



Future
Agricultures

Can State Capacity for Agricultural Development be Compared Across Countries? Insights from Africa

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1. The Importance of State Capacity

Recent years have witnessed a renewed recognition both of the importance of agricultural development to growth and poverty reduction in Sub-Saharan Africa and of the important role that the state has to play in stimulating market development in rural areas (Poulton et al. 2006; World Bank 2007). However, there is an “agricultural development paradox” during the early stages of rural development in that “the need for pro-poor state services is high when state failure is profound” (Kydd 2009, p453).

This raises important questions: what are the key dimensions of state capacity for agricultural development and how can they be measured? These questions are of interest to development organisations seeking to design and to monitor the impact of “capacity building” interventions. Increasingly, researchers are also likely to be interested in comparing (changes in) state capacity across countries. This raises the question of whether the rather intangible concept of capacity can be compared in this way.

This brief presents some reflections on this question. It investigates the concept of state capacity for agricultural development in Africa (section 2), then considers both direct (section 3) and indirect (section 4) approaches for measuring state capacity for agricultural development across countries.

2. Defining State Capacity for Agricultural Development

van de Walle 2001 argues that most states in Africa are “neo-patrimonial” in nature. In other words, they are hybrid between a rational-legal component on the one hand and a patronage political system on the other. The rational-legal component is exemplified by public policy objectives aligned with the Millennium Development Goals, formal policy-making processes designed to realise these and a subset

of civil servants who embody the ideals of Weberian bureaucracy. By contrast, the patronage political system begins from elites asking the question, “What do we need to do to obtain/retain power?” Their answers to this question may look very different from the pursuit of stated public policy objectives because power is maintained, in important measure, through “the giving and granting of favors, in an endless series of dyadic exchanges that go from the village level to the highest reaches of the central state” (van de Walle 2001, p51)¹. Of course, van de Walle’s analysis is not without its critics (see, for example, de Grassi 2008). However, it does emphasise the fundamental point that state capacity to promote agricultural development is not just a question of the resources that are at the state’s disposal, but also of the incentives that state agents have to work hard in pursuit of stated public policy objectives, such as smallholder agricultural development².

Dimensions of State Capacity

van de Walle 2001 (p130) defines state capacity as the capacity of a government “to design, implement, monitor, and evaluate policy”. (We might add: policy “in pursuit of stated public objectives”). Whilst apparently simple, even this definition quickly raises several questions that anyone wishing to compare capacity across states first has to answer.

Are we chiefly interested in capacity for decision-making or policy implementation?³ The former requires strong analytical capacity (as much about skills as about numbers of personnel?), information from evaluation of previous interventions and processes for incorporating these into decision-making. By contrast, the latter is more demanding of manpower (albeit with lower average levels of

formal qualifications) and requires management skills plus information from monitoring. Given personnel and financial constraints, there could be trade-offs between capacity for designing policies and for implementing them. On the other hand, these two types of capacity could be strongly correlated if they are influenced in the same way by common external factors, for example overarching performance incentives emanating from the wider political economy. Whether separate measures are necessary therefore remains an open question. In what follows, we will simply talk about state capacity as a whole, keeping in mind that it might have to be investigated at different levels empirically.

Should capacity for policy implementation be assessed in absolute terms or in relation to policy choices? Some policy decisions require little implementation capacity to be effectively put into practice (for example, the decision to deregulate a sector), while others require much more (for example, the decision to set up a new extension system). The correspondence between the degree of ambition of the decisions taken and the capacity of the state to implement them is thus important (Fukuyama 2004). Local conditions and historic path dependency may also influence the state capacity required to achieve given objectives (see Box 1). However, insofar as ambitious policies are

Box 1: Regulating African Cotton Industries

Tschirley et al. 2009 observe that all African cotton industries face the common challenge of providing high quality pre-harvest services and input credit to smallholder producers, whilst at the same time ensuring that these producers are paid an attractive price for the resulting seed cotton output. Post-liberalisation, a range of market structures has emerged at ginning level across Africa's cotton industries. Different structures present differing challenges for industry regulation, which in turn demand differing regulatory capacities, even though the ultimate objectives of regulation are the same.

Thus, where numerous ginners compete to procure seed cotton at harvest time (competitive sectors), producers tend to receive attractive prices for their seed cotton. However, ginners may have little incentive to provide extension advice or inputs on credit to producers and quality control can be poor. A regulatory agency that seeks to correct these "market failures" may require significant field presence for service delivery and/or quality monitoring. By contrast, in a sector dominated by two or three ginners (concentrated sector), problems of free-riding on pre-harvest service provision may be managed through informal inter-company coordination, thus creating conditions for contract farming arrangements to develop. However, lack of competitive pressure may be reflected in low seed cotton prices. Such sectors, therefore, need a central regulator (with appropriate political backing) that can maintain sufficient barriers to entry to preserve the basic concentrated structure, whilst at the same time ensuring that incumbent firms do not use their privileged position to depress seed cotton prices. Finally, in sectors organised into separate concession zones (local monopoly sectors), ginners should have adequate "security" to invest in pre-harvest service provision. However, whether or not they are incentivised to do so may depend on the terms of their concession agreement (How long is it for? On what conditions will it be renewed? Is the re-allocation process likely to be transparent and fair?). This suggests that the regulatory agency will need some monitoring capacity – to objectively assess the performance of the various concessionaires – plus the procedures to manage the zonal allocation process in a way that inspires investor confidence.

Source: Poulton et al. 2010

seen as necessary to lift the constraints imposed on agricultural production by markets failures, a focus on the absolute capacity of the state to implement any policy might be appropriate.

When looking at capacity for agricultural policy-making, how broadly or narrowly do we define agricultural sector institutions?

Foster et al. 2001 argue that one of the distinctive features of the agricultural sector is the multiplicity of players involved – not just private sector, NGO and state, but also the multiplicity of state agencies. Agricultural performance is influenced not just by sectoral policy (as well as crop-specific policies, which are sometimes developed and implemented by parastatal bodies) but also by macro-economic and trade policy, and all the policies targeting the development of the rural sector, including infrastructural and environmental policy. Even when narrowly conceived, agricultural policy may be largely the remit of one ministry in one country, whilst similar responsibilities are divided across a number of ministries (agriculture, livestock, irrigation etc) in another.⁴ When comparing capacity across countries, it is important to ensure that one is comparing like with like.

Are we interested only in capacity at the central government level or also at capacity at the regional or local level?

Another distinctive feature of the agricultural sector is its need for investment and policy implementation tailored to local agro-ecological conditions (Foster et al. 2001). Decentralisation has proceeded unevenly across Africa. In some countries, much of the capacity for agricultural policy implementation now rests within local government administrations. Polidano 2000 points out that data on staff and resourcing at local level can be even harder to obtain than data from central government. However, if (for example) extension remains a central government responsibility in some countries, but

extension staff are employees of local government in other countries, it is once again important to ensure that one is comparing like with like.

3. Direct Measures of State Capacity

State capacity is a function of both resources and incentives. Various indicators of both can be conceived and Figure 1 provides examples of some of these (chosen on both conceptual and practical grounds). Such indicators can be examined individually, then a subjective assessment made of what they imply for overall state capacity. Alternatively, if a single measure of capacity is desired, it is suggested that composite measures of resources and incentives are derived separately, then multiplied. This reflects the observation that neither resources without performance incentives nor incentives without resources will stimulate much in the way of agricultural development.

We identify two major categories of resources that the state requires: personnel (human capital), and finance. (We discuss information below).

Resources

Staff are arguably the most important asset of any organisation. For agricultural policy making, analytical skills are vital. Thus, an indicator of capacity might be the number of staff with a PhD (or possibly a Masters)⁵. For service delivery, however, staff numbers and coverage are important. Thus, an indicator of capacity might be the size of the staff within agricultural ministries (and possibly also in associated parastatal organisations) relative to the agricultural labour force or sectoral GDP. However, we recognise that greater human resources do not increase state capacity if they result from over-staffing due to politically motivated job creation or if staff do not have sufficient operating expenditure to enable them to function effectively.

Figure 1: Indicators of State Capacity for Agricultural Development

Resources	Incentives
Personnel per head of agricultural labour force	Average wage (for frontline extension worker and/or senior technical officer), US\$ p.m.
Number of staff with PhDs	Number of agricultural sector ministries (-ve)
Agricultural budget (US\$ per head of agricultural labour force or % of agricultural GDP)	Divergence between budgeted and actual expenditure of Ministry of Agriculture
Salary share of agricultural budget	Share of budget allocated to agriculture (%)
Share of agricultural budget funded by donors (-ve)	Ethnicity or political affiliation of Minister of Agriculture (relative to President)

X

The most obvious indicator of financial resources is the size of the combined budget of the relevant agricultural ministries and associated agencies (per head of agricultural labour force or as a percentage of agricultural GDP). A limitation here is that recurrent budgets in Africa are typically weighted heavily towards salaries. This suggests that a focus on budgets net of salaries might be more appropriate. Alternatively, the salary share of budgets could be taken into consideration in a separate indicator.

Fiscal capacity features prominently in the general literature on state capacity as a state's capacity to raise funds and sustain its budget are fundamental to all its other indicators. However, commonly used indicators, such as the share of the state's income arising from income/trade/total tax are poorly connected to the capacity of the state to promote agricultural development. On the other hand, the share of the agricultural budget (recurrent and development) funded by donors may serve as a useful (inverse) indicator of the true capacity of the state to sustain support for agricultural development, as well as possibly being correlated with strength of ownership over, and commitment towards, official agricultural development strategies.

It can be debated whether or not information should rank alongside personnel and finance as a fundamental category of resources that the state requires. Timely and reliable information is undoubtedly critical for effective decision making and management of policy implementation, and it is likely that the cost of such information varies across countries (inversely related to population density, for example?). On the other hand, where the performance incentives facing the state are strong enough, personnel and finance can and will be devoted to the gathering of such information. We, therefore, discuss information as an endogenous variable in section 4.

Incentives

Whether resources translate into capacity depends critically on performance incentives. Thus, van de Walle 2001 claims that, while "the individual educational level of manpower available to states in Africa increased dramatically in the first three decades of independence ... there is much evidence that the capacity of African governments ... actually declined between the early independence era and the 1990s" (page 130). He attributes this first and foremost to the politicization of African civil

services (instead of recruitment and promotion on merit), which in time contributed to corruption, low morale and absenteeism. Similarly, increasing budget size, even net of salaries, may reflect populist/electoral pressures to invest in redistributive programs rather than a real growth in state capacity or commitment to public goods provision (Joughin and Kjaer 2010). In the case of Malawi, Chinsinga and Cabral 2010 argue that increased resource flows in recent years (associated primarily with the implementation of the successful fertilizer subsidy programme) have not led to increased capacity on the part of the Ministry of Agriculture and Food Security. Rather, preoccupation with the subsidy programme has reduced the ministry's ability to undertake other tasks.

An important aspect of an organisation's capacity is its ability to learn from experience and, especially, from mistakes. Agricultural policy should continuously learn from, and be refined in the light of, experience from existing implementation efforts. However, whilst information and some analytical capacity are needed for this, it will only happen if there exist 1) strong political incentives forcing agricultural ministries to deliver high performance and 2) internal organisational culture and processes that encourage learning (Korten 1980).

For the purpose of deriving indicators, we divide incentives into three main categories: wage incentives for individual effort and morale, the incentives to act in accordance with public policy objectives provided by organisational processes (institutional arrangements), and the overarching incentives for organisational performance that are provided by the wider political economy setting.

Low wages are commonly linked to low morale and performance, as well as to the temptation to corruption. Depending on whether the focus is on capacity for policy making or implementation (or both), the preferred indicator might be the average wage of senior technical

staff⁶ or of front line extension workers. By contrast, at the highest echelons, basic salaries are less likely to reflect total incomes and thus incentives. We do note, however, that wages are not the only determinant of staff morale. Thus, Future Agricultures Consortium 2009 report the effect on the morale of extension workers in Kenya of rigid and centralised procedures for promotions that take little account of actual effort or performance. In a similar vein, Grindle 1997 highlights the importance of managerial control over hiring and promotion as a correlate of strong performance by public sector agencies.

Indicators that seek to measure the quality (including transparency) of key procedures within state agencies - for example budgeting and decision making - fit well with the Weberian ideal of bureaucracy and with the way in which the rational-legal component of the state is supposed to operate. (By contrast, patrimonial systems are highly personalised and subject to considerable individual discretion). This is the approach of a number of indicators within the World Bank's Country Policy and Institutional Assessment database, although the scores are not specific to agencies within the agricultural sector. Arguably, scores for corruption or red tape affecting trade or transport/infrastructure policies do not need to be collected at the agricultural level, as overall public sector performance in these areas will also impact state capacity for agriculture. However, if one is seeking indicators of the strength of formal procedures within the agricultural sector, one suggestion would be the discrepancy between budgeted and actual state expenditure on agriculture (averaged over a few years).

In terms of the political setting, one possible indicator of the incentives faced by policy-makers is the number of ministries dealing with agricultural-related issues (a higher score signifying lower performance incentives). In a neo-patrimonial state, a large number of ministries

may well (as in Kenya) reflect a perceived need to accommodate a range of ethnic or political interests within the governing coalition, but the correlate of this is that ministries are not allocated on the basis of performance. In practical terms, a larger number of ministries also creates greater problems of coordination in both policy making and implementation. Meanwhile, to measure the political importance attached to agriculture, one could look at the budget share devoted to this sector and/or to the political or ethnic origin of the minister for agriculture relative to that of the head of state. The political or ethnic origin of agricultural policy-makers could also be compared with the geography of different crops production, if capacity was to be investigated at the crop level, although this relationship is debated (Kasara 2007; Bates and Block 2009).

4. Indirect Approaches to Measuring State Capacity

Because capacity is difficult to measure directly (if only because it is the product of both resources and incentives, which are themselves difficult to quantify) one might also consider indirect measures of state capacity, such as outcomes and determinants (Kjaer et al. 2002).

While they are not specifically related to agriculture, a number of outcome indicators are available in existing databases to account for the legal capacity of a state: property rights protection indicators, ratios of private credit to GDP, indicators of the ease of access to credit or of the quality of business regulation. In the same vein, the evolution of fiscal deficits or the discrepancy between voted budgets and actual spending (in percentage terms) are often used in the literature.

In terms of policy-making outcomes at the agricultural level, particular emphasis should be placed on observed investment in agricultural public goods. Investment in public goods, such as agricultural research and extension, rural

roads and irrigation is widely perceived as the most efficient way of generating broad-based benefits for agricultural producers (Paarlberg 2005; Rausser and Roland 2009)⁷. However, such investments are not an effective patronage instrument, as benefits are medium to long run (hence not in line with electoral cycles) and widely spread instead of focused on a small number of influential recipients. Investment in public goods is thus likely to be strongest in countries where the state displays a strong rational-legal component (a strong bureaucracy for example) and in 'benevolent' dictatorships where the political horizon is more long term.

As per our earlier discussion, gathering of information for decision making and management of policy implementation is an important intermediate⁸ outcome of state capacity. Identifying appropriate indicators for information gathering is not easy, however, especially in states with high levels of donor investment. Management information systems may exist, but decision makers may not demand information from them. Frequency of nationally representative agricultural household surveys is one possible indicator, although not entirely immune from this critique.

When outcomes are used as proxies for state capacities, it is difficult to (i) clearly ascribe them to state capacity and (ii) measure 'pure capacity' or 'policy-free capacity', in the sense of a capacity to implement any type of policy, beyond normative appreciation. Whilst a clear theoretical framework can assist with the former, in the latter case what is likely to be observed is a mix of policy choice and pure capacity. The evolution of fiscal deficits or the discrepancy between voted budgets and actual spending, for example, reflect both the choice to reduce a deficit or to stick to budget allocation and the ability of the government/administration to effectively do so. On the other hand, recognising the importance of learning and adaptability as dimensions of capacity, high budget discrepancy or worsening

deficits could be a sign of high capacity in the context of a changing external environment. While overcoming such shortcomings is likely to be difficult, outside of a detailed case study perspective, this issue should be kept in mind when interpreting outcome proxies for state capacity.

Alternatively, state capacity can be viewed as a channel through which a number of political economy variables influence policy-making by impacting incentives. In this perspective, it could be approached as an endogenous variable and appreciated on the basis of measures of its potential determinants. Among such enabling conditions are ethnic fragmentation and the strength of civil society, measures of which are available for most African countries. They are believed to impact state capacity by influencing the “autonomy” that states enjoy from interest group pressure, although the link between autonomy and state capacity remains subject to much debate (a.o. Migdal, 1988; Evan, 1995, Weiss, 1998; van de Walle, 2001). It is also suggested that political stability or conflicts should be considered, as it is possible that in the face of strong instability, incentives will be distorted towards recovering political stability. Finally, the economic situation of a country is considered to play a role in state capacity through both the nature of economic

production (the underlying assumption being that sources of rents such as oil resources could reduce the incentives to build efficient institutions and means of tax raising); the impact of budgetary cuts that might arise at times of economic downturns; the indirect effects of inflation on incentives (notably through the losses in civil servant’s purchasing power and the resulting incentives to seek alternative means of earning their living); and external dependency, notably on aid.

5. Concluding Remarks: The Way Forward

The key argument of this note is that incentives are as important to state capacity as resources are. This makes the measurement of state capacity a complex challenge. We find strong theoretical and empirical support for investigating state capacity at the sectoral level. However, for agriculture this cannot be done using only pre-existing indicators and databases. Rather, it will require the collection of new data. The need for multiple indicators means that data collection and processing will be relatively costly. Moreover, the question of weighting will also have to be addressed if multiple indicators are to be summarized in a single measure, thereby allowing countries to be ranked in a comp

End Notes

¹ If power were instead obtained through the exchange of policies for votes, as in a “pure” democratic model, the discrepancy between stated public policy objectives and the exigencies of maintaining power – which is present in all political systems – would arguably be smaller.

² At times, van de Walle himself seems to consider incentives as an inherent part of state capacity. At other times, he distinguishes the two, as, for example, when he describes policy outcomes as “interactions between the clientelistic needs of neopatrimonial states, the extremely low capacity of these state structures [emphasis added], and the dominant economic ideas among policy elites in the 1960s and 1970s” (page 16).

³ A related question concerns the capacity of the executive (which is often seen as the key player in decision-making) as opposed to that of the bureaucracy/administration/public sector (which is likely to be the key player in policy implementation). However, interaction between the two levels is important for both policy making and implementation. Thus, senior bureaucrats play an important role in policy formulation (Polidano 2000) whilst the capacity of the executive to monitor the bureaucracy and obtain results from it (i.e. generate performance incentives) is important

for effective implementation.

⁴ Future Agricultures Consortium 2009 explain how the number of “rural development” ministries in Kenya has ballooned to nine during President Kibaki’s period of office, in a bid to accommodate more partners in the governing coalition. The same responsibilities are handled by two or three ministries in Malawi.

⁵ Where policy analysis is concerned, there may be some economies of scale. Thus, country A with an agricultural population twice as large as country B may not need twice as many people to analyse agricultural policy effectively.

⁶ We have in mind here the top grades that are not political appointments and, therefore, subject to regular change. According to Polidano 2000, the durability of these posts means that they can exert considerable influence over policy development.

⁷ One could also look at the frequency at which household surveys are carried out as a proxy for information gathering and decision-making state capacity. If we look beyond agricultural policy, investments in education and health could also be added to this list.

⁸ It is both endogenously determined and, in turn, a determinant of state capacity for agricultural development.

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