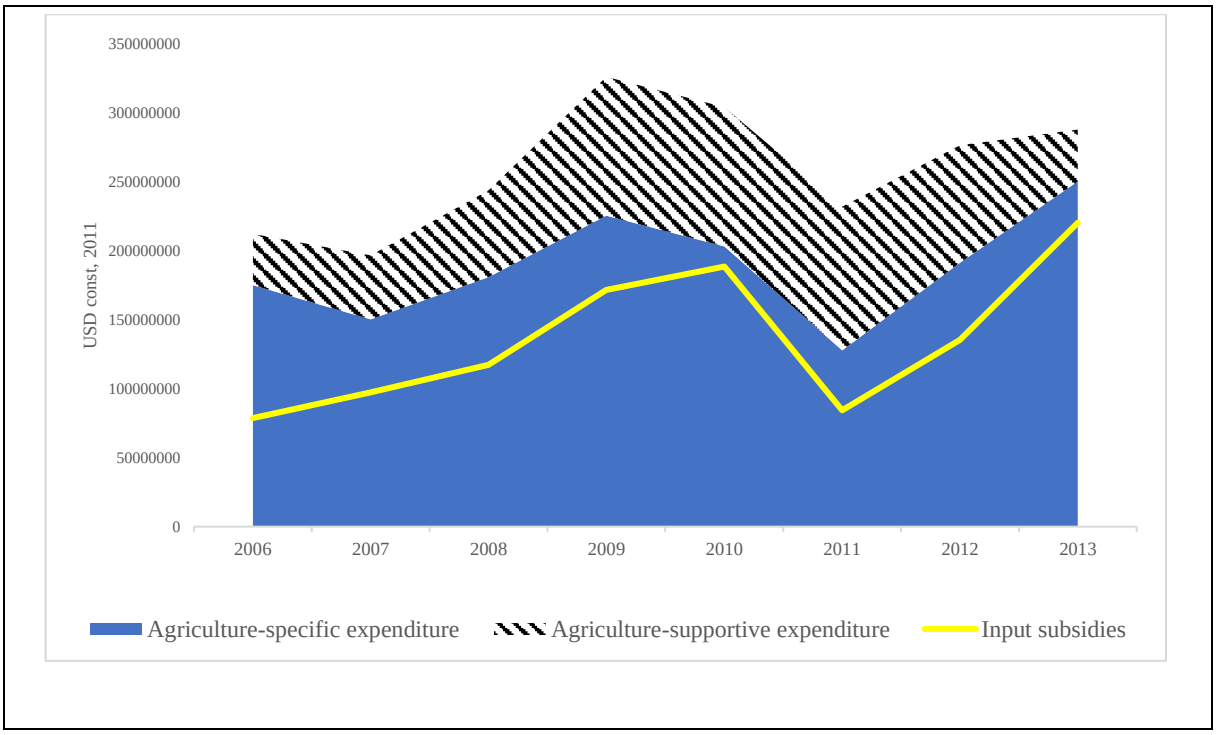


Fig. 9.5 Agricultural-supportive and -specific expenditures, Malawi

Source: Author's calculations from MAFAP, 2016 (FAO, 2019b)

According to the Agricultural Public Expenditures review since the introduction of the FISP, undertaken by the World Bank, the programme has on average used 69% of the MoAFS budget. This figure is close to the proportion reported by MAFAP (64%) and Dorward and Chirwa (2011). Sitko et al. (2017b: 247) argued that "Malawi's policy focus on input subsidies and trade restrictions reflects the powerful interactions between a large rural constituency, powerful traditional authorities, and indigenous elites with investment interests in grain and fertilizer trade".

Because of the prevalence and importance of mandatory tools, the level of Malawian state involvement was high, but the lack of coordination does not allow the state to be a manager. The membership score assigned was 0.75.

9.8 Mozambique

Public spending on rural development has been growing compared to direct payments in Mozambique (Fig. 9.6). Among the agriculture-specific expenses, the two most important items showed a decreasing trend in their proportional allocation (as shares of total agricultural spending, Fig. 9.7). The interpretation of these data suggests that, with the transition to a market economy, state involvement has decreased, and policy choices have been more voluntary rather than mandatory measures.

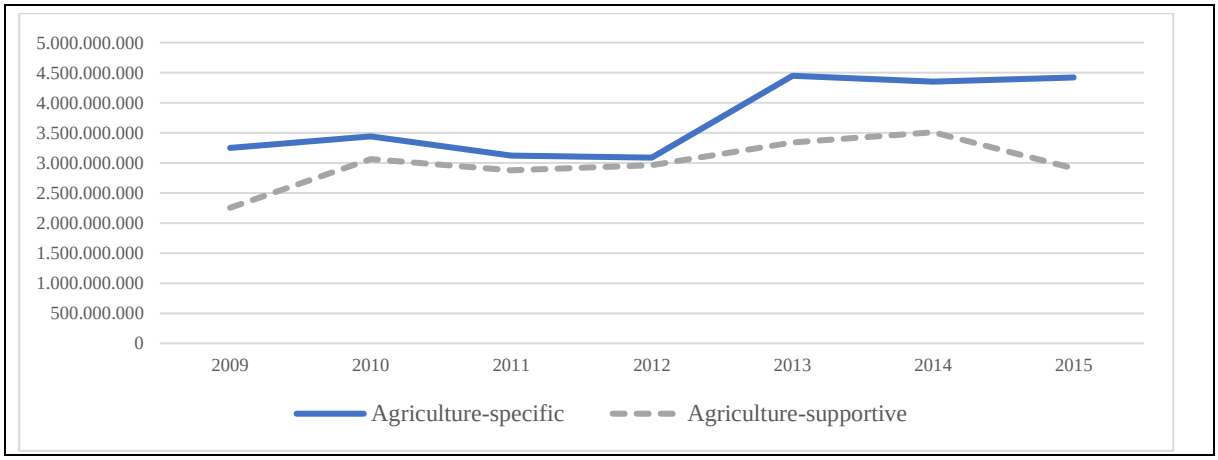


Fig. 9.6 Comparison of agriculture-specific and -supportive expenditures, Mozambique (USD PPP current 2011)

Source: Author's calculation from MAFAP data (FAO, 2019b)

Other findings support this conclusion. Input support, in comparison with other countries, was intermittent and *ad hoc* during 2007/2008 (for rice and maize). This was mostly channelled through the Action Plan for Food Production (PAPA) in 2009/10, which piloted a limited two-

year subsidy programme in 17 districts, over the 2009/10 and 201011 seasons. The government has been considering expanding the fertiliser subsidy scheme to the national level, but this has never yet been implemented (FAO, 2016).

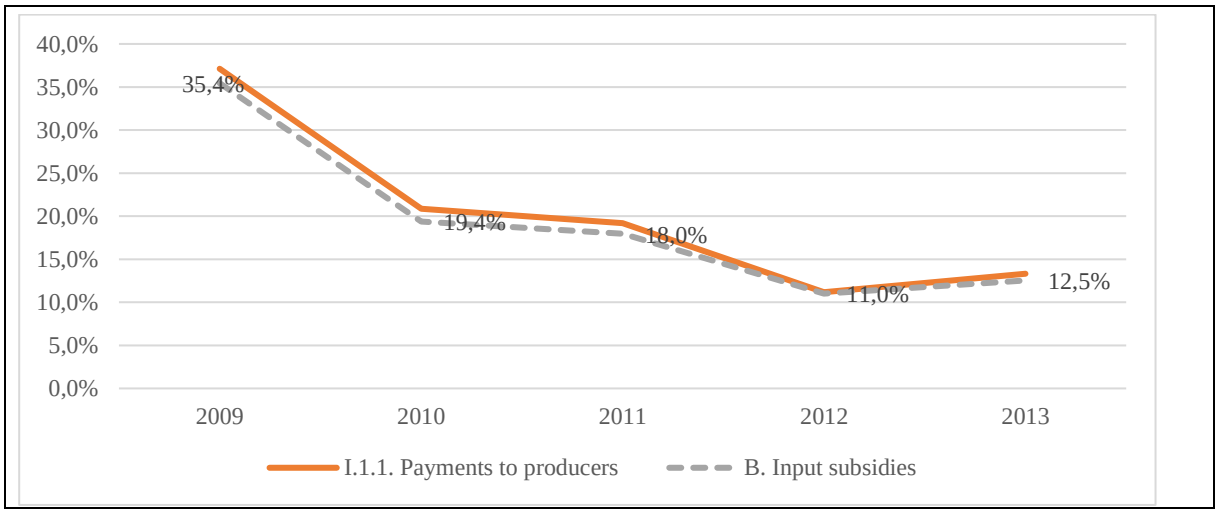


Fig. 9.7 Most important direct payments (% of total spending in the sector)

Source: Author's calculation from MAFAP data (FAO, 2019b)

The ESAN II document details the tasks and responsibilities expected by the state, its partners, civil society and the private sector. While seeking to grant the right to food, the document puts particular emphasis on the creation of a favourable environment for investments, to guarantee biodiversity, provide knowledge, research and technological advancements, and support solidarity networks at the community level, etc. (Republic of Mozambique, 2007). In the policy vision outlined in ESAN II, it was expected that the private sector would take on functions that in other countries of this study are state functions, such as realise investments for rehabilitation; expansion and modernisation of infrastructure; create employment; produce, stock and trade food; procure, process and market agricultural production.

Sitko et al. (2017b) provided a political-economy interpretation of this finding, highlighting important constraints to state involvement in food security. First, historical legacies limited the development of commercial farming interests in staple production, as state support was provided for cash crops farmed by European settlers before independence and by commercial estates afterwards (Cravinho, 1998). Second, the political geography "limits incentives to promote domestic production through input subsidies and price support and favours unencumbered trade with South Africa" (Sitko et al., 2017b: 249). Even after the violent food price riots of 2008, rather than intervening in input and output markets as other countries in the

region did, Mozambique sought to lower food prices through fuel subsidies to decrease the cost of maize imports.

In conclusion, the level of state involvement is classified as low, with a membership score of 0.3, for the prevalence of voluntary instruments, but complemented by the importance of regulation in policy, introduced in Chapter 5.

9.9 Summary of the classification of the level of state involvement and calibrated conditions

Truth Table 9.1 summarises the classifications made in this chapter.

Table 9.1 Classification of state involvement

Country	**Level of state involvement**
Benin	High (0.75)
Burkina Faso	High (0.75)
Ethiopia	High (1)
Ghana	High (0.75)
Kenya	Low (0.25)
Madagascar	Low (0)
Malawi	High (0.75)
Mozambique	Low (0.4)

Chapter 10. Analysis and results

10.1 Introduction to set-theoretic analysis

A set-theoretic analysis is both a research approach and a set of analytical techniques (Wagemann and Schneider, 2007). The approach refers to the operationalisation of conditions, the specification of the hypothesis, and the iterative process of data collection discussed in the previous chapters. This chapter focuses on analysis, i.e., on empirical patterns in the data, identifying relevant conditions (and their combinations) for policy outcomes. This prepared the way for confronting the suppositions formulated in Chapter 4 with the results. Before presenting the analysis and discussing the results, a brief introduction is provided on how to interpret the Boolean conventions.

The crucial analytical issue of set-theoretic analysis is the examination of relationships between causally relevant conditions and outcomes (Ragin, 2000). As introduced in Chapter 3, a key advantage of set-theoretic techniques is that they allow for conjunctural causation. A combination of causally relevant conditions generates an outcome, but several combinations of conditions may also produce the same outcome. The same conditions, combined differently, may generate a different outcome. This work uses crisp- and fuzzy-set analysis of the same dataset, as discussed in Chapter 3.

Crisp-set analysis uses Boolean algebra exclusively. With crisp sets, each case and condition was assigned a value of true or false, coded as 0 and 1 in the truth tables (trust has an intermediate condition, as discussed in Chapter 4). The use of fuzzy sets, on the other hand, allowed membership scores in the interval between 0 and 1, using the concept of partial membership to a set (Ragin, 2009) that measured the different degrees of belonging to a condition, with the exception of constitutional rules, which are clearly categorical. Proportional elections were characterised as $E(P)$ while majoritarian or first-past-the-post elections were characterised as $E(M)$.

A truth table is a mathematical table that sets out the functional values of logical expressions for each of their functional arguments, that is, for each combination of values taken by their logical variables (Enderton, 2001). For simplicity, only minimised truth tables, i.e., those made up of conditions that cannot be left out in order not to have contradicting solutions, are presented in each section of this chapter, in an attempt to achieve parsimony. These tables are composed of prime implicants and conjunctions generated during the maximisation (Thiem and

Baumgartner, 2016). However, because different solutions exist, the tables include all prime implicants for all solutions.

The conditions are derived from the discussion in chapter 4. Table 5.1. summarises their calibration for the eight policy cases. The outcomes in this analysis are the policies classified according to the four classification principles (policy coordination, geographic scope, orientation and level of state involvement). The calibrated outcomes are presented in Table 10. below.

Table 10.1 Classified policies

Country	Policy coordination	Geographic scope	Orientation	Level of state involvement
Benin	Broad (0.9)	Narrow (0.4)	Consumers (0.35)	High (0.75)
Burkina Faso	Narrow (0.4)	Broad (0.7)	Producers (0.8)	High (0.75)
Ethiopia	Broad (1)	Broad (0.8)	Consumers (0.25)	High (1)
Ghana	Narrow (0.4)	Narrow (0.3)	Producers (0.75)	High (0.75)
Kenya	Narrow (0.3)	Narrow (0.3)	Producers (0.8)	Low (0.25)
Madagascar	Narrow (0)	Narrow (0)	Producers (0.8)	Low (0)
Malawi	Narrow (0)	Narrow (0)	Producers (0.9)	High (0.75)
Mozambique	Broad (0.75)	Narrow (0.4)	Producers (0.6)	Low (0.4)

To recap, a *path* is a way in which causally relevant conditions interact in order to achieve an outcome. A *solution* is the path or the combination of paths that explains the outcome without contradictions (Thiem and Baumgartner, 2016). Solution terms provide information about the analytically relevant similarities and differences between cases, by clustering them into different paths towards an outcome. For each fuzzy-set solution, coverage and consistency were reported.

Consistency measured the degree to which a relation of necessity or sufficiency between causal conditions and outcomes were met, resembling the notion of significance in statistical models (Eliason and Stryker, 2009; Thiem, 2010). Coverage provided a metric of empirical evidence, analogous to the R^2 in statistical models (Thiem, 2010). The formulas used for these measures were calculated as follows:

Consistency = $\Sigma\ min\ (Xi.Yi)/\Sigma(Xi)$. and coverage = $\Sigma\ min\ (Xi.Yi)\ /\ \Sigma\ (Yi)$.

Xi represents membership scores (i.e., how much a case belongs to a condition-set) in a combination of conditions, and Yi represents membership scores in the outcome (Ragin 2006).

INUS (Insufficient, Non-redundant, Unnecessary but Sufficient) conditions were those that were causally relevant only in combination with others. They were neither necessary nor sufficient by themselves, but part of one or more paths that are sufficient for the outcome.

Using the primitive expressions that were identified as sufficient in the truth table, *Boolean minimisation* is an exercise that identifies the general combinations of conditions sufficient for the outcome that remain logically true. Different conventions in Boolean algebra are used internationally. In this study, the following conventions were used:

> The upper case represents the value for a given condition. while a lower-case term represents the absence of that condition. However. in the case of electoral rules, categories are represented as $E(M)$: majoritarian or "first past the post" and $E(P)$: proportional representation. Also. because the condition of trust has been coded in three categories (with the notions of high. intermediate. and low trust). they were represented as $T(0)$, $T(1)$ and $T(2)$.
>
> '*' indicates the combination of conditions ('and');
>
> '+' indicates the Boolean 'or';
>
> '→' indicates causation.

For example, $A * B + a * C \rightarrow Y$ means that the combination of the presence of A and B leads to outcome Y, but also the absence of a, if C is present, leads to the same outcome. The presence or absence of conditions and outcomes in a crisp set are indicated by 1 and 0 in the truth tables.

Venn diagrams were plotted for Boolean equations, and plots were produced for fuzzy-set analysis. Venn diagrams represent sets of cases and their intersections. In these diagrams, a set is divided in two by a line crossing the centre of the area. The lines divide cases with and without conditions of interest that were prime implicants. Outcomes (i.e., the policy classes in which cases were classified) are represented as shades.

Plots of the fuzzy-set analysis were used to assess the sufficiency of conditions, as they represent membership of cases in outcomes and conditions, visually representing solutions, i.e., how the conditions explain the cases. Sufficient conditions, in fact, are a subset of the outcomes. By plotting the cases by their membership scores, they should be grouped in the high-left triangle of the plots (Ragin, 2012). *Logical reminders* (logically possible configurations of conditions that are not observed) are also discussed in this chapter.

To help interpret results in fuzzy-set analysis, some conventions (Ragin, 2000) were followed:

- Negation ('~') is the subtraction of membership in a set from one. For example, $\sim A = 1 - A$
- Logical and ('*') represents an intersection, i.e., compound sets formed by two or more sets. In fuzzy sets, an intersection is the minimum membership score of each case in the sets that are combined.
- Logical or ('+') results are recorded when two or more sets are joined, i.e., when a combination of conditions is present in two or more sets (union). The maximum membership score in the component sets is the degree of membership of each case in their union.

Table 10.2 summarises how conditions were coded and shows how they should be interpreted.

The key set-theoretic relation in the study of causal complexity is the subset relation (Ragin, 2000). If cases that exhibited the same outcome share several causally relevant conditions uniformly, then these cases constitute a subset of instances of the outcome (Ragin, 2001).

As suggested by Schneider and Wagemann (2010), three fuzzy set solutions were reported:

i) a complex solution, with no logical reminders;
ii) a parsimonious solution, which permits the inclusion of logical reminders, usually yielding simpler and fewer formulas, and
iii) an intermediate solution, which only uses the reminders that survived counterfactual analysis based on substantive and theoretical knowledge. Intermediate solutions are considered the best solutions for minimising the use of untenable assumptions in the maximisation (Schneider and Wagemann, 2010; Baumgartner, 2015).

Standards of good practice for the analysis were followed as set out by Schneider and Wagemann (2010). First, necessary and sufficient conditions were analysed in separate steps, with necessity first (when it can be invoked). Second, consistency lower than 0.75 was accepted. However, for testing necessity, this threshold is more stringent, fixed at 0.9 following best practices (Schneider and Wagemann, 2010). Third, all solutions were treated as logically equivalent, as they did not contradict empirical evidence. However, solutions that, based on the literature reviewed in Chapter 2, better explained the evidence were given more relevance.

Table 10.2 Summary of conditions and notations used

Condition	Symbol	Notation in crisp sets	Notation in fuzzy sets
Rural population	RP	RP: presence of rural population (RP>60%)	RP: membership in the "rural" set
		rp: absence of rural population (RP<60%)	~RP: membership in the "urban" set
Cereal dependency on imports	CD	CD: presence of cereal dependency (CD>25%)	CD: membership in the "import-dependent" set
		cd: absence of cereal dependency (CD<25%)	~CD: membership in the "import independent" set
Government revenues	GR	GR: presence of high revenues (GR>30% of GDP)	GR: membership in the "rich" set
		gr: absence of high revenues (GR<30% of GDP)	~GR: membership in the "poor" set
Taxation on individuals	Tx	Tx: presence of high taxation (Tx>12% of GDP)	Tx: membership in the "high taxation" set
		tx: absence of high taxation (Tx<12% of GDP)	~Tx: membership in the "low taxation" set
Resource rents	RR	RR: presence of rents from oil/gas/coal/minerals (RR>2% of GDP)	RR: membership in the "resource-rich" set
		rr: absence of rents from oil/gas/coal/minerals (RR<2% of GDP)	~RR: membership in the "resource-poor" set
Electoral rules	E	E(P): proportional or mixed system	
		E(M): majoritarian or FPP system	
Governance system	G	G: presidential system	
		g: parlamentary or assembly-elected system	
Executive constraints to decision-making	XC	XC: presence of strong constraints (XC>5)	XC: membership in the "strong constraints" set
		xc: absence of strong constraints (XC<5)	~XC: membership in the "weak constraints" set
State capacity	SC	SC: presence of state capacity (score>37)	SC: membership in the "state capacity" set
		sc: absence of state capacity (score<37)	~SC: membership in the "poor state capacity" set
State legitimacy	SL	SL: presence of state legitimacy (score <7,5)	SL: membership in the "legitimate" set
		sl: absence of state legitimacy (score>7,5)	~SL: membership in the "poorly legitimate" set
Accountability		A: presence of accountability (score>13)	A: membership in the "accountable" set

Condition	Symbol	Notation in crisp sets	Notation in fuzzy sets
	A	a: absence of accountability (score<13)	~A: membership in the “poorly accountable” set
Trust	T	T(2): presence of high trust (score>0,4)	T: membership in the “trusty” set
		T(1): presence of intermediate trust (score between 0,3 and 0,4)	
		T(0): presence of low trust (score<0,3)	~T: membership in the “untrusty” set

10.2 Policy coordination

Policy coordination was the criterion measuring how consistently country policies addressed the cross-cutting aspects of food security, and how different government structures sought synergies and cooperation. Chapter 6 classified the food security policies of the eight cases by distinguishing whether and how much different state functions and actions were confined into one structure and domain. The dichotomisation of classes along this criterion created classes labelled as “broad” or “narrow” policy coordination. Analyses for this and other criteria for these outcomes are presented below for both crisp and fuzzy sets.

10.2.1 Outcome 1 (broad policy coordination)

This outcome was given by food security interventions being implemented by different actors while still having a common goal, interactions in their programmes and collective planning. Country policies with this outcome (a coordination score of 0.5 or more) were Ethiopia, Benin and Mozambique.

10.2.1.1 Crisp-set analysis

The truth table of prime implicants in coordination is presented in **Errore. L'origine riferimento non è stata trovata.**.

Table 10.3 Coordination truth table

CD	A	SC	Tx	E	XC	O	Country case
0	1	0	0	0	0	1	Ethiopia
0	0	0	0	0	1	0	Madagascar
0	0	0	1	0	1	0	Malawi
0	1	1	1	1	0	0	Burkina Faso
1	1	1	0	0	1	0	Ghana
1	0	0	1	0	1	0	Kenya
1	0	1	1	1	0	1	Benin, Mozambique

Where:

CD: cereal dependency on imports
A: accountability
SC: state capacity
Tx: taxation
E: electoral system
XC: executive constraints to decision making
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

One solution for Outcome 1 (broad coordination) could be presented as:

$$E(P) * CD + xc * (tx + sc).$$

This solution consisted of two paths of different configurations. The first ($E(P) * CD$) involved the presence of proportional electoral systems ($E(P)$) and dependency on imports (CD). The second could be written as either $xc * tx$ or $xc * sc$, in other words, the absence of strong executive constraints (xc) must be coupled with either low taxation (tx) or low state capacity (sc) for policy coordination. Fig. 10.1 shows the Venn diagram of the crisp sets.

The first path in this crisp set solution (Benin and Mozambique) showed that, contrary to the supposition formulated in Chapter 4, majoritarian electoral rules were not associated with high food security policy coordination. In fact, proportional rules were INUS conditions (insufficient, non-redundant unnecessary but sufficient) for policy coordination. However, this effect was produced only in combination with high cereal dependency, associated with the presence of strong cash crop commercial sector, strong trade integration and /or the comparative advantage of other sectors in the economy. It is possible that, in this context, food insecurity was not seen as a production issue, but more exclusively through the lens of poverty, vulnerability to external livelihood shocks, and smallholder farming. This perception would, as expected, force actors in different domains to coordinate in delivering a policy.

An alternative solution of the truth table for this first path was a combination of cereal dependency, state capacity and tax revenues ($CD * SC * Tx$). While the former solution was preferable for being more parsimonious, the alternative solution was also consistent with the literature on state capacity and taxation. State capacity in planning is crucial to achieving policy coordination in diverse areas and among actors with different goals (UNDESA, 2017). Taxation is associated with the provision of more public goods. Taxpayers are usually (Perrson, 2008; Prichard, 2015) watchful of government expenditures and demand efficient and responsive actions (Ross, 2004 and 2012). However, these conditions alone were not sufficient to produce coordinated policies in food security, and both must be present.

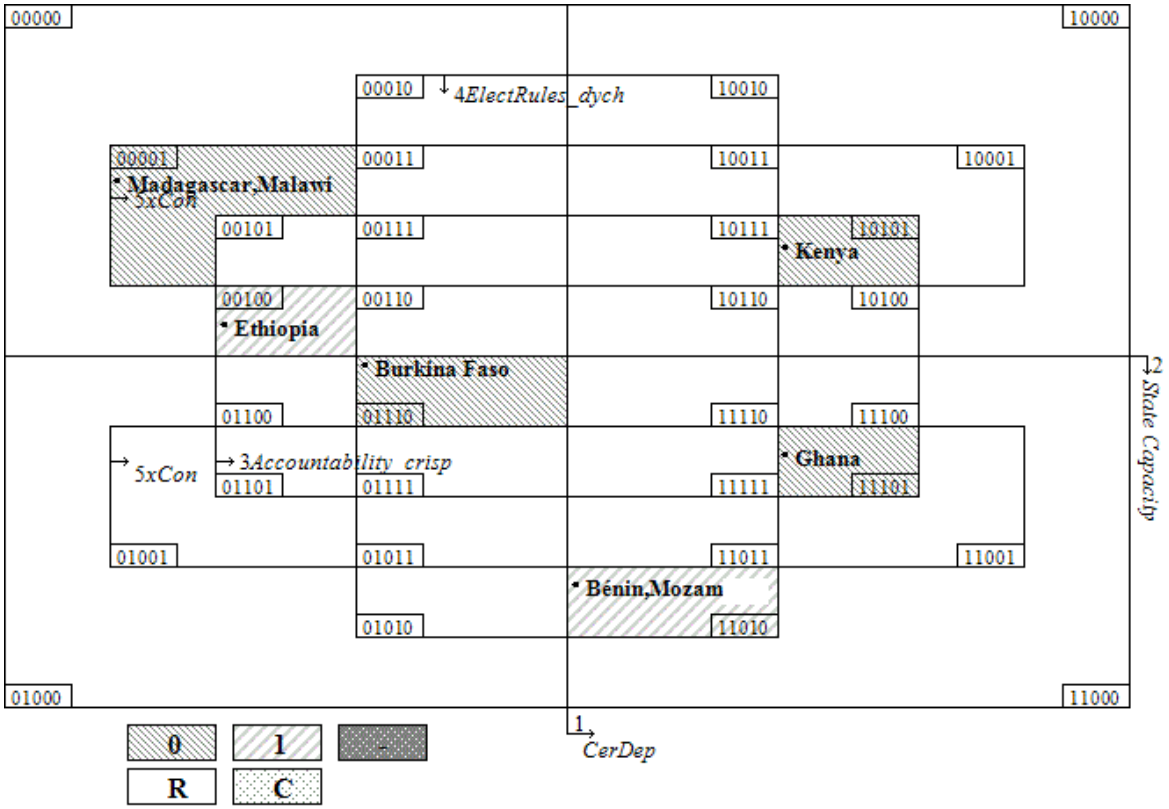


Fig. 10.1 Venn diagram of prime implicants for coordination

The second path $-xc * (tx + sc) -$ was given by Ethiopia and provided two possible solutions, both sharing the presence of weak executive constraints.

Before exploring in more detail the best solution for the case, it is worth reminding the reader of the importance of the absence of executive constraints in explaining policy coordination, consistently with the literature discussed in Chapter 2. With fewer political institutions involved in checking policymaking, coordination is simpler (Peters, 2018). In the presence of strong veto players with diverse interests, veto players are likely to demand "rewards" in the form of narrowly targeted policies. Therefore, policymaking and implementation can become a bargaining process (Linz, 1994; McCubbins, 2001), as discussed in Chapter 2.

The absence of strong constraints to executive decisions was a condition also found in Benin and Mozambique. However, alone, it was not sufficient for policy coordination (Burkina Faso had weak executive constraints, too, but a different outcome).

In the case of Ethiopia, weak executive constraints must be combined with either low state capacity or low taxation, according to the criteria presented in Chapter 4. It was assumed that weak executive constraints were associated with low taxation and autocracy (this is sustained by the fact that autocracies have fewer veto players, and therefore weak executive constraints, Hausken et al., 2004). The combination of less constrained governments and poor state capacity seemed the most logical interpretation of the minimisation and explanation of the motivation for the Ethiopian government to coordinate food security interventions. If high capacity allowed food security policies to be coordinated (in the presence of high cereal dependency and taxation, consistently with the first path of the solution), this also resulted when capacity was poor and executive decisions unconstrained. However, even if this latter combination in Ethiopia was logically consistent for the outcome, it has been observed that the main reason for policy coordination was the Ethiopian government's ownership and involvement in food security, conditions not studied here. In this case, the combination could be an enabling, but not a causal factor, possibly making the case of the food security policy in Ethiopia deviant from a more general solution.

The minimised crisp-set solution that included both paths for Benin and Mozambique, as well as the minimised solution for Ethiopia was:

$$CD * (E(P) + SC * Tx) + xc * sc$$

A broad policy coordination resulted from the combination of cereal dependency and either proportional electoral rules or state capacity and taxation or, in the case of Ethiopia, from weak executive constraints and low state capacity.

10.2.1.2 Fuzzy-set analysis

In fuzzy-set analysis, both conditions and outcomes are treated as degrees of membership of a set, in the case of this outcome, broad policy coordination. This analysis overcomes the limitations of crisp set truth tables, which treat these conditions and outcomes as dichotomous. With crisp sets, in fact, each case was assigned one of two possible membership scores in each set included in a study: "1" (membership in the set) or "0" (non-membership in the set). In other words, an object or element (for example, a country) is either in or out of, in this case, the broad policy coordination set.

Fuzzy sets extend crisp sets by permitting membership scores in the interval between 0 and 1. The basic idea behind fuzzy sets is to permit the scaling of membership scores and thus allow partial membership.

The complex fuzzy-set solution was represented as:

Table 10.4 Fuzzy set truth table for Coordination

XC	CD	Tx	E	O	Country cases and consistency measures
0	0	0	0	1	Ethiopia (Cons: 1,0000)
0	0	1	1	1	Burkina Faso (Cons: 0,8500)
0	1	1	1	1	Benin, Mozambique (Cons: 1,0000)
1	0	0	0	0	Madagascar (Cons: 0,3824)
1	0	1	0	0	Malawi (Cons: 0,5652)
1	1	1	0	0	Ghana, Kenya (Cons: 0,6667)

Where:

XC: executive constraints to decision making
CD: cereal dependency on imports
Tx: taxation
E: electoral system
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

$\sim XC * (SC * E(P) + (\sim CD * \sim SC * E(M))$ (consistency 0.879; coverage 0.647).

The second path represented low coverage and was only found for Ethiopia (see the fuzzy truth table in Table 10.4. In this plot, as in the ones that follow, country cases are labelled as:

BEN: Benin
BFA: Burkina Faso
ETH: Ethiopia
GHA: Ghana
KEN: Kenya
MDG: Madagascar
MWI: Malawi
MOZ: Mozambique

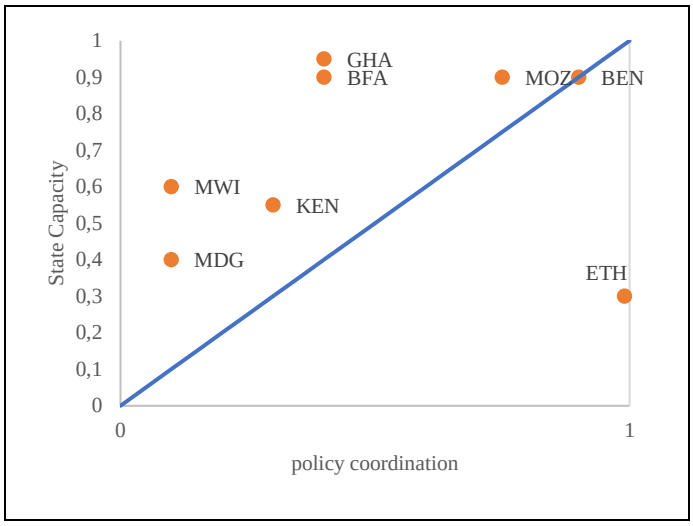


Fig. 10.2 Plot of SC and Coordination scores

The parsimonious solution, $\sim XC$, showed the strong association of weak executive constraints with empirical evidence, as discussed for the crisp-set analysis. However, necessity cannot be invoked (consistency 0.88, coverage 0.67). This parsimonious solution omitted state capacity which, except for Ethiopia (which has a low index in this condition), was still relevant to produce policy coordination in a crisp set. Fig. 10.2 plots state capacity scores against membership in coordination. In all cases except for Ethiopia, SC was a subset of the broad policy coordination outcome (plotted in the upper triangle).

As mentioned in Chapter 3, parsimonious solutions often involve making assumptions regarding logical reminders (logically possible configurations that were not found in empirical evidence). In minimising logical reminders for the intermediate solution of broad policy coordination, dichotomous conditions (electoral rules and governance system) were removed from the truth table, to highlight solutions as degrees of consistency.

Therefore, the intermediate solution, i.e., the one for which logical reminders are discussed and minimised, resulted in two alternative paths sharing weak executive constraints, one in conjunction with state capacity, the other with cereal independency as represented as:

$\sim XC * (SC + \sim CD)$ (Consistency: 0.883 / Coverage: 0.679).

Despite only a small increase in coverage compared with the complex solution (0.679 vs 0.647), this solution was more consistent with the empirical evidence of the cases (0.883 vs 0.874). The result of weak executive constraints as an INUS condition for broad policy coordination was also consistent with the findings of crisp-set analysis already discussed in Section 10.2.1.1. The

path corresponding to Benin and Mozambique, which was $CD * (E(P) + SC * Tx)$ in the crisp set, was represented in the fuzzy set as $\sim XC * SC$.

When the conditions and outcomes were assessed as degrees, membership of state capacity was still an INUS condition for coordination and, with ~XC, sufficient for producing broad policy coordination: cereal dependency and taxation (INUS conditions in crisp set) became redundant in the solution. But even in the intermediate solution, as seen in the discussion of the crisp set results, the conditions that explain the broad coordination in Ethiopia might be found outside the conditions studied here. In crisp-set analysis, a cereal dependency index of 25% or higher was an INUS condition for the outcome. In the fuzzy set, it seemed that, to the contrary, coordination increased as cereal dependency decreased. The fact that this was found in Ethiopia's path raises questions about the generalisability of this solution.

10.2.2 Outcome 0 (narrow policy coordination)

This outcome was found where divergences in views and priorities, disagreements over planning, and low density of interactions resulted in uncoordinated food security policies. Country policies with this outcome were Burkina Faso, Ghana, Kenya, Madagascar and Malawi.

10.2.2.1 Crisp set analysis

For Outcome 0 (narrow policy coordination), the Venn diagram is presented in Fig. 10.3. The crisp-set solution was: $XC + SC * A$**.** A logical reminder, $sc * a * xc$, was assumed to be conducive to broad coordination, consistently with solutions for Outcome 1 (broad policy coordination).

The first path, the presence of executive constraints as sufficient condition, was given by Ghana, Kenya, Madagascar and Malawi; the second path, the conjunction of state capacity and accountability, by Burkina Faso and Ghana.

As discussed for Outcome 1, a higher number of executive constraints was associated with narrow coordination. This finding was consistent with the interpretation that, when politicians have to take a greater number of interests and preferences into account (Tsebelis, 1995), interventions result more from bargaining than planning (Linz, 1994). This condition, alone, was sufficient to produce the outcome in crisp set.

The second path was the conjunction of high state capacity and accountability. This was consistent with the literature, posing that strict accountability can make policy coordination more difficult (Peters, 2018).

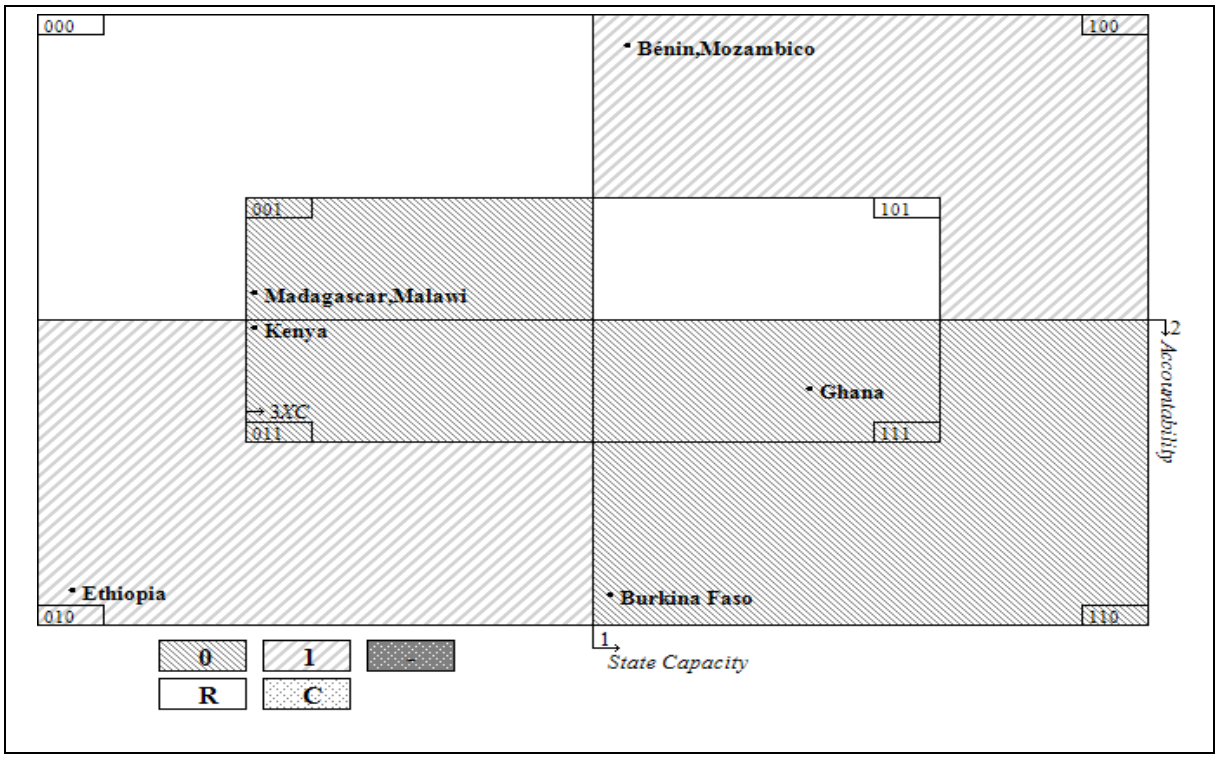


Fig. 10.3 Venn diagram of prime implicants of narrow coordination

The result pointed at a case for capable and accountable countries not necessarily needing policy coordination as a priority because interventions would be supported in planning and implementation by state agencies, and still separately accountable.

10.2.2.2 Fuzzy-set analysis

The fuzzy-set analysis suggested executive constraints were a necessary condition for narrow coordination (consistency 0.913), consistent (in reverse) with the finding for Outcome 1 (broad policy coordination). Only Burkina Faso (Fig. 10.4) had low executive constraints (0.25) but a membership score in coordination that was slightly lower than the cross-over point (0.4), meaning that its policy was assessed as almost coordinated and not completely out of the policy coordination set. The fuzzy set complex solution was:

$$XC * (\sim A * \sim CD + CD + SC) + \sim XC * \sim CD * SC * A$$

(Consistency: 0.8228 / Coverage: 0.8366).

where different parsimonious solutions were yielded:

$XC + \sim CD * SC$ (Consistency: 0.7123 / Coverage: 10000)
$XC + SC * A$ (Consistency: 0.7488 / Coverage: 0.9840)
$\sim CD * \sim A + SC * A$ (Consistency: 0.7944 / Coverage: 0.8366)

Fig. 10.4 Plot of XC and coordination membership scores

A great number of logical reminders (i.e., configurations not found among the eight cases) were created by the combination of these five implicants. To minimise these logical reminders, the assumptions made were:

i) The correspondence of XC with A (checks and balances in executive decision-making make it more accountable). In other words, Burkina Faso (with low XC but high A) was considered a special case; however, its solution involved state capacity and accountability.

ii) There are strong theoretical grounds (Peters, 2018), confirmed by the crisp-set solution, to assume that the combination of high state capacity and accountability always leads to weak policy coordination.

iii) Several logical reminders were created with the duplication of electoral rules in solutions. In order to highlight incremental changes in the fuzzy-set analysis, dichotomous conditions were taken out of the truth table.

One of the logical reminders in fuzzy set was part of the crisp-set solution ($CD * sc * a * E(P) * xc$). The intermediate solution was the third parsimonious one, which was also the only one satisfying the consistency criterion:

$SC * A + \sim CD * \sim A$ (consistency 0.794 / coverage 0.836).

with XC being a necessary condition, which was not shown in the solution of sufficiency (Wagemann and Schneider, 2007).

Therefore, with weak executive constraints present, the solution for narrow policy coordination had two paths. The first was consistent with the crisp-set results ($SC * A$), namely the combination of state capacity and accountability, shared by Burkina Faso and Ghana. For this path, both crisp- and fuzzy-set analysis indicated that the combination of state capacity and accountability is sufficient for narrow policy coordination. The second path (Kenya, Madagascar and Malawi, with ~CD and ~A), indicated that, when cereal dependency on imports and accountability decreases (the sign ~ meaning membership of low cereal dependency and accountability), so does policy coordination.

The second path was consistent with but contrary to the findings for Outcome 1 (broad coordination). In the absence of electoral rules (Insufficient Non-redundant, Unnecessary but Sufficient conditions in crisp set), the low cereal dependency in combination with low accountability better explained the outcome in terms of the consistency of the solution. The effect of low cereal dependency has been discussed earlier.

Contrary to expectation, coordination decreased with accountability, possibly explained by the presence of clientelism and corruption, since a low accountability score was a proxy for political clientelism. Clientelism and corruption are different but not unrelated phenomena as, in such a context, "the response of politicians is to lean more on their … clients to surrender private resources. This fuels corruption" (Kirschlt and Wilkinson, 2007: 27). Corruption would provide incentives and opportunities for policymakers to produce uncoordinated and separate interventions so as to be able to divert resources more easily.

10.2.3 Test of suppositions related to policy coordination

Suppositions were formulated based on the expected impact of the drivers of food security policies (discussed in Chapter 2) over the criteria of the taxonomy (introduced in Chapter 3). The conclusions for the suppositions related to policy coordination are presented below.

S1.b. *Majoritarian politics, being linked to geographic constituencies, lead to narrower geographic scope than proportional*

CONFIRMED: proportional elections are not associated with any outcome, but the combination of majoritarian and presidential systems leads to narrow geographic scope in both crisp and fuzzy set.

S2.a. *Presidential regimes lead to more decisive decision-making, including policy coordination, than parliamentary*

UNCONFIRMED: governance system is not a prime implicant for any outcome

S3.a. *Less constrained executive decision-making leads to broader coordination.*

CONFIRMED: the presence of constraints to executive decisions was, alone, a sufficient condition for narrow coordination. A weak executive constraint was a necessary condition for narrow coordination: in fuzzy set, as executive constraints decreased, coordination increased where combined with state capacity and low cereal dependency.

S5.a. *Countries that depend on imports have broad coordination.*

CONFIRMED, but only in the presence of proportional electoral rules; in fuzzy set, the lower the cereal dependency, combined with low accountability, the narrower the coordination. However, coordination increased as cereal dependency and constraints to executive power decreased.

S7.a. *Tax revenues lead to more coordination, as more efficiency in government intervention is demanded.*

CONFIRMED, but only in crisp set, and in combination with high cereal dependency and state capacity.

S9.a. *State capacity allows for better planning and leads to broader coordination.*

CONFIRMED, but only when it is not associated with high accountability. A high state capacity must be combined with high taxation and cereal capacity to produce broad coordination. In fuzzy set, as state capacity increased and executive constraints decreased, coordination increased.

S11.a. *Accountability makes policy coordination more difficult.*

CONFIRMED, but only when narrow coordination is enabled by state capacity. When accountability and cereal dependency decreased, coordination also decreased.

S12.a. *Higher trust allows for broader coordination.*

UNCONFIRMED. Trust was not a prime implicant for the outcome.

10.3 Geographic scope

This principle concerned the geographic integration of policy delivery. The classification according to this criterion was explained in Chapter 7. Geographic bias can emerge when food security is perceived mostly as a problem related to a specific area or areas: when a particular supply chain, based on an area-specific crop, was seen as the main means to achieve food security, or when the policy tools that applied in principle to the whole country were implemented in specific areas. The two classes created by the dichotomisation of this criterion were termed "broad" and "narrow" geographic scope, distinguishing policies that applied and were implemented in the whole country from those with geographic bias, i.e., outcomes that were concentrated in a specific area.

10.3.1 Outcome 1 (broad geographic scope)

Policies with this outcome were found for Burkina Faso and Ethiopia, which had a membership score in this set of 0.5 or more, as classified in Chapter 7.

10.3.1.1 Crisp set analysis

The truth table for this outcome is presented in Table 10.5.

For Outcome 1, broad geographic scope, the crisp set solution was: $\boldsymbol{cd * A}$

Table 10.5 Truth table for geographic scope

CD	G	A	E	O	Country cases
0	0	0	0	0	Madagascar, Malawi
0	0	1	1	1	Burkina Faso
0	1	1	0	1	Ethiopia
1	0	0	1	0	Benin, Mozambique
1	0	1	0	0	Ghana, Kenya

Where:

CD: cereal dependency on imports
G: governance system
A: accountability
E: electoral system
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

Low cereal dependency, coupled with accountability seemed to produce broad geographic scope (see Venn diagram in Fig. 10.5). The result was consistent with the literature on clientelism (Kirschlt and Wilkinson, 2007; Keefer and Vlaicu, 2008; Poulton, 2014). This result highlighted how accountability contributed to wider geographic coverage of interventions, as the likelihood of pork-barrel politics (the utilisation of government funds for projects designed to win voters or legislators in specific districts) decreases. As noted by Ndulu and O'Connell (2007), an agricultural economy based on cash-cropping often results in geographic inequalities arising from different soil, climate and infrastructure (Bates and Block, 2009). In general, if cereal dependency is high, a country may have an uncompetitive agricultural sector that cannot profitably supply food to a large portion of the domestic population, or it may have both a competitive advantage in other sectors of the economy (such as mining and oil) and cash crops to export, or it may only have cash crops to export (Rakotoarisoa et al., 2011). In all cases, there would be interest groups resisting scaling up interventions to a broader geographic scope, to focus support in fewer (and maybe better endowed) areas in the name of economic efficiency The effect of low cereal dependency on imports could therefore be explained as a result of key economic interest groups that policymakers have to consider. In the presence of low accountability to voters, loyalty to these interest groups would be more important than a broad geographic scope, consistent with Bates and Block (2009).

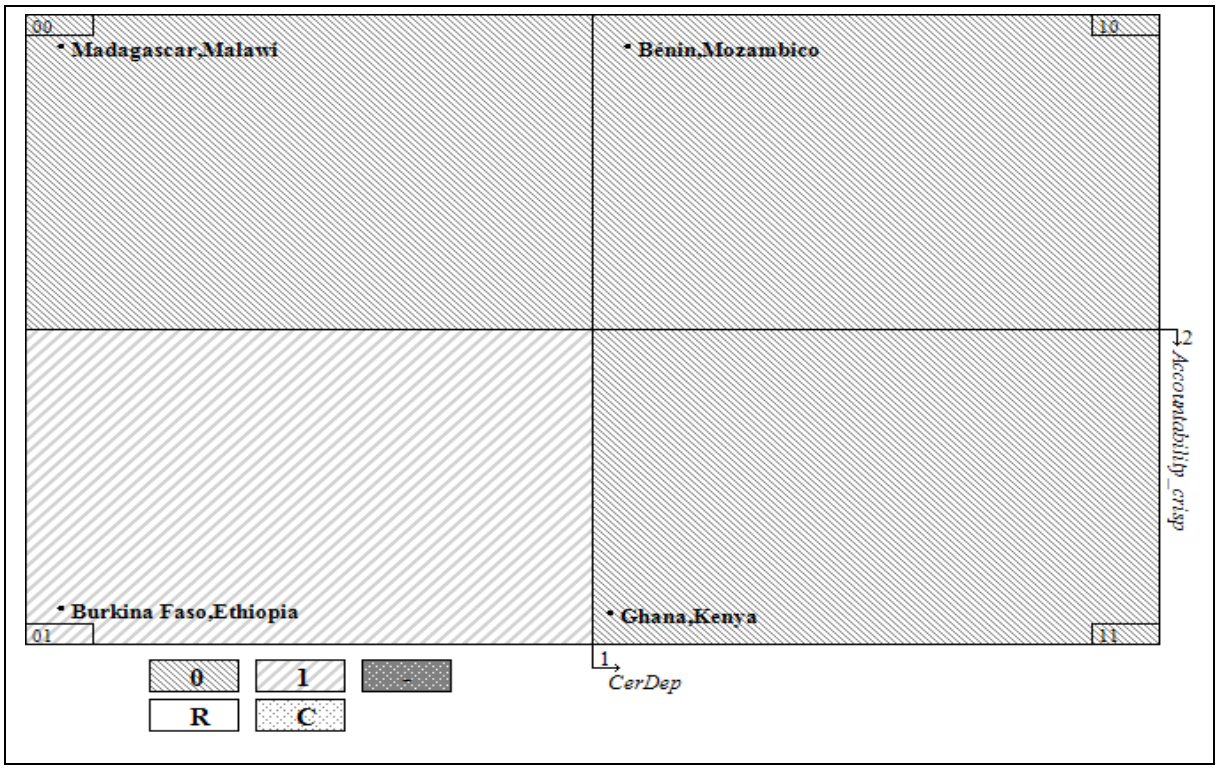


Fig. 10.5 Venn diagram of prime implicants for geographic scope

Proportional elections and high accountability were strongly associated in the literature with a broad geographic scope (for example, Perrson and Tabellini, 2000). Among the eight cases, only Burkina Faso satisfied these conditions ($A * E(P)$). However, because this case can be explained more generally, the former solution ($cd * A$) was preferred.

10.3.1.2 Fuzzy-set analysis

Fuzzy-set analysis confirmed the results of the crisp-set analysis (see the fuzzy truth table in Fig. 10.6). The complex solution was:

$\sim CD * A * (\sim G * E(P) + G * E(M))$ (consistency 1 and coverage 0.495).

Table 10.6 Fuzzy truth table for geographic scope

CD	A	G	E	O	Country cases and consistency measures
0	0	0	0	0	Madagascar. Malawi (Consistency: 0.2531)
0	1	0	1	1	Burkina Faso (Consistency: 1.0000)
0	1	1	0	1	Ethiopia (Consistency: 1.0000)
1	0	0	1	0	Benin. Mozambico (Consistency: 0.6836)
1	1	0	0	0	Ghana. Kenya (Consistency: 0.4692)

Where:

CD: cereal dependency on imports
A: accountability
G: governance system
E: electoral system
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

The complex solution had perfect consistency but poor coverage measures. It was interesting to note the effects of constitutional rules, consistent with the literature (Perrson and Tabellini, 2000), where proportional systems were associated with broad geographic scope, but majoritarian rule was associated with non-presidential governance in order to produce the outcome (broad geographic scope). Only Ethiopia showed this combination (explaining the poor coverage), and so the result could not be generalised to other countries.

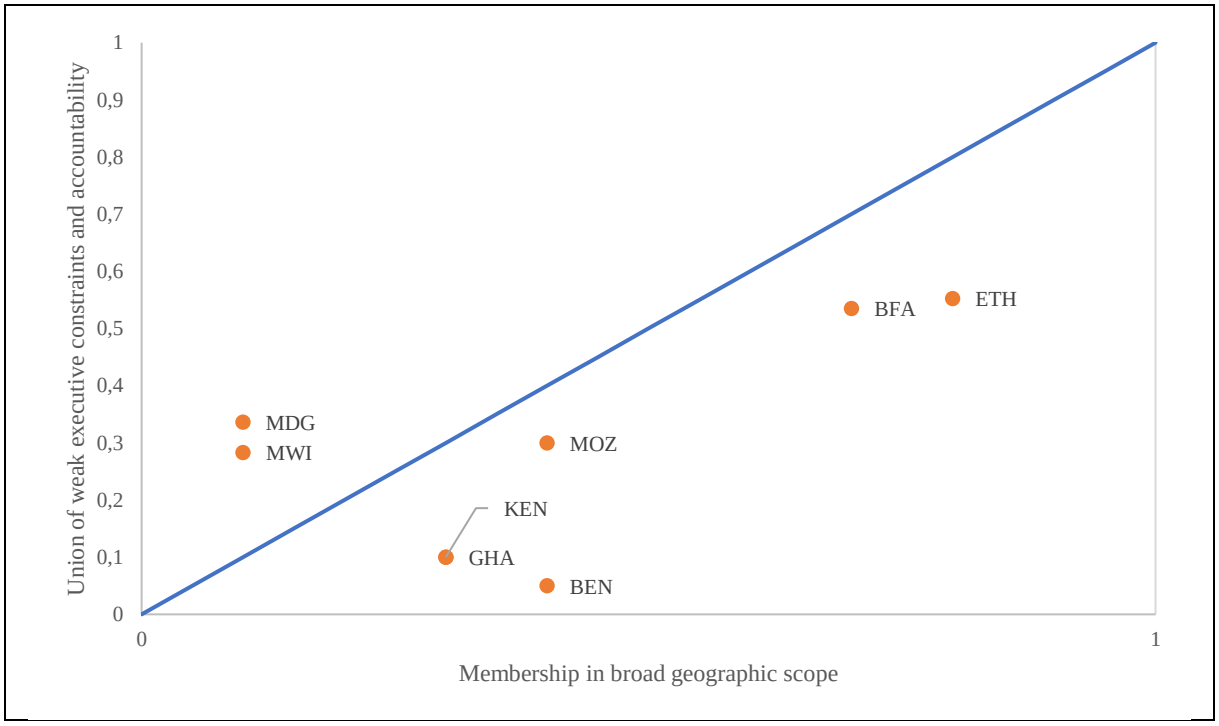


Fig. 10.6 Plot of $\sim CD * A$ and membership scores in geographic scope

As before, to minimise the solution, dichotomous conditions were removed from the fuzzy truth table to highlight incremental effects, as in Section 10.2.1.2. The intermediate and parsimonious solution was:

$\sim CD * A$ (consistency 0.814 / coverage 0.633)

For this criterion, the crisp and fuzzy solutions coincided and had high consistency. However, the coverage measure was only slightly higher than for the complex solution, as shown in Fig. 10.6, where many countries fell into the lower triangle.

10.3.2 Outcome 0 (narrow geographic scope)

Policies with a narrow geographic scope assessed as those of Benin, Ghana, Kenya, Madagascar, Malawi and Mozambique. In these cases, the policies and their delivery had uneven application across the country and therefore bias based on geographic areas.

10.3.2.1 Crisp-set analysis

One crisp-set solution for narrow geographic scope (Outcome 0) was:

$CD + a$

This was the most parsimonious solution, and it was consistent with the analysis of Outcome 1 (broad geographic scope). However, contrary to broad geographic scope, for which these conditions were combined, they were, alone, sufficient to produce the Outcome 0 (see Venn diagram in Fig. 10.7).

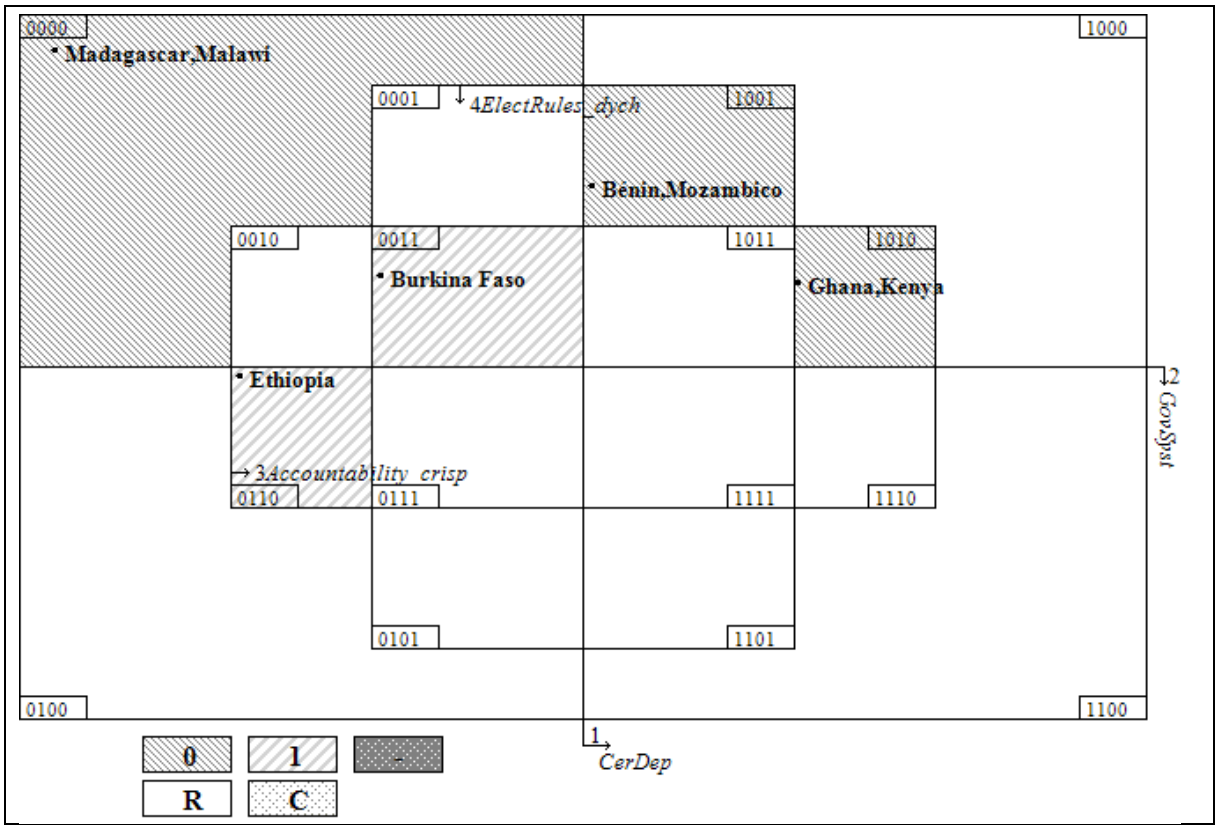


Fig. 10.7 Venn diagram of prima implicants for narrow geographic scope

However, there was an alternative solution for the first path (CD). The combination of majoritarian elections and presidentialism also seemed to produce narrow geographic scope in policies. This is consistent with the literature (Perrson and Tabellini, 2000; Olper and Raimondi, 2012) that associates these rules with more geographically targeted programmes.

Therefore, the solution that included these alternatives was:

$$(E(M) * g + CD) + a$$

Whereas a narrow geographic scope is produced by low accountability, or a combination of majoritarian and presidential regimes, or a high cereal dependency on imports.

10.3.2.2 Fuzzy-set analysis

Table 10.7 Fuzzy truth table for geographic scope

CD	A	G	E	O	Country cases and consistency measures
0	0	0	0	0	Madagascar, Malawi (Consistency: 0.2531)
0	1	0	1	1	Burkina Faso (Consistency: 1.0000)
0	1	1	0	1	Ethiopia (Consistency: 1,0000)
1	0	0	1	0	Benin, Mozambico (Consistency: 0.6836)
1	1	0	0	0	Ghana, Kenya (Consistency: 0.4692)

Where:

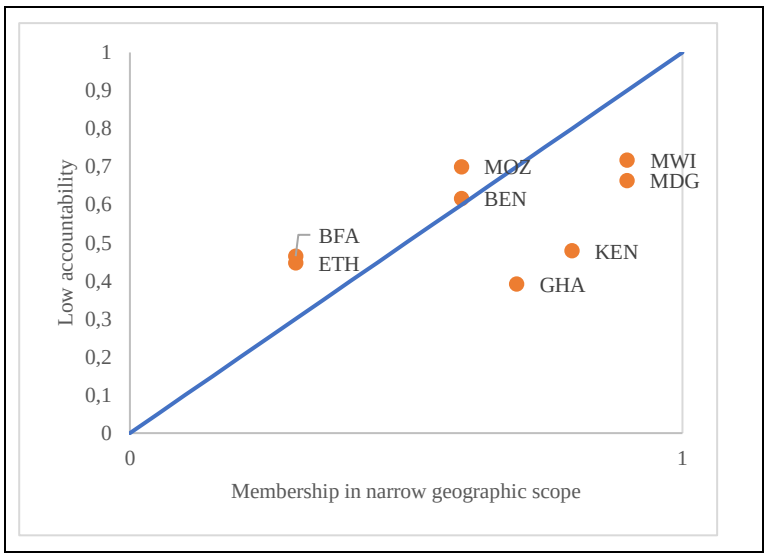
CD: cereal dependency on imports
A: accountability
G: governance system
E: electoral system
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

The fuzzy-set complex solution that minimised the truth table was:

$CD * SC * \sim G * Tx * (\sim A * E(P) + A * E(M) * \sim GR) + \sim CD * \sim A * E(M) * \sim G$ $** \sim GR * (\sim SC * \sim Tx + Tx)$ (consistency 1/ coverage 0.690).

Fuzzy-set analysis yielded different parsimonious solutions:

$CD + \sim A$ (consistency 0.815 / coverage 0.9178)
$CD + \sim G * E(M)$ (consistency 0.817 / coverage 0.9216)
$\sim A + \sim G * E(M)$ (consistency 0.818 / coverage 1)
$\sim A + SC * E(M)$ (consistency 0.867 / coverage 0.868).



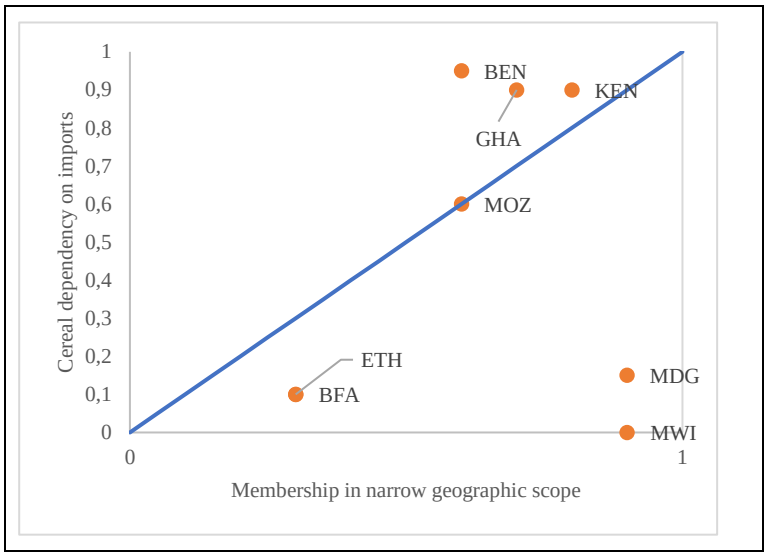


Fig. 10.8 Membership scores in narrow geographic scope against ~ A (top), and CD (bottom)

Other considerations made in minimising the solution included taxation and government revenue, as well as combinations of state capacity and electoral rules that were well-below standard consistency, suggesting that these were not prime implicants.

However, three logical reminders remained unexplained ($CD * SC * A * E(P)$; $CD * {\sim}SC * A * E(P)$; ${\sim}CD * SC * {\sim}A$). Therefore, the intermediary solution was composed of the two paths, the second with two alternatives, fully consistent with the crisp-set solutions:

$${\sim}A + (CD + {\sim}G * E(M)) \quad \textbf{(}\text{consistency } 0.818 \text{ / coverage } 1\text{).}$$

In one path, as accountability decreased, so did the geographic scope of policies. In the other path, this effect was given by either an increase in cereal dependency or by the combination of parliamentary and majoritarian systems. Fig. 10.8 plotted membership in narrow geographic scope against low accountability and cereal dependency. Kenya and Malawi are the cases that were not covered by the first path (**~**A**)** but covered by the second (CD).

10.3.3 Test of suppositions related to the geographic scope

Suppositions were formulated based on the expected impact of the drivers of food security policies (discussed in Chapter 2) on the criteria of the taxonomy (introduced in Chapter 3). The conclusions for the suppositions related to the geographic scope of policies are presented below.

S1.b. *Majoritarian politics, being linked to geographic constituencies, lead to narrower geographic scope than proportional politics.*

CONFIRMED: proportional elections are not associated with any outcome, but the combination of majoritarian and presidential systems leads to narrow geographic scope in both crisp and fuzzy set.

S2.b. *Parliamentary regimes lead to broader geographic scope.*

CONFIRMED, but only for presidential regimes in combination with majoritarian electoral rules, leading to narrow geographic scope.

S5.b. *The dependency on imports for cereal supply leads to narrow geographic scope.*

CONFIRMED: high cereal dependency was sufficient for narrow scope, but low cereal dependency should be associated with high accountability for a broad scope.

S6.a. *More revenues allow for more spending and therefore broader geographic scope.*

UNCONFIRMED. Government revenues were not a prime implicant for the outcome.

- **S7.b.** *The higher the taxation on individuals, the broader the geographic scope.*

UNCONFIRMED. Taxation was not a prime implicant for the outcome.

S8.a. *The higher the resource rents, the narrower the geographic scope.*

UNCONFIRMED. Resource rents was not a prime implicant for the outcome.

S9.b. *State capacity is associated with a broader geographic scope.*

UNCONFIRMED. State capacity was not a prime implicant for the outcome.

S11.b. *Accountability leads to a broader geographic scope.*

CONFIRMED: low accountability was sufficient for a narrow scope, but it should be associated with low dependency on imports to produce broad geographic scope. In fuzzy set, as accountability decreased, the geographic scope became narrower.

10.4 Orientation

This classification principle was based on the FAO definition (FAO, 2015c) used in the FAPDA classification (introduced in Chapter 2). The policy classification undertaken in Chapter 8,

which distinguished policies based on the dimension of the food systems, was targeted, producing producer- or consumer orientation.

10.4.1 Outcome 1 (producer orientation)

Producer-oriented policies seek to increase food production using price and access to inputs measures (FAO, 2015c). Countries belonging to this set (with a membership score of 0.5 or more) were Burkina Faso, Ghana, Kenya, Madagascar, Malawi and Mozambique.

10.4.1.1 Crisp-set analysis

The truth table for this outcome is presented in Table 10.8. Producer orientation (Outcome 1) was minimised in the crisp sets as:

$$XC + RP * (E(P) + CD).$$

Table 10.8 Truth table for orientation

RP	CD	E	XC	O	Country cases
0	1	0	1	1	Ghana
0	1	1	0	0	Benin
1	0	0	0	0	Ethiopia
1	0	0	1	1	Madagascar, Malawi
1	0	1	0	1	Burkina Faso
1	1	0	1	1	Kenya
1	1	1	0	1	Mozambique

Where:

RP: rural population
CD: cereal dependency on imports
E: electoral system
XC: executive constraints to decision-making
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

The presence of executive constraints was a sufficient condition for producer orientation (see Venn diagram in Fig. 10.9). However, it is difficult to generalise that constrained governments chose production support without going back to the cases. This path emerged for Ghana, Kenya, Madagascar and Malawi. The introduction and classification of country cases (Chapters 5 and 8) revealed that all four countries have traditionally framed food insecurity in terms of agricultural production. The presence of high executive constraints was consistent in

interpreting veto power as resistance to change (Tsebelis, 1995). For example, in Madagascar, the PSAEP was designed after a deep political crisis, when a strong consensus was necessary for policy approval. Besides, except for Ghana, the most urbanised of these cases, the share of the rural population was still high in Kenya, Madagascar and Malawi. In this case, executive constraints could have prevented socially inefficient redistribution policies (consistent with Riker, 1982), protecting the interests of farmers.

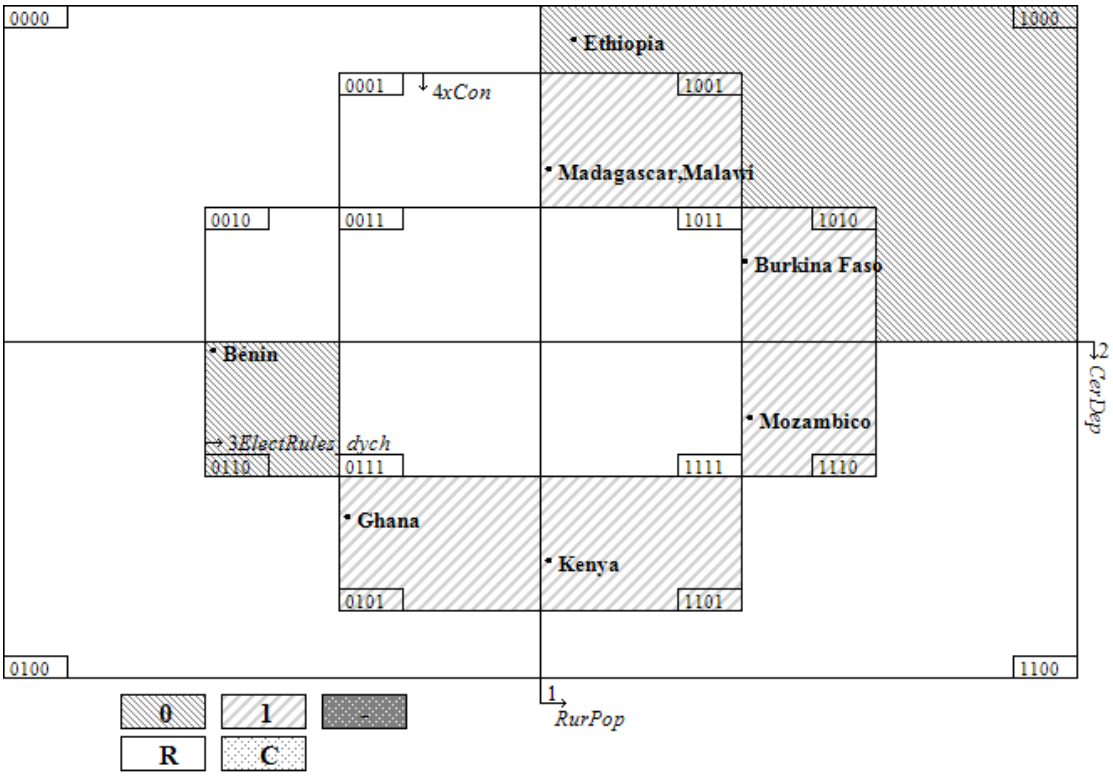


Fig. 10.9 Venn diagram of prime implicants for producer orientation

In the second path, a high share of the rural population must be combined with high dependency on cereal imports or the presence of a proportional system for producer-oriented policies. Supposing that producer-oriented policies were favoured by the voters in rural areas, having a rural population exceeding 60% of the total population was not a sufficient condition for this outcome in Ghana and Ethiopia. The path of $RP * E(P)$ (Burkina Faso and Mozambique), was consistent with literature about constitutional rules. Olper and Raimondi (2012) presented robust positive effects of proportional electoral rules on agricultural protection and support, particularly where the rural population was in the majority and in import-competing sectors. Where the share of the rural population was high, but electoral rules were not proportional, policies were not necessarily pro producers. Instead, a high share of the rural population needed

to be combined (as in Kenya and Mozambique) with high cereal dependency on imports. It was found that large net importers were usually wealthier (see Chapter 4) and preferred to import food that was simply too costly to produce domestically (Rakotoarisoa et al., 2011). For countries with high cereal dependency, food security considerations would provide incentives to maintain an agricultural sector that does not produce enough food, regardless of choices between self-sufficiency and efficiency. For many African countries, agriculture constitutes a large portion of the taxable economy, and therefore an important source of revenues (Bates and Block, 2009). The presence of CD may allow governments to divert taxation and investments from food production to cash crops or other sectors. This interpretation is consistent with the findings of Olper and Raimondi (2012), of producer support in import-competing sectors.

10.4.1.2 Fuzzy-set analysis

The fuzzy-set analysis did not contradict the crisp-set findings but offered an alternative solution (see the fuzzy truth table in Table 10.9), highlighting the importance of governance systems (not a prime implicant in the crisp sets) and downplaying the importance of executive constraints as a sufficient condition for producer-oriented policies.

Table 10.9 Fuzzy truth table for orientation

XC	RP	CD	G	E	O	Country cases and consistency measures
0	0	1	0	1	1	Benin (Consistency: 0.7727)
0	1	0	0	1	1	Burkina Faso (Consistency: 1.0000)
0	1	0	1	0	0	Ethiopia (Consistency: 0.3333)
0	1	1	0	1	1	Mozambico (Consistency: 0.9545)
1	0	1	0	0	1	Ghana (Consistency: 1.0000)
1	1	0	0	0	1	Madagascar, Malawi (Consistency: 1.0000)
1	1	1	0	0	1	Kenya (Consistency: 0.9200)

Where:

XC: executive constraints to decision-making
RP: rural population
CD: cereal dependency on imports
G: governance system
E: electoral system
O: outcome
0: absence of condition or outcome
1: presence of condition or outcome

The complex solution was:

~ G* (CD+ RP) * [~ XC* E(P) * + XC * E(M)] (consistency 0.895. coverage 0.916).

The parsimonious solution was simply:

~G (Consistency: 0.951/ Coverage: 0.700).

However, both the complex and parsimonious solutions were biased for the under-representativeness of non-presidential governance systems in the sample, as only Ethiopia (assembly-elected) featured in this set. Therefore, as in earlier analyses, the condition was removed from the truth table. Other assumptions were used to treat the logical reminders; first, the combination of $\sim RP$ and $E(P)$ always leads to consumers support (see the analysis for Outcome 0 below). Second, the presence of strong executive constraints always leads to producer support when food security policies in the past focused on production (following crisp-set results). Two logical reminders remain possible: $RP * CD * E(M) * \sim XC$ and $\sim RP * CD * E(M) * \sim XC$. The intermediate solution was:

$CD + RP$ (Consistency: 0.776 / Coverage: 0.971).

In terms of degrees of and incremental changes, production support tended to increase as cereal dependency or the share of the rural population increased. Fig. 10.10 plotted production orientation against rural population and cereal dependency. The plot showed that all countries were covered by one path or the other, except for Madagascar.

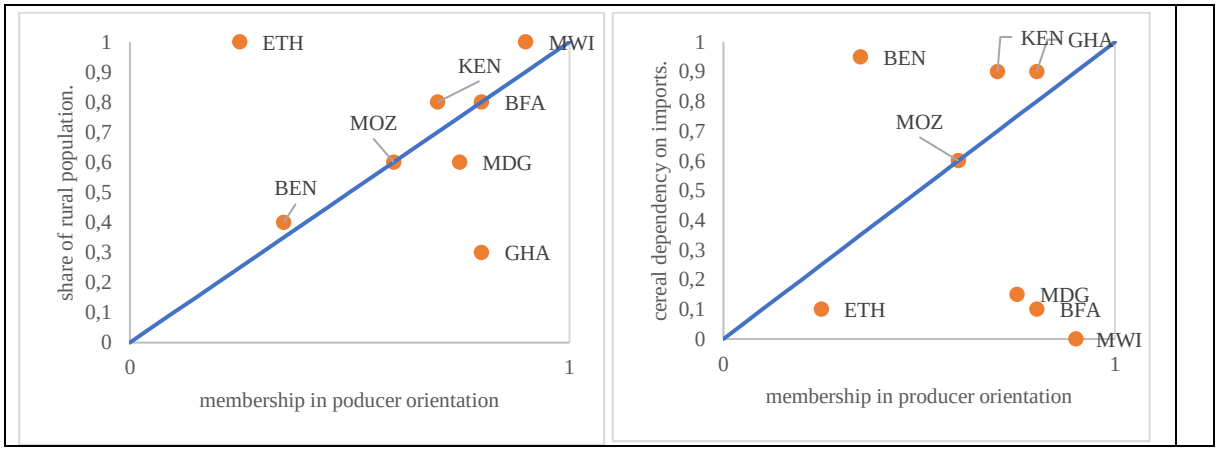


Fig. 10.10 Plots of membership scores for production support against membership scores for rural population (left) and cereal dependency (right)

10.4.2 Outcome 0 (consumer orientation)

Consumer-oriented policies seek to provide consumers with support for food access and nutrition. In the sample, only Benin and Ethiopia were classified in Chapter 8 as consumer oriented.

10.4.2.1 Crisp-set analysis

The crisp-set solution for consumer support (Outcome 0) was:

$$rp * E(P) \; + \; cd * xc * E(M)$$

There were only two countries in the sample with this outcome (see the Venn diagram in Fig. 10.11). Benin corresponded to the first path, with a lower share of the population living in rural areas and with proportional elections. It seems logical, in this case, that consumers' interests were better protected. This was consistent with Olper and Raimondi (2012) and with results for producer orientation. Ghana also had a low share of rural versus urban population, but had majoritarian elections, more associated with the preferences of geographic constituencies (Perrson and Tabellini, 2000).

The second path was represented by Ethiopia (low cereal dependency, majoritarian system, and low executive constraints). Further exploration was necessary to explain this outcome. The policy orientation in Ethiopia, while not necessarily deviant from the suppositions for this criterion, seemed better interpreted outside the conditions considered in this work. As discussed in Chapter 5, food insecurity was generally viewed as a rural phenomenon in Ethiopia. While increasing agricultural productivity was still regarded as a priority and the "government is certainly sympathetic to the rural and farmer issues, because it has a long experience relationship since their rebel time" (Alpha and Gebreselassie, 2015: 27), both literature (Van Veen, 2016) and key informants highlighted how price and trade policies were important instruments for the food security policy in Ethiopia. Paramount issues in developing food production, such as land tenure and pastoralism, have received less government attention to pursuing the interests of rural consumers, than focusing on livelihood protection and food prices as a means to legitimate power among the rural population since the time of the guerrilla uprising against the *Derg* regime. The literature offered a general picture to understand how rural interests remained a political priority during the transition of the Tigray People Liberation Front (TPLF) to a political party, post-1991. First, the successful scale-up of the political party structure after independence was particularly marked in rural areas (De Zeeuw, 2008). Second,

the TPLF has been successful in replacing its military approach to governance with a more civilian approach and pro-development strategies. Contemporary Ethiopia emerged in a political settlement where, after the liberation struggle, rural people were regarded as the main policy-beneficiaries in order to maintain control and political alignment (Van Veen, 2016). Because the rural population was also poorer, demands for government to protect consumption by decreasing food prices were prioritised (Bates and Block, 2009).

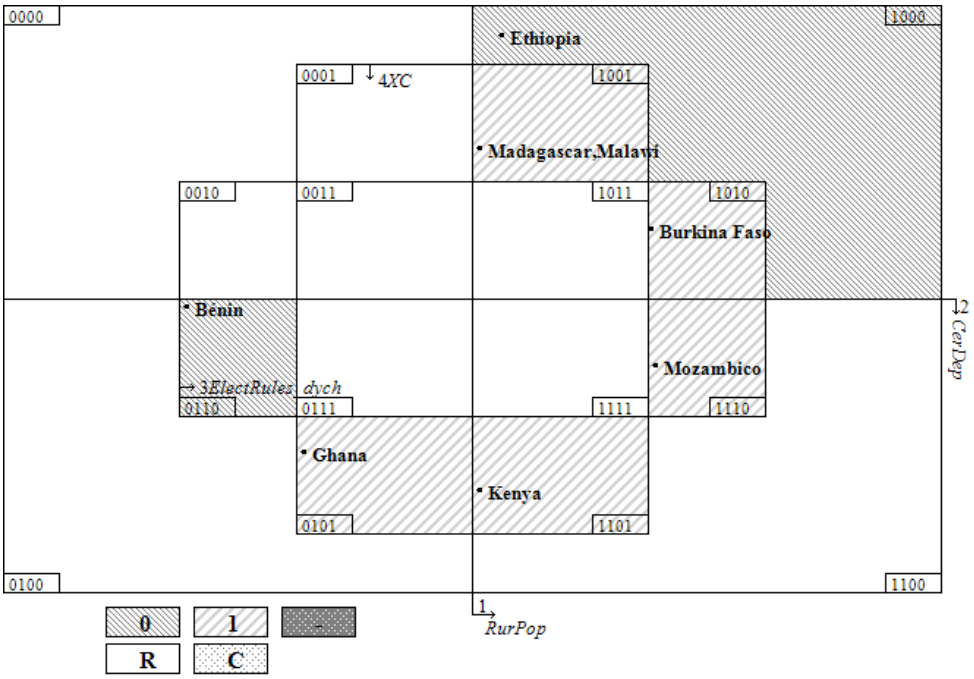


Fig. 10.11 Venn diagram of prime implicants for consumer support

The specific conjunction of conditions in the solution corresponding to the Ethiopian case should therefore not be regarded as causal but might be not entirely casual. The lack of executive constraints and the low cereal dependency on imports, in fact, could very well be an enabling combination for consumer support when food security problems are framed as livelihood protection, and price stabilisation approaches. In the absence of strong veto players, an unconstrained government would, in fact, be freer to undertake the chosen course of action, and low cereal dependency could still play in favour of price control in trade policy.

10.4.2.2 Fuzzy-set analysis

The complex solution in the fuzzy set was also composed of:

$$\sim XC * (CD * E(P) + RP * \sim CD * E(M))$$ (consistency 0.914 coverage 0.754)..

The parsimonious solutions were:

$\sim XC * (CD + E(M)$ (consistency 0.914 coverage 0.754)

$\sim XC * E(M) + CD * E(P)$ (consistency 0.814 coverage 0.771).

In the case of Benin, both the high regional market integration and the importance of the cotton sector explain the high cereal dependency. However, it was assumed that, while cereal dependency can play a role in consumer orientation, the low share of rural population offered a more logical explanation.

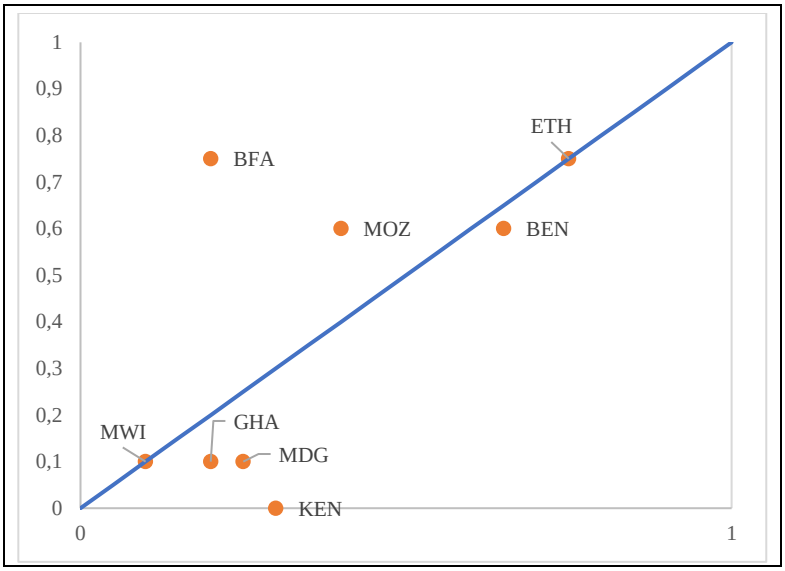


Fig. 10.12 Plot of membership in consumer support against membership in weak executive constraints

It was also assumed that the combination of a high rural population, executive constraints and a proportional system would lead to producer support, while in countries with proportional systems and a low rural population, it would engender a consumer-support orientation to policy. Three logical reminders ($\sim RP * E(P) * CD * XC$, $\sim RP * \sim CD * E(P) * XC$ and $\sim RP * \sim CD * E(M) * \sim XC$) remain uncertain. The intermediate solution is:

$\sim XC * (\sim RP * E(P) + RP * E(M))$ (consistency 1; coverage 0.789).

This solution highlighted the effect of weak executive constraints on consumer policy orientation, although the condition alone was not sufficient for consumer-orientation (see Fig. 10.12). However, the finding is consistent with Outcome 1 (producer orientation). The first part of the solution (in parentheses), was similar to the crisp-set findings.

The second path ($\sim XC * RP * E(M)$) was given by Ethiopia, for which the same considerations can be made as for the crisp-set analysis. Rural consumers were a key interest for government legitimacy, and weak executive constraints were instrumental in pursuing this policy.

10.4.3 Test of suppositions related to orientation

Suppositions were formulated based on the expected impact of the drivers of food security policies (discussed in Chapter 2) on the criteria of the taxonomy (introduced in Chapter 3). The conclusions for the suppositions related to the orientation of policies are presented below.

S1.c. *Proportional systems have a producer orientation effect, depending on the preferences of the majority of the population.*

CONFIRMED: orientation follows the share of the rural population when in the presence of proportional elections. Therefore, in proportional systems, when the share of the rural population is below 60%, consumer orientation is produced; when it is higher than 60%, producer orientation is produced.

S2.c. *Non-presidential systems are associated with consumer protection.*

UNCONFIRMED: governance system was not a prime implicant for the outcome.

S3.b. *Constraints to executive power favours producer orientation where past policies were mostly focused on agriculture.*

CONFIRMED: the presence of executive constraints, alone, was a sufficient condition for producer-orientation in crisp set (although not in the fuzzy set). In fuzzy set, as executive constraints decreased, in a specific combination of share of the rural population and electoral rules, consumer support increased.

S4.a. *The higher the share of the rural population, the greater the production support.*

CONFIRMED, but in the crisp set, the condition should be combined with either proportional elections or high cereal dependency on imports. In fuzzy set, production support increased as the rural population increased (in conjunction with weak executive constraints and proportional elections).

S5.c. *High cereal dependency on imports favours producer orientation.*

CONFIRMED, but only in association with a high share of the rural population. In the fuzzy set, producer orientation increased as cereal dependency increased.

10.5 Level of state involvement

The level of state involvement in food security policies dealt with the state's engagement in the provision of goods and services as the techniques of governance that involve the assertion of authority in the policy (or its conscious limitation). This criterion was defined and classified in Chapter 9, with regard to the kind of instrument mix that represents the main governance strategy in place, in the context of the particular policy examined (Howlett, 1991). Policy classes were dichotomised as low level of state involvement (instrument mix leans towards "voluntary") and high level of state involvement (instrument mix leans towards "compulsory").

10.5.1 Outcome 1 (high state involvement)

High state involvement is characterised by the state's taking on important functions, such as distribution and regulation. The food security policies of Benin, Burkina Faso, Ethiopia, Ghana and Malawi were found to be characterised by a high level of state involvement.

10.5.1.1 Crisp-set analysis

The truth table for this outcome is presented in Table 10.1. The crisp-set solution was for Outcome 1 (high state involvement): $T(2) + T(0) * (SC + E(P) + xc)$.

Table 10.1 Truth table of the level of state involvement

SC	T	GR	RR	Tx	E	XC	O	Country cases
0	0	0	0	0	0	1	0	Madagascar
0	0	1	0	1	0	1	0	Kenya
0	2	0	0	0	0	0	1	Ethiopia
0	2	0	0	1	0	1	1	Malawi
1	0	0	0	1	1	0	1	Benin
1	0	0	1	1	1	0	1	Burkina Faso
1	1	1	0	1	1	0	0	Mozambique
1	2	1	1	0	0	1	1	Ghana

Where:

SC: state capacity
T: trust
GR: government revenues
Tx: taxation
E: electoral system
XC: executive constraints to decision-making
O: output

0: absence of condition or outcome
1: presence of condition or outcome

Trust supports a high state involvement in Ethiopia, Ghana and Malawi). As expected, active societal trust facilitates state interventions (Leibrecht and Pitlik, 2014) because the regulation of economic behaviour is generally easier (Uslaner, 2005), making compliance less costly to monitor and enforce.

The literature also suggests that low levels of trust could lead to state involvement (Anghion et al., 2015). This rationale was found in the evidence as the second path. A key question, in fact, was under what conditions other, non-beneficiary groups would be supportive of interventions that rely on high state involvement, such as distributive policies: low-income groups, in fact, will still prefer interventions such as universal distribution programmes because they would be more inclusive, with little debate about the "needy" or "undeserving," and without risking singling out certain groups of the population who might need more or less. If everyone is entitled to have the same share, there is little opportunity for fraud. However, in these contexts, having another condition (see below) that allows these preferences to be translated into credible policy options becomes of key importance. This second path (found for Benin and Burkina Faso), in fact, combined low trust with:

- high state capacity (it is rational to rely on government interventions if the state is capable) or
- a proportional electoral system (consistent with Kontopoulos and Perotti, 1999; Austen-Smith, 2000; Perrson and Tabellini, 2000; Milesi-Ferretti et al., 2002; Perrson et al., 2007) or
- weak constraints to executive power, a characteristic of more autocratic regimes, associated with state involvement for strategic reasons but also consistent with one stream of literature on veto power, which states that the more veto players there are, the higher government spending is (Henisz and Zelner, 2001).

10.5.1.2 Fuzzy-set analysis

The fuzzy-set complex solution (see the fuzzy truth table in Table 10.2) was:

$\sim XC * SC * E(P) * (\sim T + \sim SL) + T * (XC * SC * E(M) + \sim XC * \sim SC * \sim SL)$
(consistency 0.951; coverage 0.834)

The parsimonious and intermediary solution was:

$\sim XC + T$ (consistency 0.923; coverage 0.903)

For minimising logical reminders, it was assumed that both the combinations of $\sim T * XC$ and $SC * T$ always lead to high levels of state involvement, following the considerations made for the crisp-set analysis. All the remaining logical reminders shared weak executive constraints and were incorporated in the parsimonious solution.

Table 10.2 Fuzzy truth table of the level of state involvement

XC	SC	SL	T	E	O	Country cases and consistency measures
0	0	0	1	0	1	Ethiopia (Consistency: 1.0000)
0	1	0	0	1	1	Burkina Faso (Consistency: 0.9673)
0	1	0	1	1	1	Mozambique (Consistency: 0.8251)
0	1	1	0	1	1	Benin (Consistency: 0.9631)
1	0	0	0	0	0	Madagascar (Consistency: 0.5167)
1	1	0	0	0	0	Kenya (Consistency: 0.5741)
1	1	0	1	0	1	Malawi (Consistency: 1.0000)
1	1	1	1	0	1	Ghana (Consistency: 0.9714)

Where:

SC: state capacity
T: trust
SL: state legitimacy
E: electoral system
XC: executive constraints to decision-making
O: output
0: absence of condition or outcome
1: presence of condition or outcome

In the literature, executive constraints were associated with lower executive spending (Primo, 2006), but also with more distributive policies (Henisz and Zelner, 2001), posing that governments would, under these conditions, have to take more interests into account. This finding suggests that, in Africa, as governments' decisions are less constrained, it is more likely that distributive and regulative policies will be designed and implemented.

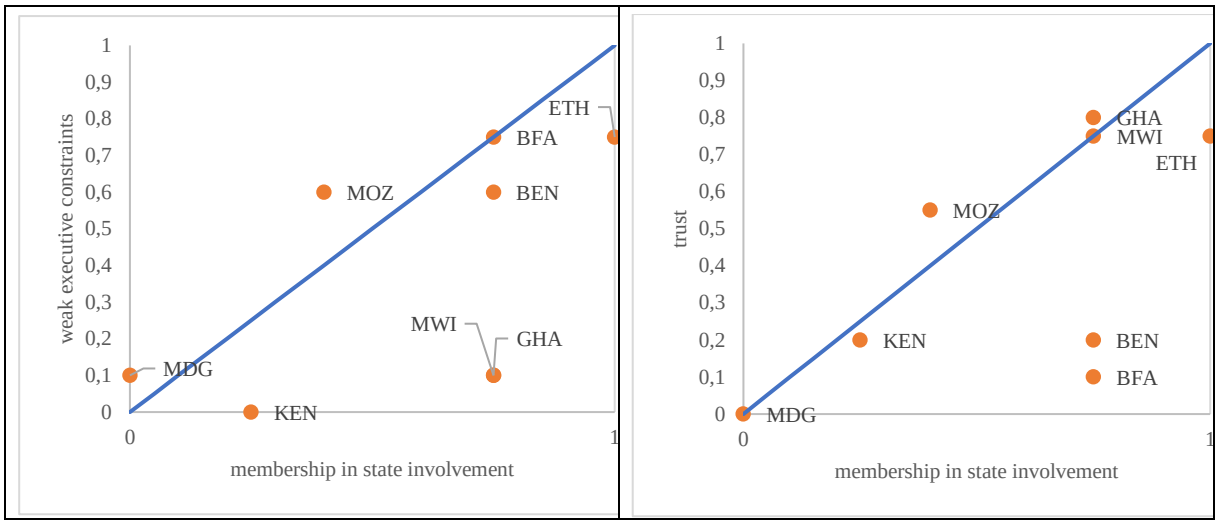


Fig. 10.13 Membership score in state involvement against membership in weak executive constraints (left) and trust (right)

The second path of the solution also suggested that trust, alone, was a sufficient condition for high state involvement, as discussed in the crisp-set analysis (and consistent with Leibrecht and Pitlik, 2004). It also showed that the argument advanced by the crisp-set solution, that low trust societies demand larger state interventions when other key conditions are present, was not found in the fuzzy-set solution. When conditions and outcomes are assessed as degrees of membership, state capacity and proportional systems must not necessarily combine with low trust to explain state involvement, which still increases as trust does.

Fig. 10.13 plotted the scores for state involvement against those of ~XC and T. It shows that, except for Ethiopia and Benin (which were near the line), they were explained by weak executive constraints or trust.

10.5.2 Outcome 0 (low state involvement)

In policies with low state involvement, the provision of goods and services supports food production and consumption through improving the economic environment, education, and lowering transaction costs.

10.5.2.1 Crisp-set analysis

Low state involvement (Outcome 0) in crisp set yielded the following solution:

$$sc * T(0) + [T(1) + TX * rr * (E(P) + GR)].$$

Two paths composed this solution. In the first, low levels of trust combined with poor state capacity resulted in low state involvement (in Kenya and Madagascar). In other words, in low

trust countries, the state's engagement in policy provision seemed more viable when state agencies responsible for their design and implementation were seen as capable. The second path was shown by Mozambique, for which three solutions explained the outcome. Because Mozambique was the only country in the sample with intermediate trust, the case cannot be compared with others for consistency, and so the solution T(1) was not retained. The alternative solutions were combinations of high taxation and low resource rents with either proportional elections or high government revenues. High taxation and low resource rents were consistent with the literature on the resource curse (Ross, 2004), which states that mineral-rich countries would prefer distributive interventions to command and disburse patronage, while taxation (Mozambique has the highest value in the sample) allows demands for public goods and services to be channelled through the policy process (Ross, 2015). Taxes are, of course, a means by which policies can be financed. Presumably, no government would be able to collect taxes from voters unless policy benefits would offset costs more efficiently. Mozambique had the resources (GR) to finance more expensive interventions. Some of these resources come from taxation (Tx), rather than resource rents (rr). This solution seems more in line with the literature sustaining the idea that the combination of $GR * rr * Tx$ leads governments to provide more public goods more efficiently (Easterly and Lavine, 1997; Ross, 2004 and 2012; Venables, 2008).

Therefore, the minimised crisp set solution was:

$$sc * T(0) + GR * rr * Tx.$$

In this crisp-set solution, a low level of state involvement was produced when state capacity and trust were both low, and when high government revenues came from taxation.

10.5.2.2 Fuzzy-set analysis

In fuzzy set, the complex solution was:

$E(M) * XC * \sim T * \sim GR * (SC * \sim RR * Tx + \sim SC * RR * \sim Tx) + \sim XC * SC * T * GR * RR * Tx * E(P)$ (Consistency: 0.903 / Coverage: 0.703).

The parsimonious solutions were:

$GR + XC * \sim T$	(Consistency: 0.8205 / Coverage: 0.9552)
$GR + E(P) * \sim T$	(Consistency: 0.8451 / Coverage: 0.8955)
$XC * \sim T + T * E(P)$	(Consistency: 0.8750 / Coverage: 0.9403)
$XC * \sim T + \sim XC * SC * T$	(Consistency: 0.8630 / Coverage: 0.9403)
$XC * \sim T + \sim XC * T * RR$	(Consistency: 0.8750 / Coverage: 0.9403)
$XC * \sim T + \sim XC * T * Tx$	(Consistency: 0.8630 / Coverage: 0.9403)

$\sim T * E(M) + T * E(P)$ (Consistency: 0.9104 / Coverage: 0.9104)
$\sim T * E(M) + \sim XC * SC * T$ (Consistency: 0.8971 / Coverage: 0.9104)
$\sim T * E(M) + \sim XC * T * RR$ (Consistency: 0.9104 / Coverage: 0.9104)
$\sim T * E(M) + \sim XC * T * Tx$ (Consistency: 0.8971 / Coverage: 0.9104)

For the minimisation, it was assumed that countries with higher taxation on individuals had fewer resource rents to extract (Ross, 2004 and 2012). As before, electoral rules were removed from the truth table to highlight incremental changes. The intermediate solution was one among the parsimonious:

$XC * \sim T + T * \sim XC * Tx$ (Consistency: 0.8630 / Coverage: 0.940).

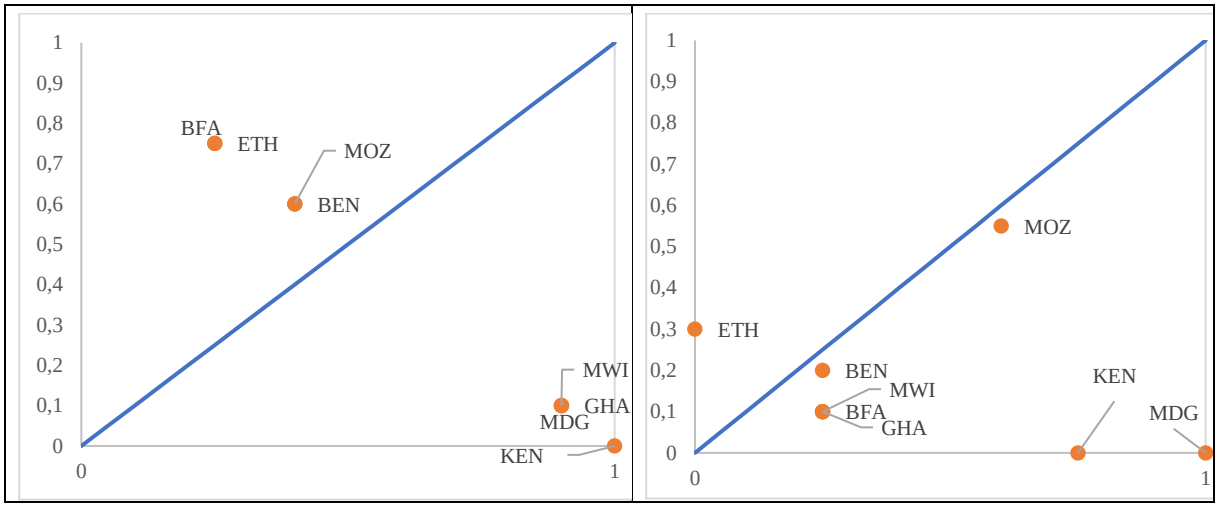


Fig. 10.14 Membership score in low state involvement against membership in strong executive constraints and low trust (left) and weak executive constraints, trust and taxation (right)

Fig. 10.14 plotted the two paths. To produce a low level of state involvement, trust could be low or high, depending on executive constraints and taxation. In one path ($XC * \sim T$, corresponding to Madagascar and Kenya), the solution was consistent with the one for Outcome 1. These countries also had lower levels of state capacity, suggesting that, in low trust societies, state involvement might be constrained by veto players, probably because the rules of disbursement and eligibility of policy benefits were more open to fraud.

The second path ($T * \sim XC * Tx$, Mozambique) was consistent with crisp-set results and suggested that, as trust and taxation increased, more public goods were provided with less state involvement amidst low executive constraints. This last condition was an apparent contradiction of the first path of the solution ($\sim T * XC$). However, weak executive constraints and high trust led to a low state involvement when in the presence of high taxation, as the latter became itself an instrument to check government spending (Perrson, 2008; Prichard, 2015).

10.5.3 Test of suppositions related to state involvement

Suppositions were formulated based on the expected impact of the drivers of food security policies (discussed in Chapter 2) on the criteria of the taxonomy (introduced in Chapter 3). The conclusions for the suppositions related to state involvement in policies are presented below.

S1.d. *Proportional rules lead to larger welfare spending, and therefore, higher levels of state involvement, than majoritarian*

UNCONFIRMED. While the condition is a prime implicant, the outcome depends by the levels of trust.

S3.c. *Contradictory: Constraints to executive decisions might lead to lower (Huber et al., 1993; Primo, 2006; Posner and Park, 2007) or higher (Henisz and Zelner, 2001) levels of state involvement.*

CLARIFIED: in the fuzzy set, the weaker executive constraints, alone, the higher the level of state involvement. In the crisp set, this outcome is produced when weak executive constraints are combined with low trust. However, when associated with high trust, stronger executive constraints lead to lower state involvement in the fuzzy set.

S6.b. *More revenues allow for more spending and therefore higher distributive policies.*

DISMISSED. When government revenues were associated with low resource extraction and high taxation, the outcome was low state involvement.

S7.c. *The higher taxation on individuals, the higher the level of state involvement.*

CONFIRMED, but only in combination with low resource rents and high government revenues.

S8.b. *The higher the resource rents, the higher the level of state involvement.*

DISMISSED. Low resource rents, if coupled with high taxation and high government revenues, were associated with low state involvement.

S9.b. *Contradictory: State capacity is associated with distributive policies and regulation enforcement (Etsiony-Havely, 1983; Rothstain and Uslaner, 2005); but it has also been found to allow the withdrawal of state involvement, focusing on the provision of public goods such as contract enforcement, training and the strengthening of the economic environment for private transactions.*

CLARIFIED. State capacity, in the presence of low trust, was conducive to high levels of state involvement in the crisp set. A low state capacity, combined with low trust, lead to a low level of state involvement.

S10.a. *Low state legitimacy provides incentives for distributive policies.*

UNCONFIRMED. State legitimacy was not a prime implicant for the outcome.

S12.b. *Contradictory. Trust facilitates the provision of state involvement but low trust leads to more interventionist policies.*

CLARIFIED. High trust was a sufficient condition for high levels of state involvement, but low trust was also associated with the outcome when combined with high state capacity, proportional systems or weak executive constraints. When low trust was combined with poor state capacity, low levels of state involvement resulted, in the crisp set. In the fuzzy set, state involvement increased as trust increased.

This chapter reviewed the suppositions drawn from literature against empirical findings from eight policy cases. These findings were presented in the form of logical expressions of cause-effect configurations using set-theoretic analysis. The next chapter extends these results to other African countries.

Chapter 11. A tool for predicting food security policies in Africa

This chapter draws from the analytical results of the set-theoretic analysis, i.e., the crisp- and fuzzy-set solutions found in the previous chapter. The logical formulae for how conditions lead to policy outcomes were expressed in Boolean algebra and are summarised in Table 11.1 below.

Table 11.1 Summary of crisp- and fuzzy-set solutions

Policy coordination:		
Crisp set:	$CD * (E(P) + SC * Tx) + xc * sc$	Broad
Fuzzy set:	$\sim XC * (SC + \sim CD)$ (Consistency 0.883 / Coverage 0,679)	
Crisp set:	$XC + SC * A$	Narrow
Fuzzy set:	$SC * A + \sim CD * \sim A$ (Consistency 0.794 / Coverage 0.836)	
Geographic scope		
Crisp set:	$cd * A$	Broad
Fuzzy set:	$\sim CD * A$ (Consistency 0.814 / Coverage 0.633)	
Crisp set:	$(E(M) * g + CD) + a$	Narrow
Fuzzy set:	$\sim A + (CD + \sim G * E(M))$ (Consistency 0.818 / Coverage 1)	
Orientation		
Crisp set:	$XC + RP * (E(P) + CD)$	Producers
Fuzzy set:	$CD + RP$ (Consistency 0,776 / Coverage 0,971)	
Crisp set:	$rp * E(P) + cd * xc * E(M).$	Consumers
Fuzzy set:	$\sim XC * (\sim RP * E(P) + RP * E(M))$ (Consistency 1 / Coverage 0.789)	
Level of state involvement		
Crisp set:	$T(2) + T(0) * (SC + E(P) + xc)$	High
Fuzzy set:	$\sim XC + T$ (Consistency 0.923 Coverage 0.903)	
Crisp set:	$sc * T(0) + GR * rr * Tx.$	Low
Fuzzy set:	$XC * \sim T + T * \sim XC * Tx$ (Consistency 0.8630 / Coverage 0,940)	

The consistency of results, always 1 in the crisp-set analysis and between parentheses for fuzzy-set solutions, is related to the eight cases: Benin, Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi and Mozambique. Using the conditions discussed in Chapter 4, this chapter explores the generalisation of the analytical results to other African countries. Because no other country's policy was classified, this exercise is not counterfactual. First, the application looked for predictions that yielded contradictory results (for example, whether a policy coordination outcome was predicted to be both broad and narrow) in the crisp set. Second, the

application confronted the findings of the set-theoretic analysis with the conditions typical of a neo-patrimonial country. Hence, the solutions were confronted with real and styled cases.

11.1 Application of the tool

This section extends the results of the crisp-set analysis to a broader set of African countries. The objective of this exercise was to test for contradictions in the predicted outcomes of the crisp-set analysis.

Drawing on the calibrated conditions from the indicators presented in Chapter 4, an Excel tool was developed. The tool used logical formulae ("if…then") based on the crisp-set results to predict the food security policy outcomes in African countries and assess the likelihood of these countries' policies' falling into consistent classes of the taxonomy. Note that contradictions can arise when the conditions involved in the solution of Outcomes 1 and 0 differ.

As this approach is not a standard procedure in set-theoretic analysis, there was no existing threshold for the minimum number of country predictions to be considered consistent. However, checking for contradictory outcome predictions for each of the four criteria in the crisp-set analysis informed the generalisation of results beyond the sample and revealed which policy classification principle or principles worked better or worse, especially considering the methodological limitation of the limited diversity of cases discussed in Chapter 3.

Maps were produced (Fig. 11.1) for policy coordination, geographic scope, orientation and level of state involvement. The maps show in which countries the tool presented contradictions, or presented consistent predictions, or the lack of data did not allow the crisp-set results to be extended.

The only criterion with no crisp-set contradictions was the geographic scope. Both narrow and broad scope were explained by cereal dependency on imports, accountability, electoral rules and governance systems. Despite the lack of data for a relatively high number of countries, the crisp-set solutions worked better in terms of the extent to which predictions were unambiguous. In fact, although constitutional rules were only causal conditions for a narrow geographic scope, there were no contradictions when confronting the results with the broader set of cases. The crisp- and fuzzy-set solutions were similar for this criterion. Although the fuzzy-set solutions had low coverage among the cases, they yielded high consistency measures. This exercise supports the generalisation of the solutions for the geographic scope of food security policies in Africa.

The criterion that presented most contradictions among new cases was the level of state involvement. Trust was the only common condition in the crisp-set solutions for high and low state involvement. This limitation was overcome in the fuzzy-set analysis, which yielded parsimonious solutions with only two conditions involved, namely executive constraints and trust. In addition, the fuzzy-set solutions had high consistency and coverage measures.

The two other criteria, policy coordination and orientation, had a more limited number of contradictions but offered consistent predictions for the large majority of new cases.

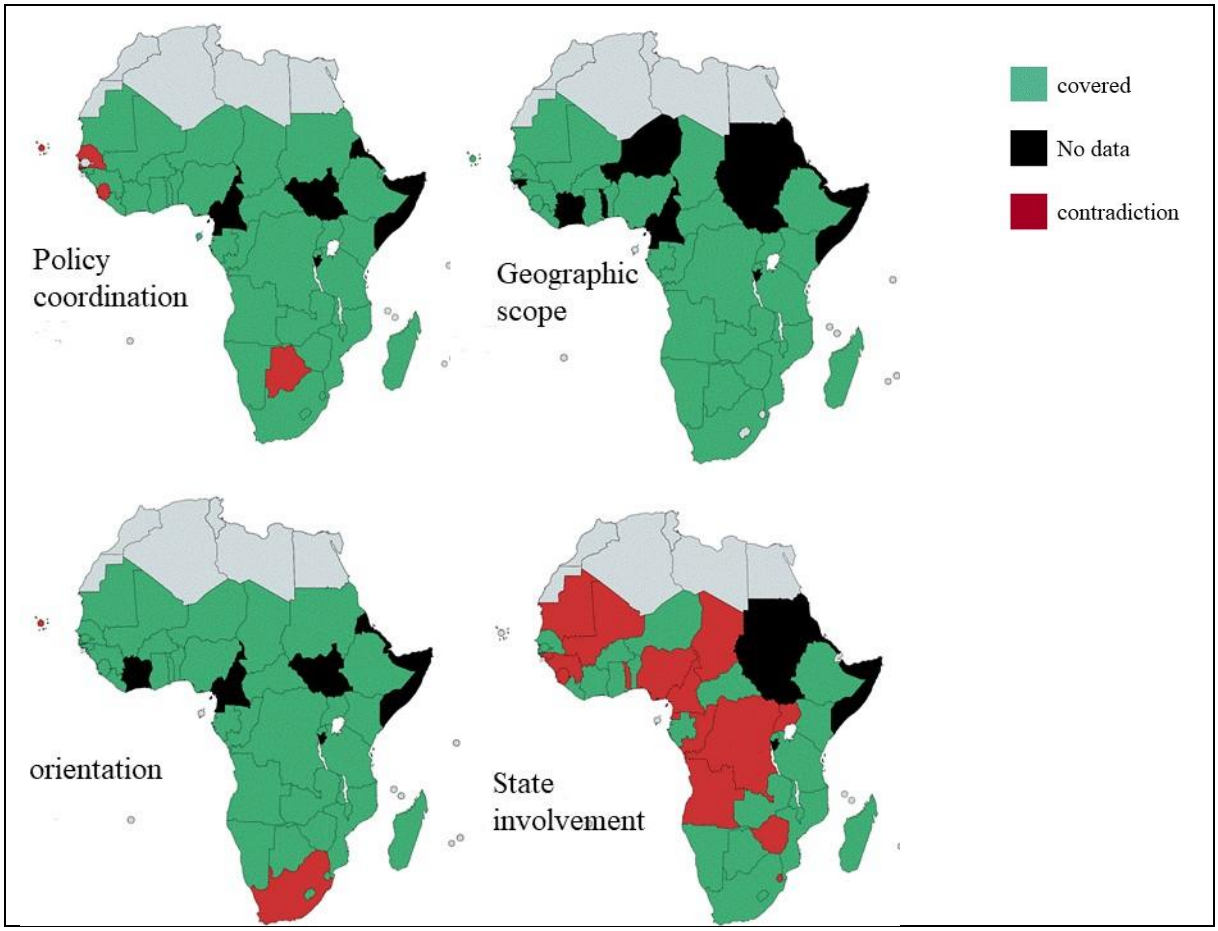


Fig. 11.1 Consistency maps

This exercise shows the importance of the consistency cut-off in yielding solutions, i.e., the threshold at which a combination of conditions was coded as contributing to the outcome. In the crisp set, the consistency cut-off is always one, as solutions did not allow contradictions. But when this cut-off is lower, as in the fuzzy set, some additional causal paths were revealed. Therefore, the consistency cut-off has a stronger effect for the application of set-theoretic analysis regarding the level of state involvement in policies because the crisp and fuzzy set solutions differ in the conditions used, but its effect is null for geographic scope, for which

solutions are similar, and there are no possible contradictions. For the other classification criteria, policy coordination and orientation, very few contradictory predictions of crisp-set solutions and high fuzzy consistency measures were yielded. This suggests that the tool can be used to predict food security policies according to the four classification criteria. In addition, from contextual country analysis, the use of the Excel-tool could identify which conditions could enable or constrain policy change in a certain direction.

11.2 The styled case: Neo-patrimonialism

Neo-patrimonialism has been referred as a "conceptual muddle" (De Grassi, 2008: 112) in the sense that it does not necessarily offer consistent predictions regarding political and economic outcomes (Mkandawire, 2015). Policy analysis, in fact, cannot be limited to simply assessing "the ways in which individuals, groups, and communities seek to instrumentalise the resources which they command within this general political economy of disorder" (Chabal and Daloz, 1999: xix) to estimate the kind of policies in Africa. However, studies (Bratton and Van de Walle, 1997; O'Neil, 2007; Bach and Gazibo, 2012) have shown that a neo-patrimonial logic exists (see Chapter 4) in terms of how social capital is used to exercise power in political and administrative systems that are only formally constructed on legal-rational lines. For this reason, neo-patrimonialism was considered as a style of governance in this study: formal and informal institutions were assumed to shape certain conditions, discussed in Chapter 4, in terms of the classification presented in Chapter 3, so such a "styled" neo-patrimonial country would be characterised by (see Chapter 4):

E(M) majoritarian electoral system
g presidential governance system
xc weak executive constraints
sc low state capacity
sl low state legitimacy
a low accountability
t low trust
tx low taxation

But with uncertain

RP rural population
CD cereal dependency on imports
GR government revenues
RR resource rents

Using these conditions, from the results of the set-theoretic analysis and the four classification principles applied in Chapter 10, a simulation of how food security policies could be designed

in this styled country answered the question of what food security policy can be expected in a neo-patrimonial country and whether neo-patrimonialism offers predictions that are consistent with the empirical findings of this work.

The results showed that:

- In neo-patrimonial countries, the combination of poor state capacity, poor accountability and a majoritarian system would lead to narrow coordination in food security policies (as found in Kenya, Madagascar and Malawi). Although Ethiopia's path ($sc * xc$, also consistent with the hypotheses on neo-patrimonial states) in the crisp-set led to broad policy coordination, this solution was not generalisable, as discussed in Section 10.2. The combination of low accountability, majoritarian and presidential systems would lead to a narrow geographic scope (in both the crisp- and fuzzy-set analysis), following the path of Benin, Madagascar, Malawi and Mozambique.
- The absence of strong executive constraints in a neo-patrimonial country would lead to consumer support, even if the share of the population in rural areas was high, but this path only resulted in a fuzzy-set solution (Benin having a relatively low rural population).
- The level of state involvement would be uncertain, as the combination of $sc * t * xc$ was a logical reminder. Low trust would lead to more state involvement where combined with weak executive constraints (as in the case of Benin and Burkina Faso), but less involvement where state capacity was poor (as in Kenya and Madagascar).

In conclusion, the case of neo-patrimonialism is only partially consistent with the findings of the set-theoretic analysis. Neo-patrimonialism can produce narrowly coordinated food security policies and interventions that are likely to be geographically focused. However, the set-theoretic analysis cannot confidently predict the orientation (except in fuzzy set) and the level of state involvement in food security policies in a neo-patrimonial country, because combinations of conditions did not result in unambiguous outcomes. This conclusion does not imply that the concept of neo-patrimonialism or the results of the set-theoretic analysis are not useful, but the predictions would be consistent only for the classification of policy coordination and geographic scope. This finding raises a caution to avoid "*a priori* assumptions about the existence of neo-patrimonialism and hasty invocations of the phenomenon … without …. documentation of the precise form, characteristic, … extent, and other important features" (De Grassi, 2008: 113).

Chapter 12. Conclusions

The objective of this work was to identify the role of political institutions, the institutional environment and the structure of a country's economy in determining its food security policy choices, and what configurations of these determinants enabled or constrained food security policy outcomes in eight African countries. Using set-theoretic analysis, the work assessed the causal configurations producing classes of food security policy.

Eight policy cases were investigated. They represented a diverse sample of countries in sub-Saharan Africa. The cases were purposely selected to have different levels of conditions and policy outcomes in order to identify their specific combinations and interactions. Sampling excluded those countries that consistently featured at the top of the scale of indicators (such as revenues, accountability and state capacity), as well as those consistently at the bottom, deliberately focusing on the "mediocre" performers.

In the absence of a suitable classification of food security policies, this study presented a specific taxonomy that enabled the classification of policies by actual observable criteria, so that policy classes were mutually exclusive and could be predicted. The classification principles (or policy criteria) were:

- Policy coordination, which defines whether policies coherently and comprehensively address the multiple dimensions of food security, distinguishing those that are able to coordinate different state functions and actions from those whose design and implementation is confined to one structure.
- Geographic scope, which identifies whether policies apply to the whole country and are implemented to the whole country, or whether they imply a geographic bias, targeting (and favouring) certain areas.
- Orientation, which focuses on whether the main policy target is an element of production or consumption in the food system, i.e., whether interventions provide direct support to consumers and vulnerable groups or influence production.
- Level of state involvement, which assesses whether the role of the state in the policy is that of "enabler" or "manager" through a spectrum of policy instruments that range from the state's direct involvement at one end ("compulsory" instruments) to its total lack of involvement at the opposite end ("voluntary" instruments).

The eight policy cases were classified by these criteria (in Chapters 6, 7, 8 and 9), and coded and calibrated for set-theoretic analysis. The analysis used crisp- and fuzzy-set analysis on the

same dataset in order to identify empirical patterns of sufficiency, necessity and INUS conditions. Expectations drawn from the existing literature were confronted with the logical solutions of the analysis.

The result was the characterisation of the causally relevant combinations that lead to specific outcomes for each policy criteria. This was a simplification of the policy process, but still based on empirical findings and could provide predictions regarding food security policies in Africa.

12.1 The effect of constitutional rules on food security policies

Electoral rules and constraints to executive decision-making had an effect on policy coordination. In particular, the presence of strong executive constraints was a necessary condition for narrow coordination. This is well known in the literature. As more interests have to be taken into account, policies become more fragmented and packaged into narrower programmes. Proportional rules led to broad coordination, but only when a country depended heavily on food imports (see below). This finding dismissed the expectation that majoritarian rule would lead to more decisive executives, who facilitated coordination.

Electoral rules and governance systems were also instrumental for a broad geographic scope of food security policies. The conjunction of majoritarian politics and presidential regimes led to a narrow scope, as politics in these conditions became more geographically based. For a broad scope, other conditions must be present, as discussed below.

Proportional electoral rules seemed to channel the preferences of the majority of the population regarding orientation. Contrary to majoritarian governments, proportional systems with a large rural population (who can be assumed to have preferences for production-supportive policies) led to policies in favour of food producers, while a larger urban population led to consumer oriented policies.

The presence of executive constraints was more likely to be associated with a producer policy orientation as executive constraints render decision-makers more resistant to change and policy reforms incremental. These policies existed where, in the past, aggregate food availability had been the main focus of food insecurity and policies consequently focused on production.

In the literature, proportional systems were associated with larger welfare spending, which might be related to either distributive policies or more general investments in sectors such as health, education and infrastructure. The study confirmed that a high level of state involvement

was likely when proportional rules were combined with low trust but, in the same electoral setting, state involvement increased as trust increased. Finally, as executive decisions were more constrained, state involvement also increased, reinforcing the principle that, the more the veto interests there are to satisfy, the larger the spending on distributive interventions.

12.2 The effect of countries' economic structure on food security policies

A number of indicators characterise the structure of a country's economy: its share of rural population, cereal dependency index (to describe the characteristics of the agricultural sector), the ratio of GDP to government revenue, resource rents and taxes (to characterise the resources available to undertake policy choices, and where these come from).

The size of the rural population, i.e., its share of the total population, influenced policy orientation. Production support increased with an increase in the share of the rural population, but only where there were proportional elections or high cereal dependency on imports.

Cereal dependency on imports was a significant condition to explain many policy outcomes. A high index was common among countries with a strong agricultural-commercial sector, that were highly integrated into trade, or had a comparative advantage in other sectors in the economy (such as mining, timber, oil, etc.). The cereal dependency index was associated with policy coordination. As the index increased (combined with constraints to executive decisions), so did policy coordination. When cereal dependency decreased (combined with low accountability, discussed below), the policy coordination became narrower. This supported the hypothesis that, when food is largely imported, food insecurity is seen through the lens of poverty and livelihood protection, thereby strengthening integration among sectors. In the crisp set, a high cereal dependency was also conducive to broad coordination when in the presence of proportional electoral systems or with high taxation and state capacity.

Cereal dependency on imports was also a prime implicant for a policy's geographic scope. In both the crisp and fuzzy set, a high index was a sufficient condition for a narrow scope. Conversely, a low cereal dependency, when associated with high accountability, produced a broad policy scope. This result suggested that, when the food came in large part from imports, the voice of interest groups pressing for concentrating policy benefits in parts of the country was more relevant, for example in cases where export revenues were concentrated in specific geographic areas.

Policy orientation was also influenced by a country's dependence on food imports. Producer orientation increased as the cereal dependency index increased, but in the crisp set, this condition should be combined, as mentioned above, with a high share of the rural population. This finding highlighted the strategic importance granted to domestic production where agriculture was less competitive, as a way to combat poverty but also to save foreign exchange by promoting local production.

As expected, the level of state involvement in African food security policies depended largely on the resources available. Government revenues were associated with the provision of public goods and low state involvement when associated with high taxation and low resource extraction.

12.3 The effect of the institutional environment on food security policies

Compared with the other characteristics, state capacity, accountability and trust had more complex effects on policy outcomes. Results from the set-theoretic analysis confirmed that state capacity was a key condition for broad policy coordination. However, the crisp- and fuzzy-set analysis differed in the conditions they identified that should necessarily be associated with state capacity in order to produce this policy outcome. In fuzzy set, policy coordination increased where state capacity was associated with decreased executive constraints. In crisp set, the outcome was produced by the association of high state capacity with high taxation and high cereal dependency on imports.

When state capacity and accountability were high, coordination decreased. Where state agencies responsible for policy delivery were seen as capable and policies accountable, government interventions relied less on coordination and could be more safely be undertaken as separate entities. When accountability decreased together with a decrease in the cereal dependency index, coordination also decreased. These conditions were associated with corruption, which makes the governance of sectors of the economy more fragmented in order to more easily extract rents.

Accountability had a more direct effect on policy than geographic scope. Low accountability alone was sufficient for geographically focused interventions in both crisp and fuzzy set. However, when high accountability was combined with low cereal dependency, this led to a broad policy scope. Clientelism was the most logical explanation of these results. In addition

to the narrow geographic scope, low cereal dependency, associated with low accountability, also led to the uncoordinated policies.

As expected, trust was a prime implicant for the state involvement in policy. As societal trust increased, state involvement increased, because it became easier for the executive to find a supportive majority and the enforcement of regulation and rules of disbursement was less costly. However, in the crisp set, low trust, associated with other conditions (high state capacity, proportional rules or low executive constraints), was also conducive to high levels of state involvement. In such settings, low-income groups would support more inclusive distributions, reducing the risks of being left out. When both trust and state capacity were low, the outcome was the opposite.

Contrary to expectations, state legitimacy was not found to be a prime implicant in any policy criteria, trust was not a prime implicant for policy coordination, and state capacity was not a prime implicant for geographic scope.

12.4 Generalisation of findings

Starting from the conditions identified, an Excel-based tool was developed to test for crisp-set contradictions beyond the sample cases. This exercise showed strong (i.e., non-contradictory) predictions of the geographic scope of the policies, very few contradictory results for some countries regarding policy coordination and orientation, and a higher number of contradictory predictions for the level of state involvement. Contradictory predictions of state involvement were given by the different conditions used by crisp-set solutions to the two policy outcomes (high and low state involvement). This limitation was overcome by the fuzzy-set analysis, which yielded high consistency measures with fewer conditions.

Despite the limitations emphasised in Chapter 1, this work can be used to predict food security policy outcomes that are applicable to the African countries. The empirical foundation of this theory was not probabilistic methods, but suppositions that were developed, tested and used in comparing the different conditions and outcomes with a set-theoretic approach.

12.5 Contribution to knowledge

The findings of this work suggest that formal institutions matter for specific policy outcomes. But not everywhere. There was a great heterogeneity among African societies and economies that made (some) constitutional rules more important than others, in combination with

conditions and circumstances that pertained to country structural characteristics and informal institutions. While some constitutional rules were, alone, necessary or sufficient for some outcomes, the many conjunctures of these rules with other conditions suggested that formal institutions were more likely to play a role in the policy process when informal institutions were conducive or complementary. This is an important contribution of this work, addressing the question of whether formal political institutions play a role in policymaking. How this question is answered shapes not only the prospects of national and international actors' responses to food insecurity but also, more pragmatically, how government agents, donors and practitioners should be equipped to deal with the rules of politics. This work examined, in a predictive way, where institutions can drive the food security policy process in one or another direction. For those who work with and for food security in Africa, the added value of this information is to predict what to expect, how to engage in the process, and how to identify its most relevant actors. It is critical, in assessing whether and where policy changes occur, to distinguish how conditions and constraints shaped the willingness and ability of policymakers to act in pursuit of food security. In this framework, this study is useful in two areas.

First, it would help policymakers and practitioners to recognise the associations of distinctive interactions and patterns of political behaviour and processes to distinctive policy outcomes, in order to interpret their diversity and lay out the rules of engagement in specific policy-settings. This work also identifies how specific drivers affect the policy process. It is important for practitioners to expect some factors to shape outcomes, even if not the immediate and direct cause of a policy.

Second, the analysis performed identified the combination of conditions that enable or constrain the policy process. The same arrangements can have different consequences under different conditions. Both political theory and practices benefit from identifying policy categories and understanding the processes that lead to policy formulation and the choice of interventions. Hence, by understanding how policies and policy changes occur, both government and donor programming could be better equipped to improve, influence and address policy change. For example, when specific policy measures are recommended, this work can offer insights on where and how providing details on their implementation can help delivery.

A final important contribution was in the method: despite its limitations, the methodological strategy of this work was also innovative in using a set-theoretic approach for a relatively large number of conditions and cases (eight countries). Methodologically, this work devised a taxonomy of policy classes, specifically designed to classify food security policies in Africa.

This was not only innovative, but it also allowed for broadening the concept represented by these policy classes. Even if certain features (or "properties" – Sartori, 1970) were reduced and simplified, these classes were still empirical, observable and mutually exclusive: they could be tested. By testing specific research hypotheses, this taxonomy could contribute to the theory of policymaking in Africa, at least when it came to interventions in food security. Another important feature of this study's method was the use of secondary data to measure indicators and assess their importance. This added value to the model, because it allowed for replication and testing, and also the ability to confront the model with new cases.

This work devised a novel approach to study conditions that contribute to policy outcomes, but also on the classification of these outcomes. The restriction of findings of this study to the specific universe of Africa follows the notion that in causal research, the observations under examination are assumed to be of a specific kind. In comparative studies, easing assumptions on the universe of study, but also conditions and outcomes can offer productive research perspectives.

First, by varying the universe of study, this work could be used to explore specificities in African politics. A stream of economic literature is dedicated to the "Africa dummy", its relation to economic performance and to public choices. But substituting a regional dummy with public choice does little to fill the gap in knowledge. This work could shed light to the "black box" of policy-making in Africa, by comparing how food security policies emerge in non-African context.

Second, by varying policy outcomes, this work can help the study of particular contexts. The taxonomy criteria used in this work provides for an exhaustive list of policy dimensions. This classification could be used as a research entry point to study specific and more targeted contexts such as food security policies specifically in resource-rich countries, or in a geographic subregion. This work could be used to either highlight specific causal combinations, using different thresholds, that can explain differences in policies, or identify other classification principles that are better suited to classify policies in such universe.

Other policies could also be studied in the way food security policies are treated in this work. The same conditions used to explain food security policies could be applied to the study of other public choices, such as reduction interventions and economic policies.

Third, the evaluation of conditions could be better refined (see the methodological limitations in chapter 3). In particular, as some indicators that were not used for unavailability in African

countries become more common, a better assessment of their role in policymaking could be performed. For example, having shown that institutions matter, but some more than others, for specific policy outcomes, one may also use this work to further explore how specific political institutions emerge and therefore how conditions could be shaped.

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Annexure 1: Qualitative statements, anchor points and membership scores

	XC		RP		CD		GR		RR		Tx		SC		SL		A		T	
Qualitative anchor	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*	*ANC*	*MS*
Full Membership	7	1	0,8	1	0,42	1	0,38	1	0,11	1	0,22	1	41	1	4	1	21	1	0,5	1
mostly, but not fully in the target set	6	0,9	0,73	0,8	0,4	0,9			0,06	0,8	0,2	0,9			5	0,8	20	0,8	0,47	0,8
more in than out			0,65	0,6	0,35	0,7	0,32	0,8	0,02	0,6	0,17	0,6	39	0,8	6,3	0,6			0,4	0,6
Cross-over point	5	0,4	0,6	0,5	0,25	0,5	0,3	0,5	0,019	0,5	0,14	0,5	37	0,5	7,5	0,5	13	0,5	0,34	0,5
More out than in	4	0,3	0,55	0,4	0,2	0,3	0,25	0,3	0,01	0,3	0,12	0,3	20	0,3	8	0,4	10	0,4	0,3	0,4
Mostly out	3	0,25			0,15	0,1	0,15	0,1	0,06	0,2	0,1	0,1	14	0,1	8,6	0,2	7	0,1	0,27	0,1
Full non-membership	1	0	0,37	0	0,1	0	0,05	0	0,05	0	0,05	0	10	0	9	0	5	0	0,25	0

Where

XC: executive constraints to decision making

RP: share of rural population

CD: cereal dependency on imports

GR: government revenues

RR: resource rents

Tx: taxation on individuals

SC: state capacity

SL: state legitimacy

A: accountability

T: trust

ANC: anchor in indicator value

MS: membership score

Annexure 2: Table-log of key informants' interviews

Country	Name	Position	date and duration
Malawi	Olex Kamowa	FEWS NET National Technical Manager	January 23, 2019 / 20 min.
Ethiopia	Getachew Abate Mussa	FEWS NET National Technical Manager	January 25, 2019 / 30 min
Malawi	Barbara Dutzer	GIZ – Finance expert	January 25, 2019 / 30 min
Burkina Faso	Bernadin Zoungrana	FEWS NET RFSS	February 27, 2019 / 20 min.
Burkina Faso	Blaise M. Kienou	FEWS NET National Technical Manager	February 27, 2019 / 20 min.
Madagascar	Andriniaina Ravahambola	FAO	March 13, 2019 / 30 min.
Madagascar	Johanna Rakotoson	FAO	March 13, 2019 / 30 min.
Kenya	Nancy Mutunga	FEWS NET Regional Food security Specialist	September 13, 2018 / 20 min.
Kenya	James Oduor	CEO – National Drought Management Authority	October 9, 2018 / 20 min.
Ethiopia	Getaw Tadesse Gebreyohanes	IFPRI-Addis Ababa	November 21st, 2018 / 20 min.
Mozambico	Delfim Vilissa	Min Agric. Policy officer	February 4, 2019 / 20 min.
Mozambico	Nicolas Babou	WFP-programme officer	May 10, 2019/ 30 min.
Mozambico	Laura Carrilho	WFP-VAM	June 19, 2019 / 20 min.
Mozambico	Dino Buene	SetSan IPC	February 20, 2019 / 20 min.

Country	Name	Position	date and duration
Ghana	Noora Aberman	IFPRI-Accra	March 27, 2019 / 15 min-
Benin	Abdou Karim Ouadeago	FEWS NET Regional Food Security Specialist seconded to CILLS	April 12, 2019 / 50 min.
Ghana	Abdou Karim Ouadeago	FEWS NET Regional Food Security Specialist seconded to CILLS	April 12, 2019 / 50 min.
Burkina Faso / Mozambique / Malawi / Benin (group interview)	Antonio Mavie, Bernadin Zoungrana, Olex Kamowa, Abdou Karim Ouadeago	FEWS NET NTMs	January 7, 2019 / 50 min.

Annexure 3: Policy integration framework for descriptive diagnostics, adopted from Candel and Biesbroek (2016).

	Lack of policy integration	⟷		Full policy integration
Policy frame	Food security is defined in narrow terms, for example as solely an issue of agricultural production. Other types of efforts, e.g., health promotion or social policy, are not understood in terms of food security.	Realization that (externalities of) policies of various domains influence food security outcomes. Food security defined in narrow terms, but some attention to other dimensions and interactions with other policy efforts.	Awareness that food (in) security is affected by a broad range of factors and influences. Food security is viewed as a multi-dimensional policy problem that spans the boundaries of various policy domains, which are therefore believed to be needing to coordinate their policy efforts.	Recognition that achieving food security, across all its levels and dimensions, is a challenge to the governance system as a whole. Roles of subsystems are viewed as part of a holistic approach. Integration is advocated and adopted as dominant steering philosophy.
Subsystem involvement Subsystems involved Density of interactions	Food security falls within jurisdiction of a dominant subsystem, e.g., agriculture. Formally no other subsystems are involved, although they may an effect on food security. No interactions	Idem, but food security concerns emerge in one or more additional subsystems. Infrequent information exchange between dominant subsystem and one or more alternative subsystems.	Food security (in a broader sense) formally embedded within more subsystems, e.g., trade and agriculture. More regular and formal exchange of information and coordination, possibly through coordinative instruments at system-level	Food security is embedded within all potentially relevant subsystems. Subsystems that are formally involved is equal to or higher than at previous manifestation, but complemented with loosely coupled set of alternative subsystems High level of interactions between formally involved subsystems, that maintain infrequent interactions with loosely coupled set of subsystems
Policy goals:				
Range of policies in which problem is embedded Policy coherence	Sector-specific food security goals in one subsystem. For example: food security as priority in agricultural policy Very low or no coherence	Idem, but in addition food security concerns may be embedded to some extent in other subsystems' policies. Externalities of some policies may be addressed to some extent.	Various subsystems adopt food security concerns in their policy goals, some subsystems may develop comprehensive sectoral food security strategies. Coordinated sectoral goals, which are judged in the light of coherence. Subsystems attempt to develop synergies	Shared policy goals embedded within an overarching integrated food security strategy Shared policy goals embedded within an overarching integrated food security strategy.
Policy instruments:				
Range of subsystems' policies that contain policy instruments Procedural instruments at system-level Consistency Consistency	Sector-specific food security instruments in one subsystem. For example: food aid or agricultural subsidies. No relevant procedural instruments at system-level. Very low or no consistency	One or more additional subsystems (partially) adapt their instruments to address food security concerns or mitigate negative effects. Some information sharing instruments, such as inter-service consultations or impact assessments, may be initiated. Some obvious externalities, e.g., of agricultural or trade policies, may be reduced	Various sectoral instruments and instrument mixes that are intended to contribute to food security. Range of cross-sectoral instruments, such as impact assessments or coherence mechanisms. Attempts to reduce all externalities and to realize synergies and positive food security spin-offs.	All potentially relevant subsystems have adopted food security instruments in their policies. Broad range of procedural instruments at system-level, including boundary-spanning structures that coordinate, steer and monitor subsystems' efforts. E.g., presidential/prime-minister desk for food security Full reconsideration of subsystem instrument

Lack of policy integration

Full policy integration

mixes, resulting in a comprehensive, cross-subsystem instrument mix that is designed to meet a set of coherent goals

Annexure 4: General questionnaire used for key informants' interviews

POLICY COORDINATION & GEOGRAPHIC SCOPE

Agenda setting:

- was the problem presented as coordination-related/benefits to extend/coordination to achieve (ex. In supply chains)?
- Which ideas shaped the problem, as it has been presented?
- Did the needs (as identified) point at a specific area of intervention (geographic or functional)?

Design

- How urgent was it? For whom?
- Which ideas were behind the design?
- Who objected and how powerful were they?
- How much functional coordination is in the design? How much resulted?
- How much geographical coordination was in the design? Were particular areas targeted? Were rules to access benefits lied clearly in an unbiased way?

Adoption

- Was budget an issue?
- How much change resulted from veto players' pressure?

Implementation

- Were some ministries/agencies more involved than others?
- Can benefits and costs be identified on geographical basis?
- How was budget disbursed vs planned?
- Has commitment of key players been constant?

ORIENTATION

Agenda setting

- Who promoted it? Serving which interests?
- Did the needs (as identified) point at a specific segment?

Design

- How urgent was it? For whom?
- Which ideas were behind the design?
- Is the purpose to re-address a perceived bias against a group, cause by other policies?
- Are different agencies involved given a budget and power to implement?

Adoption

- What was the interest groups' reaction and lobbying?
- Were veto players pushing to a specific direction?

Implementation

- Did costs and benefits flow as planned?
- Was budget allocated to different agencies as planned?

LEVEL OF STATE INVOLVEMENT

Agenda setting

- Is the issue a collective action problem? Is there the need to regulate it?
- Was food price a problem?
- Was government called upon (by media, protests, donors …) for a specific action?
- How was the political discourse in relation to the role of the state?
- Was there a new element in the role of the state on which attention was called upon?

Design

- How urgent was it? For whom?
- Was budget a problem?

Adoption

- How relevant was regulation? And distribution?
- What is the long-term vision associated with the adoption of the policy?

Implementation

- How did price change?
- Was more the stick or the carrot being used?