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INNOVATION LAB FOR FOOD SECURITY POLICY

Synthesis Report IV

Building Locally Led Agricultural Policy Analysis Capacity: Lessons from Experience in Developing Countries

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December 2019

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ACKNOWLEDGEMENTS

The authors appreciate valuable input from Chris Delgado, Thelma Awori, Moses Osiru, Steve Haggblade, Miltone Ayieko, Lulama Traub, Franz Swanepol, Nic J.J. Olivier, David Tschirley, Richard Mkandawire, Antony Chapoto, Chance Kabaghe, John Medendorp, and Cait Goddard.

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Abbreviations

AAAE	Association of African Agricultural Economists
AGRODEP	Agricultural Development Policy
APRU	Agricultural Policy Research Unit
APU	Agricultural Policy Unit
BAME	Bureau d'Analyses Macro-Economiques
BFAP	Bureau for Food and Agricultural Policy
BIDS	Bangladesh Institute of Development Studies
CAADP	Comprehensive African Agricultural Development Program
CARD	Center for Agriculture and Rural Development
CESD	Centre for Economic and Social Development
CMAAE	Collaborative Masters Program in Agricultural and Applied Economics
D/Systèmes	Département de Recherches sur les Systèmes de Production et le Transfert de Technologies (Senegal)
ECOWAS	Economic Community of West African States
FANRPAN	Food, Agriculture, and Natural Resources Policy Analysis Network
FAO	Food and Agriculture Organization of the United Nations
FAPRI	Food and Agricultural Policy Research Institute
FMRSP	Food Management and Research Support Project
FPMU	Food Planning and Monitoring Unit (Bangladesh)
FSP-IL	Food Security Policy Innovation Lab
GOS	Government of Senegal
IAPRI	Indaba Agricultural Policy Research Institute
IER	Institut d'Economie Rurale
IFPRI	International Food Policy Research Institute
ISSER	Institute for Socio-economic Research
LSMS-ISA	Living Standards Measurement Surveys-Integrated Surveys on Agriculture
LUANAR	Lilongwe University of Agriculture and Natural Resources
MDRI	Myanmar Development Research Institute
MLFRD	Ministry of Livestock, Fisheries and Rural Development (Myanmar)
MOAI	Ministry of Agriculture and Irrigation (Myanmar)
MoAIWD	Ministry of Agriculture, Irrigation, and Water Development (Malawi)
MOALI	Ministry of Livestock, Agriculture and Irrigation (Myanmar)
MSU	Michigan State University

NAAE	Nigerian Association of Agricultural Economics
NAPAS	New Alliance Policy Acceleration Support
NGOs	Non-Governmental Organizations
OECD	Organisation for Economic Co-operation and Development
OMA	Observatoire du Marché Agricole
PAPA	Agricultural Policy Support Project
ReNAPRI	Regional Network of Agricultural Policy Research Institutes
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
SIDA	Swedish International Development Cooperation Agency
UP	University of Pretoria
USAID	U.S. Agency for International Development
YAU	Yezin Agricultural University

Executive Summary

Agricultural policies affect almost everyone in the world, directly or indirectly. Improvements in agricultural policy analysis capacity can therefore significantly benefit society. This report synthesizes lessons learned from the Food Security Policy Innovation Lab's capacity strengthening efforts over the 2013–2018 period and from related capacity development initiatives conducted over the last four decades by the partner institutions in Africa and Asia.

"Capacity" is defined as the resources required for people and institutions to reach their objectives and achieve results in an efficient and sustainable manner. *Capacity development* is therefore the process of enhancing, improving, and unleashing such resources—in people, organizations, and systems. In this report, the term "locally led" refers to institutions registered in the host country, led by nationals of the host country, and often, but not necessarily, affiliated with a public university or government unit in the host country.

Why is the development of locally led agricultural policy analysis important? In principle, governments in developing countries could continue to receive policy analysis guidance from external research organizations, yet governments in most medium- and high-income countries rely on policy guidance from locally led research groups in their own countries. One lesson from capacity development initiatives is that governments are more likely to seriously listen to and engage with policy guidance provided by research units led by well-respected researchers in their own countries, who know the country, the culture, and the local politics surrounding agricultural policy issues. The impact of technical analysis and policy guidance cannot be divorced from policymakers' trust and respect for the person/group providing it. For these reasons, well-functioning locally led policy analysis units play a crucial role in an effective policy environment, and they can raise the probability that policy analysis will contribute to policy impact. These points in no way downplay the importance of international research units—in fact, they must often play a crucial support role to raise the capacities of locally led policy analysis units to improve the quality of policy decisions in their countries.

Few governments or development partners want to fund research for its own sake. Most funders of agricultural policy analysis capacity are ultimately interested in *policy impact*, which involves much more than just developing local capacity for policy analysis. Therefore, this report takes a holistic approach to capacity development, with the aim of improving evidence-based policy guidance and policy impact.

Models of agricultural policy analysis units in developing countries

Institutional capacity for agricultural policy analysis and engagement has tended to follow one of the following three models: (i) individual technical advisors or research units embedded in government ministries; (ii) institutes affiliated with local universities; and/or (iii) independent policy institutes or think tanks. The report examines the performance of numerous examples of these three institutional forms.

For example, under the Food Security Policy Innovation Lab, the technical advisor model has been employed in the Agricultural Policy Analysis Unit of the Myanmar Ministry of Agriculture, Livestock and Irrigation. In recent years, the Bill & Melinda Gates Foundation has also utilized this model through the Tony Blair Institute. A more extensive application of this model has been to set up an entire policy or technical unit within a ministry or national research system, such as with the Bureau d'Analyses Macro-Economiques (BAME) in the Senegalese Agricultural Research Institute, which is part of the Ministry of Agriculture. An example of university-based policy institutes is the Tegemeo Institute based at Egerton University in Kenya. Examples of independent agricultural policy analysis units include the Indaba Agricultural Policy Research Institute (IAPRI) in Zambia, the Bureau for Food and Agricultural Policy (BFAP) in South Africa, and the Bangladesh Institute of Development Studies (BIDS).

Key findings:

Six of the report's many findings are highlighted here:

1. **The importance of the policy ecosystem.** Capacity development has traditionally focused on improving *individuals'* knowledge and skills. An important conclusion of this report is that strengthening locally led agricultural policy analysis organizations requires explicit attention to the external environment in which these units operate. This "policy ecosystem" determines the scope for locally led policy institutes to develop and thrive. This is especially the case in recent years as foundations and bilateral and multilateral funding organizations have created new organizations with inevitably overlapping mandates. Investments in a new externally funded policy research or advisory organization may unintentionally marginalize local policy units with similar mandates but with far fewer resources to carry them out. Donors need to carefully consider how their funding decisions may unintentionally affect the viability of other actors and functions in the system.

   For example, in the context of Africa, there are many more PhD-trained agricultural economists in 2019 than in 1980. The Association of African Agricultural Economists (AAAE) had 46 members in 2004, rising to over 470 members in 2019 (AAAE Management Office, 2019). However, many of these African agricultural economists choose not to join African universities or policy analysis units due to perceived and/or real differences in workplace conditions compared with those of international organizations. Investments in individual capacity development do not necessarily improve the performance of locally led policy analysis units unless organizational and system-level issues are also addressed. One of the contributions of capacity development models emphasizing policy systems is the recognition that investing in the capacity of individuals alone may risk creating enclaves of better-educated nationals working, even in their own countries, for well-funded international organizations or new entities designed to respond to donor priorities. Such situations can restrict the development of locally led policy institutes.

2. **Recognize and support diverse kinds of policy analysis needs.** Policy institutes can produce three types of analysis: (1) demand-led analysis that responds to government requests; (2) analysis that is considered important to some stakeholders but not necessarily welcomed by governments (e.g., analysis of the impacts of government-imposed trade bans); and (3) "discovery" analysis that is not demanded by governments or stakeholders, but which creates new insights that influence future policy discussions and decisions. There are many examples of "researcher-led" discovery analysis leading to an improved understanding that subsequently influenced policies, such as IFPRI-led research on gender power relations, which has shown policymakers that gender relations affect not only household resource allocation but also the pace of a country's agricultural productivity growth. Another example is MSU-led research demonstrating how dietary change in Africa is altering employment in agrifood systems. Especially in light of rapid demographic and economic transformation in Africa, this third category of policy analysis can help African governments anticipate future opportunities and emerging challenges, so that they can proactively rather than reactively respond to them.

   A policy ecosystem that produces growth-enhancing, equitable policy decisions relies on all three types of analysis. Attempts to achieve quick wins or capture low-hanging fruit frequently rely on an evidence base created by research investments made five to ten years earlier. If support for the third type of research dries up, the evidence base to inform demand-led policy debates in the future may be lost.

3. **The importance of building credibility and demand for evidence among stakeholders.** Developing strong local demand for the work carried out by agricultural policy analysis organizations is crucial for their sustainability. This means that to generate quality knowledge products, policy analysis units might need to be more proactive, building a constituency of support from a wide range of public and private stakeholders, including civil society. It also means that policy institutes must understand that their mandates include actively working with governments and other stakeholders to translate research findings into policy discussions and ultimately policy impact.

4. **Evidence-based policy analysis requires data generation.** Agricultural policy institutes cannot produce evidence-based analysis without data. In recent years, the Bill & Melinda Gates Foundation has invested significantly in generating open-access data on farmer and consumer behavior through the Living Standards Measurement Surveys–Integrated Surveys on Agriculture (LSMS-ISA). This investment in data has made it possible for local researchers to provide evidence-based analysis to policymakers and to achieve a greater degree of consensus among researchers around particular policy issues. However, the number of African countries with nationally representative datasets is remarkably few. The LSMS-ISA surveys discussed above are carried out in only 8 of sub-Saharan Africa's 51 countries. It is therefore difficult to provide up-to-date evidence-based analysis to guide policy decisions on specific policy issues in most African countries. Creating an evidence base to guide policy discussions is a major priority for strengthening the effectiveness of locally led policy units. Ideally, data collection activities should be based on close collaboration between local policy institutes (which are likely to be in the best position to understand existing data gaps in the county) and government statistical offices, with clear protocols on how the data will be collected, supervised, processed, released, and utilized.

5. **Appropriate policy analysis models depend on objectives and timeframe for impact.** All three models of policy analysis—embedded advisors or units in government ministries, university-affiliated policy institutes, and independent policy think tanks—can be effective. The effectiveness of any particular model depends on objectives and timeframe for impact. The common denominator of success in any institutional capacity development model is effective leadership—setting a conducive internal culture that incentivizes individuals to bring out their best and to support the institute's objectives. This can be achieved in any model, but it is especially important to the policy institute model because the range of activities that a policy institute can fulfill in a country's policy ecosystem is broader than what is usually possible in the embedded technical advisory model. For funding organizations aiming to improve the policy-enabling environment over the long run and for sustainable development, clearly the locally led policy institute—affiliated with a credible national organization—is likely to be the most effective model.

6. **The importance of leadership and management.** The case studies examined in the full report demonstrate that leadership is critical for effective utilization of policy research institutions. In some cases, policy institutes received strong support from government and local stakeholders in their early years, but leadership in the university and institute were unable to raise demand for the institute's services and eventually core funding. A particular challenge for independent policy analysis institutes is that unless the institute succeeds in sustainably raising core funds for its operations, it often turns to local consulting activities to sustain its members. The core activities of the project—those established by government, core donors, or the institute's board of directors—can become neglected as staff pursue independent consulting arrangements to augment their salaries during periods when institutional funding is inadequate to fully support the staff. Also, because all three organizational models depend on external funding, research agendas can become driven by outside priorities.

Effective leadership of locally led policy institutes requires an effective balance between *externally facing* and *internally facing* responsibilities. Externally facing responsibilities include managing relations with governments, donors, and other stakeholders, thereby creating demand for the institute's activities; effectively prioritizing the various "asks" by stakeholders for the institute's work; and effectively managing relations with the institute's board of directors. Internally facing responsibilities include providing incentives to attract and retain quality research and administrative staff, and creating a conducive work environment that rewards good performance. For policy institutes affiliated with local universities, enlightened university leadership is also crucial for ensuring the effectiveness and sustainability of the policy research institute.

Conclusions

Today, many more nationals in Africa and other developing regions possess strong agrifood systems policy analysis skills as compared to 25 years ago. Many have been educated in world-renowned institutions, possess valuable technical skills, and can operate effectively in their countries given their superior knowledge of local culture and their connections with centers of local power. Greater support for locally led *institutional* policy analysis capacity can ensure that this greater supply of well-trained individuals translates into more effective and sustainable local policy analysis and policy impact.

INTRODUCTION

"No matter the amount of financial resources mobilized for Africa's development, such funds would yield only limited results if countries do not have the human, organizational and institutional capacity to absorb and effectively utilize them."

—African Development Bank Group Capacity Development Strategy, 2019.

Agricultural policies affect billions of people worldwide. Improvements in agricultural policy-analysis capacity may therefore have high payoffs. Evidence indicates that the greatest impacts of policy analysis tend to be indirect. By influencing public opinion, the nature of political debates, and policy discussions, analysis indirectly shapes perceptions and policies over time (Shulock 1999; Resnick et al. 2018).

Under the FSP-IL, the program partners Michigan State University (MSU), International Food Policy Research Institute (IFPRI), and University of Pretoria (UP) implemented policy capacity-development activities based on a range of approaches and institutional models. These include:

1. building the capacity of individual agricultural policy analysts through training in a number of areas, such as analytical methods, design and implementation of household surveys, statistical packages for analyzing survey data, preparation of public presentations, effective liaising with policymakers, grant writing, and the preparation of scholarly articles, articles for the mainstream press, and policy briefs for government policymakers;
2. developing the capacity of locally led[1] policy analysis institutions in developing countries, which includes those that are either fully independent or affiliated with host country universities;
3. seconding policy advisors to be based at ministries of agriculture to provide day-to-day technical support to their operations;
4. developing the capacities of regional or continental institutes or networks of institutes, such as the Regional Network of Agricultural Policy Research Institutes (ReNAPRI), the Food, Agriculture, and Natural Resources Policy Analysis Network (FANRPAN), or the Regional Strategic Analysis and Knowledge Support System (ReSAKSS).

This report summarizes the lessons learned from the FSP-IL's capacity-strengthening efforts over the 2013–2018 project period. We also draw on experience from related projects and capacity-development initiatives conducted over the last four decades by the partner institutions.

This report focuses on the ingredients of effective approaches for building locally led agricultural policy analysis capacity. Why is the development of locally led agricultural policy analysis necessary? In theory, governments in developing countries could continue to receive policy guidance from external research organizations, but there is increasing recognition that this approach has produced mixed results. Governments in most medium- and high-income countries rely on policy guidance from locally led research institutes in their own countries. Governments are more likely to seriously listen to policy guidance provided by research units led by well-respected researchers in their own countries—people who know the country, its culture, and the local politics surrounding agricultural policy issues. The impact of technical analysis and policy guidance cannot be divorced from policymakers' trust and respect for the person or group who is providing it. For these reasons and others, well-functioning locally led policy analysis units can play an important role in improving the policy environment in developing countries. These points in no way denigrate the importance of international research units. In fact, these international units must often play an important supporting role to raise the capacities of locally led policy analysis units.

[1] In this report, the term "locally led" refers to institutions registered in the host country, led by nationals of the host country and often, but not necessarily, affiliated with a public university or government unit in the host country.

It is crucial to recognize that many funders of agricultural policy analysis capacity are ultimately interested in policy improvement, which involves much more than just developing local capacity for policy analysis. Few governments or development partners want to fund research for its own sake. Therefore, this report takes a holistic approach, acknowledging that the goal is evidence-based policy guidance and, ultimately, policy impact, and considering alternative approaches for achieving this goal.

The paper is organized as follows. Section 2 describes the conceptual framework that guides our understanding of how local policy analysis capacity develops. We emphasize the importance of the "policy ecosystem," which highlights how progress in building institutional capacity is not just a matter of how an institute manages its internal affairs or builds the skills of its staff but is also greatly influenced by the behavior of other actors in the policy ecosystem—governments, development partners, and international actors such as CGIAR organizations and international universities—who influence the scope for locally led policy institutes to develop and thrive. Section 3 reviews experiences with developing locally led agricultural policy analysis units in various countries, examining the strengths and limitations of the approaches pursued, and the sustainability of the capacity-building investments made. Section 4 synthesizes the main factors that have contributed to the success or failure of various approaches. Section 5 summarizes the main findings and reflects on lessons learned for future policy analysis capacity-development efforts.

CONCEPTUAL FRAMEWORK: WHAT INFLUENCES THE PACE, SUSTAINABILITY, AND IMPACT OF POLICY ANALYSIS CAPACITY?

Capacity is defined as the resources required for people and institutions to reach their objectives and achieve results in an efficient and sustainable manner. *Capacity development* is therefore the process of enhancing, improving, and unleashing such resources—in people, organizations, and systems. Capacity development is a transversal activity that underpins the successful design and implementation of effective policies and programs (African Development Bank 2019).

2.1. The Role of Organizational Management and the Policy Ecosystem

The three levels of capacity development—individuals, organizations, and systems—operate synergistically. Interventions at one level influence performance at other levels. For example, the productivity of individuals is influenced by the resources and internal environment of the organizations with which they are affiliated (Ezeh and Lu 2019). Similarly, the performance of any organization is influenced by the behavior of other actors in the larger ecosystem of organizations. Agricultural policy analysis units are part of a policy ecosystem that includes public institutions, international development agencies, foundations, farmer groups, local universities, international universities and research institutes, private for-profit purveyors of technical analysis and policy guidance, civil society organizations, and other groups. These organizations interact within an ecosystem influenced by power relations, control over resources, and the goals and values of the individuals and institutions involved. The importance of addressing the overall ecosystem in efforts to develop institutional capacity in developing countries has been increasingly recognized in recent capacity-building frameworks, sometimes referred to as CD 3.0 (Figure 1). The main innovation of CD 3.0 is that it recognizes the need to focus on linkages between the capacity-development efforts at the level of individuals, organizations, and the broader ecosystem.

Figure 1: The Evolution of Thinking about Capacity Development (CD)

	CD 1.0	CD 2.0	CD 3.0
Who:	Individual capacity	Organizational capacity	Ecosystems capacity
What:	Skills and knowledge	Interrelated functions	Relational capacity
How:	Trainings, workshops, and seminars	Catch-all capacity building initiatives	Targeted capacity building

Source: FAO (2015).

Capacity building has traditionally focused on the improvement of individuals' knowledge and skills to enhance the performance of their organizations. Experience, however, demonstrates that investments in building the capacity of individuals may fail to build effective organizations due to internal organizational or ecosystem dysfunctions. For example, in Africa there are many more PhD-trained African agricultural economists now than there were in 1980. The AAAE has grown from 46 members in 2004 to more than 470 in 2019. However, many of them choose not to join African universities or policy analysis units due to perceived and/or real differences in workplace conditions compared to international organizations. As a result, investments in individual capacity development often fail to improve the performance of indigenous policy analysis units unless organizational and system-level issues are also addressed.

At the organizational level, the most important criteria influencing individuals' decisions to join and commit themselves to indigenous national policy analysis units include remuneration terms, length of contract, ability to build a quality research program, scope for recognition, upward mobility, mentoring, and job security. All of these issues are related to the institution's stability and long-term funding position. Individual and institutional capacity development are increasingly understood to be complementary investments, not substitutes. Investments in individual capacity development may unwittingly undermine the development of locally led policy institutes if top-quality local researchers prefer to join relatively well-funded international organizations working in their countries, which may then compete with locally led institutions for funding and influence. Without concomitant support to locally led research institutes, long-term donor funding of international research organizations or consulting groups may lock-in the historical advantages of non-local organizations and ultimately marginalize locally led policy analysis institutions. This does not mean that funding organizations should stop supporting international research groups in developing countries or stop local researchers from working for international research groups. Rather, one of the contributions of CD 3.0 is to recognize that investing in the capacity of individuals alone may risk creating an enclave of the better-educated nationals working, even in their own countries, for international organizations whose agenda may not always reflect national priorities and whose outsized powers to attract donor research funds may impede the development of locally led policy organizations.

2.2. Current Capacity-Development Models

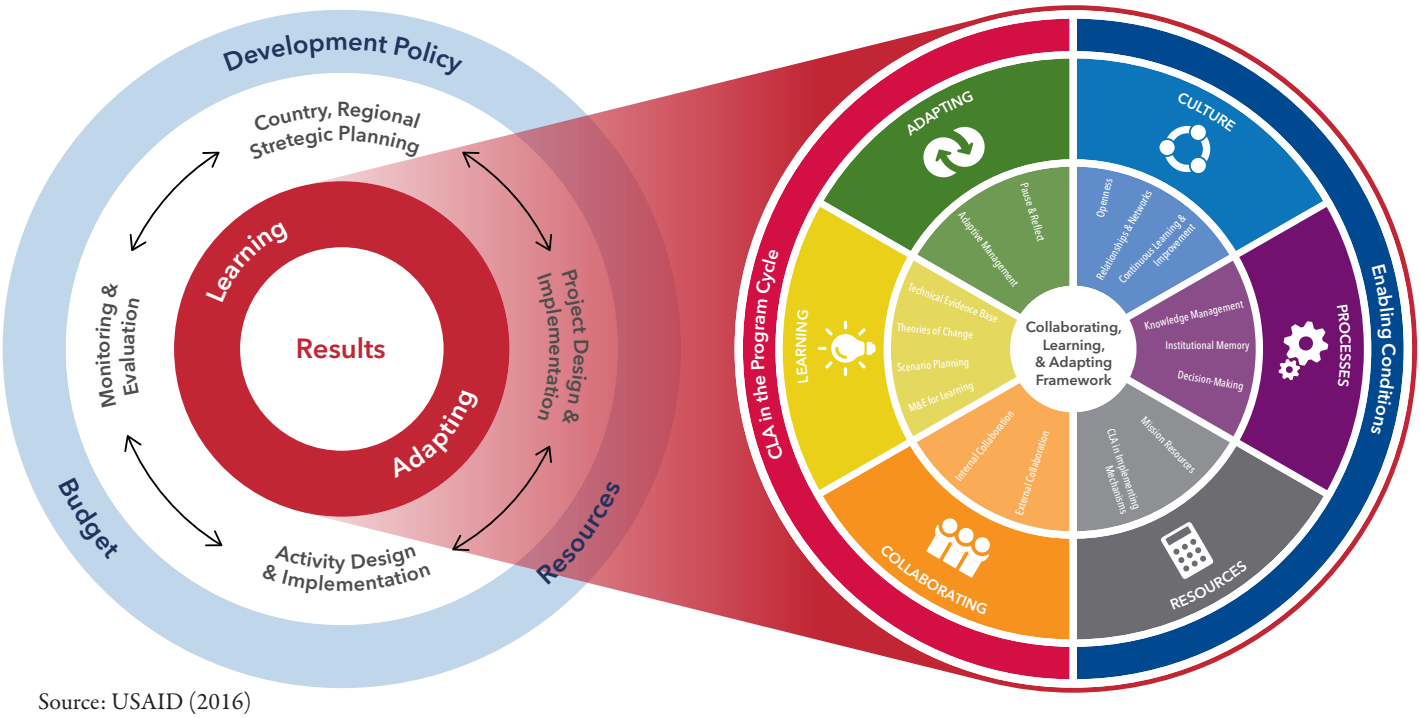
Recent capacity-development approaches explicitly reject the distinction between capacity-development providers and recipients, recognizing that all partners have comparative advantages that can contribute to the institutional capacity of the others, and that co-created approaches in a partnership among equals have the greatest probability of producing sustained impact. In important respects, effective institutional-capacity strengthening may require behavioral change from donors, research institutions, and consulting groups not just in "recipient" countries but also in high-income ones.

The U.S. Agency for International Development's (USAID) "collaborate, learn, and adapt" (CLA) approach to capacity building is an example of this co-creation/co-learning approach (Figure 2). CLA has become USAID's principal method for capacity development. Feedback loops that allow for adjustment to changes in the environment are essential to the adaptability of capacities to the local environment. The sustainability of the capacity developed at all levels depends on how well these capacities are institutionalized, locally embedded, and linked to the enabling environment.

Other conceptual models of capacity development include the Capacity Development for Agricultural Innovation System (CDAIS) framework. This framework has been formally incorporated into technical guidance for capacity building for USAID's Global Food Security Strategy. A policy process model developed by the FSP-IL is the Kaleidoscope model (Resnick et al. 2018), which has been used to examine capacity-development processes (Place and Hazell 2018).

While these conceptual models can accommodate the study of organizational management and the ecosystem, we are not aware of efforts to use them in ways that address and attempt to overcome the barriers to building indigenous institutional policy analysis capacity as described in Section 2.1. As inferred from Figure 2, often the focus is on creating country- or region-level strategic plans, project design and implementation plans, and monitoring and evaluation, paying attention to collaboration, culture, learning, and adaptation without specific reference to many of the difficult-to-anticipate, practical implementation issues that arise in the process of building locally led policy organizations.

Figure 2: USAID's Collaborate, Learn, and Adapt (CLA) Approach to Capacity Development



Source: USAID (2016)

An effective and sustainable approach to institutional policy analysis capacity requires a holistic *value chain* framing that recognizes that the quality of policy analysis in any country starts with broad human capital formation in the country (primary, secondary, and tertiary education), as well as specific training for policy analysis and research, policy-relevant data generation, data analysis, research and more focused policy analysis, policy guidance and interaction with decision makers, implementation, and monitoring and evaluation (SHAEA 2019). The main source of qualified policy analysts in almost every African country today comes from local universities, which means there is a strong correlation between the quality of national education systems and the research and management quality of policy analysis institutions. While this report focuses on the institutional policy analysis capacity aspects of this value chain, sustainable approaches to institutional capacity development must address all of the stages of the *policy analysis value chain*.

2.3. Alternative Types of Institutional Capacity Development in Developing Countries

Institutional capacity for agricultural policy analysis and engagement has tended to follow one of the following three models: (1) individuals or units embedded in government ministries; (2) institutes of local universities; or (3) autonomous policy institutes or think tanks. In theory, these models are not mutually exclusive, but in practice they compete for external funding and donors typically choose to fund only one organization, if any, in the agricultural policy analysis space.

Embedded advisory support in government ministry or research unit:

The first approach is to situate advisory support within ministries of agriculture or national agricultural research systems. The form of support can vary. A relatively lean and commonly used approach is to embed one or two technical advisors within a ministry, who provide guidance to a division director or permanent secretary or who may join teams organized around particular policy initiatives. Under the FSP-IL, the technical advisor model has been employed in the Agricultural Policy Analysis Unit of the Myanmar Ministry of Agriculture, Livestock and Irrigation; the ASPIRES Project in Tanzania within the Ministry of Agriculture; and the Policy, Planning, and Monitoring Division in the Ghanaian Ministry of Agriculture. The Gates Foundation has in recent years utilized this model through the Tony Blair Institute. A more extensive approach adhering to this model is to set up an entire policy or technical unit within the ministry or national research system, as with the establishment of market information systems in Mali (Section 3.1) and the development of the Bureau d'Analyses Macro-Economiques (BAME) within the Senegalese agricultural research institute, which is part of the Ministry of Agriculture (Section 3.7).

University-affiliated policy research institute:

The second approach creates or strengthens a university-based policy research institute and provides it with technical and capacity development. The university-based model may have the advantage of greater independence from the types of political suppression that sometimes affect policy units within ministries of agriculture. But university-based institutes are also more vulnerable to being ignored by ministries, unless they demonstrate their contributions and credibility. Some of the examples of university-based models include the Tegemeo Institute based at Egerton University in Kenya (Section 3.4); the Agricultural Policy Research Unit (APRU) based at the Lilongwe University of Agriculture and Natural Resources in Malawi (Section 3.5); the Institute for Socio-economic Research (ISSER) in University of Ghana; and the Research Center for Agricultural and Food Policies and Programmes based at Eduardo Mondlane University in Mozambique.

Independent policy research institute:

The third approach involves creating or supporting independent think tanks funded from local or external sources to build long-term analytical support for public and private sector stakeholders in the country. Examples of this model include IAPRI in Zambia (Section 3.3), established by MSU under the USAID-supported Food Security III and which serves as a collaborator in the current FSP-IL; BFAP in South Africa (Section 3.6), BIDS in Bangladesh (Section 3.11); and the Institute for Integrated Development Studies in Nepal. IFPRI has collaborated with and helped build the capacity of the latter two institutes.

As detailed in Section 3, each of these models has its pros and cons in terms of effectiveness in contributing to policy outcomes and in terms of developing sustainable capacity for policy research and analysis in the country.

CASE STUDIES OF EFFORTS TO BUILD INSTITUTIONAL POLICY ANALYSIS CAPACITY

This section uses selected case studies to review specific approaches taken under FSP-IL to develop policy analysis capacity in Africa and Asia. The choice of case studies includes focus countries under FSP-IL, as well as some cases involving the FSP-implementing partners that preceded the FSP-IL.

3.1. Mali: Institutional Capacity Development for Food Price Monitoring[2]

MSU's thirty-five years of experience of engagement with policy capacity building in Mali began in the context of cereal-market liberalization in the early 1980s. Food security was paramount among the policy priorities of the Malian government, seared into its political psyche by the humanitarian cost of the Sahel droughts of the 1970s. Food security was primarily associated with cereal availability and prices, especially in the "lean" season before the country's annual grain harvest. While the government reluctantly accepted liberalization of cereal markets as necessary, it was a leap of faith on the part of decision makers who had suppressed private-sector trading and storage for decades and had little trust in the private sector's capacity or behavior. A strong market information system that generated timely price information throughout the country, accompanied by analysis of the organization and dynamics of this system, was essential to give policymakers the confidence to relax their statist grip on the food system and allow the private sector to invest and evolve.

Development of OMA:

The organization established to undertake this critical function of data collection and analysis initially was called the Système d'Information du Marché; as its mandate expanded to products other than cereals, it became known as the Observatoire du Marché Agricole (OMA).[3] Its analysis needed to take into account regional supply and demand for cereals and, in an era before the internet or mobile phones, this required the establishment of a strong regional network of analysts and traders.

The success of OMA as an example of the use of evidence to guide decision making about market and trade policy led to requests for capacity building in other government units involved in analysis of policy formulation for the food system. These included:

- The Institut d'Economie Rurale (IER), Mali's national agricultural research organization. Collaboration led to the recognition of the need to develop capacity for value chain analysis to complement the research on farming systems and cost of production that had been the main focus of economic analysis in IER hitherto. The new Economie des Filières division worked closely with OMA to study agricultural marketing, agribusiness processing, farm input supply, and value chain dynamics;
- The Commissariat à la Sécurité Alimentaire (CSA), which implements Mali's National Food Security Plan, including its early warning and response system (the Système d'alerte précoce). MSU also collaborated with the CSA to develop participatory local food security plans for all 703 communes of Mali (the lowest administrative level), as well as their aggregation to district and regional levels, to enable local leaders to engage with government and civil society regarding their needs;
- The West African Regional Market Information Network (RESIMAO) and regional traders' network (ROESAO), which expanded the flow of information about market opportunities across West Africa. Both organizations grew

[2] For more details, see Dembélé et al. (2000); Dembélé et al. (2003); and Weber et al. (2005).

[3] Agricultural Market Watch.

out of regional market outlook conferences originally organized by MSU with USAID/Mali funding and now implemented on an ongoing basis by the Economic Community of West African States (ECOWAS) and the West African Monetary and Economic Union (UEMOA).

As the different analytical units engaged with MSU analysts grew in capacity and reputation, MSU worked with the Institut Polytechnique Rural/Institut de Formation et de Recherche Appliquée,[4] which at the time was Mali's only higher education faculty of agriculture and natural resources, to create the country's first undergraduate degree program in agricultural economics and agribusiness. Among the aims of this program is to educate a new generation of agricultural policy analysts.

Human capital is essential for organizational effectiveness, and five Malian PhDs and nineteen MS degree-holders were trained over this period. They have served in a variety of national and international roles, including Director General of Mali's food-security stock-management agency, the Office des Produits Agricoles du Mali; Minister of Agriculture; Minister of Livestock and Fisheries; Food Security Commissioner; and Chief Food Policy Advisor to the African Union. They have also worked at the IER, IPR/IFRA, the Office of the President, OMA, Ministry of Agriculture, International Institute of Tropical Agriculture, International Fertilizer Development Center, United Nations International Development Organization, and Permanent Interstate Committee for Drought Control in the Sahel. Rather than being a loss to Mali when graduates take up positions in regional or international organizations, this often serves to strengthen linkages and networking to mutual benefit.

Lessons from OMA:

OMA was more than a market information system. It was created to be an analytical unit from the beginning. The need for a unit that could provide analysis, not just information, arose from Mali's decision to liberalize cereal markets in the early 1980s in a context in which cereal prices were the single most politically sensitive issue, with memories of the Sahel droughts in the 1970s still fresh in people's minds. The longtime head of the unit, Salif Diarra, earned an MSc from MSU, while others underwent short-term training, mainly due to limited English language capabilities. OMA was a key member, alongside representatives from other government units, and would participate in regular food security meetings chaired by senior government officials. The network became more formalized with the establishment of a food security commission (CSA) office in the presidency.

MSU was the principal source of technical assistance to the OMA during its early years. However, via CIRAD and other agencies, French organizations played a very prominent role in other agricultural policy capacity-strengthening activities in Mali, as did the World Bank, the Royal Tropical Institute, and USAID-contracted consulting firms like Abt Associates and AIRD. MSU strongly supported regional networking whenever it could, in part because regional trade in cereals is a structural necessity in West Africa—with the humid coastal regions deficient in coarse grains and livestock and much of the interior deficient in rice. Aside from individual and organizational capacity strengthening, perhaps one of MSU's most important contributions over this period was to promote confidence in agricultural markets and trade, as well as communication and trust between the public and private sector.

3.2. Nigeria: Capacity Strengthening Through Collaborative Research with University of Ibadan and Others

MSU has been engaged with Nigeria since the 1960s when it fostered the establishment of the first indigenous Nigerian University. In the last six years MSU has been working with Nigerian institutions to strengthen local research capacity. This has been done through older established institutions such as the University of Ibadan and newer ones including universities in Niger, Kebbi and Ebonyi states. The main target of these efforts has been to develop effective and sustainable agricultural policy analysis capacity at Nigerian universities. One of the major assumptions of these efforts, consistent with most of the other case studies in this report, is that in general Nigerian policymakers will be more likely to seek and accept policy guidance from analysis led by local Nigerian policy and research institutes.

[4] At the time, this was Mali's only higher-education faculty of agriculture and natural resources.

The Food Security Policy approach used in Nigeria emphasizes research collaboration between international and local researchers as well as training and mentoring to support evidence-based policy engagement and dialogue in agriculture. This is done through a capacity-strengthening model focused on a training-of-trainers approach, viewed as critical for institutionalization and sustainability of the capacity-strengthening efforts. A key measure of success with this model is the ability of participants and trainees to independently conduct research and lead teams to do so. Another measure is trainees' commitment to transferring to other Nigerians the skills and knowledge that they have gained. A third measure is the adoption or incorporation of elements of the collaborative research, mentoring, and evidence-based dialog strategy into the research approach of trainees and their institutions.

Research activities are typically carried out through teams deliberately formed to include faculty at partner institutions and students at different stages of their careers and academic pursuits. The teams work together with stakeholders to identify the key research issues and then to design and implement the research studies and to disseminate them. This collaborative approach supports "reputation building" and "exposure enhancement" with publications jointly written by team members. The team of international and local researchers jointly write reports and briefs and then convert them into journal articles so that the analysis informs both the immediate policy debates in Nigeria as well as broader academic policy and research debates. Conceiving capacity strengthening as a two-way street, partner institutions are encouraged to involve ministries of agriculture and other relevant government agencies, as well as private sector actors, at early stages of research projects in order to better understand policy issues. All stakeholders participate throughout the research process, up to the dissemination of results.

Success from collaborative research extends beyond producing co-authored peer-reviewed journal articles and research papers. It also includes the development and dissemination of non-technical research-based communication pieces.[5] These pieces target different stakeholders (e.g., government, farmers, and processors) with the research findings most relevant to them, suitably packaged for easy access. Between 2015 and 2019 more than five collaborative research teams studied issues related to climate change and resilience (Schmitt-Olabisi et al. 2019), food safety (Liverpool-Tasie et al. 2018), the poultry value chain (Liverpool-Tasie et al. 2017), and the fish subsector (Gona et al. 2018). These efforts involved collaboration with ten different universities, more than seven different agriculture-related government ministries, and several private sector groups. The broad range of participants held fora in several Nigerian states, covering multiple issues and including different stakeholder perspectives. These teams have produced and disseminated five peer-reviewed journal publications, fourteen research papers, fourteen policy briefs, and three non-technical pieces to stakeholders (including but not only government) across more than ten different states in Nigeria. In general, team members in Nigeria present the findings; usually dissemination starts with joint leadership by the local and international partners but over time moves to leadership by Nigerian team members. This has built strong relationships between researchers and stakeholders. For example, in Kebbi State, the ministry of agriculture and the department of agricultural economics at the state university have jointly launched a research seminar series to present research findings and facilitate policy discussions.

An example to demonstrate the importance of training supported by mentoring stems from capacity strengthening focused on ministries of agriculture. To better understand how to maximize the potential of particular cash crops, and to prioritize policy actions at the state level, FSP-IL and Nigerian faculty have teamed up to help public officials analyze data collected but previously unused by state agencies. In 2016, a series of training activities were conducted for state government staff, including a workshop on data analysis and interpretation skills for linking data to policy. Participants were asked to bring to the workshop data on a priority crop. FSP-IL and Nigerian faculty trained the participants to analyze and interpret their data as well as to present their results to management in a policy brief. Following this training, MSU faculty worked with selected participants from the USAID focus states in Nigeria to edit and finalize their state policy notes.[6] This entailed more than eight months of exchanges between the authors (Nigerian faculty and staff of the ministry of agriculture) and FSP-IL faculty at MSU. After the finalization of the policy notes, the project included a formal presentation to the management teams at the respective ministries of agriculture. The notes on rice in Kebbi and Ebonyi states were formally adopted as state policy notes in 2017 and the one on rice in Niger state has been used to

[5] More information about this program is available at https://www.canr.msu.edu/fsp/countries/nigeria/communications.

[6] These notes are available at https://www.canr.msu.edu/fsp/countries/nigeria/communications.

advocate for public and private investments in the state. Two key lessons learned from this and other activities are that true capacity strengthening requires more than just training and that the stakeholders' outputs take time to evolve. Three days of training followed by more than eight months of mentoring and close supervision yielded policy notes that were used by stakeholders almost two years later.

Another capacity strengthening approach used in Nigeria is a scholars' program[7] that involves a competitively selected group of Nigerian students through the course of their research. This includes the conceptualization of the research problem, data collection, data analysis, and the write-up and presentation of results. Each scholar's program activities are developed individually according to the scholar's level and needs and in conjunction with a Nigerian academic advisor and MSU mentor. Each scholar has a scope of work developed with the active participation of all these stakeholders and takes courses at MSU to address identified gaps in knowledge and research. Scholars enhance their skills in data analysis through training in R, a free and open-source software that addresses the issue that software such as STATA is considered expensive for Nigerian institutions.

Mentoring starts during the scholars' tenure at MSU and continues after their return home. With the support of MSU and Nigerian researchers, scholars produce research reports, policy briefs and journal publications. Further, scholars train other Nigerians to benefit from the knowledge and skills gained through the MSU experience. In four years scholars have been involved in the production of over twenty-seven research outputs, twenty-one (approximately 80 percent) of which include them as the lead or sole author. These scholars have also made over thirty research presentations, conducted and facilitated MSU-organized R training in Nigeria, and have developed training manuals (one for academics and another for staff at ministries). Training activities to familiarize Nigerians in the use of R continues. Fourteen scholars that participated in the program in the last three years have trained over 1000 Nigerians on methods of data collection and analysis. Research-based, non-technical communication pieces produced by the scholars have been translated into Nigerian languages and are currently in circulation for farmers and other stakeholders.[8] Short oral pieces to be disseminated via radio, TV, and social media are under development. Investing in a few scholars is already benefiting thousands of Nigerians. Scholars are introducing technical concepts learned during the program to their departments via series of short courses and through dissemination of resources collected at MSU. They are institutionalizing research support activities such as brownbag seminar series in their home departments.

As part of the scholars' program, their Nigerian academic advisors visit MSU where they audit courses while interacting with MSU faculty, different academic units, research centers, and farms. This experience is invaluable for building networks as well as for exposing Nigerian faculty to cutting-edge research and teaching practices. Upon return to their institutions several faculty have modified their teaching and research strategies. For example, one faculty member from the University of Ibadan led a livestock value-chain research study using the collaborative research approach as he worked with various private sector and government departments. Another faculty member adopted a peer-learning approach to managing her graduate students, meeting with them weekly to develop their research skills through critique of each other's work. Having the advisors visit MSU has also contributed to the institutionalization of ideas adopted by young scholars, since advisors tend to have more leverage within their institutions to support the implementation of new ideas.

Capacity strengthening in Nigeria has also been done through collaborations with networks such as the Nigerian Association of Agricultural Economics (NAAE). Through this network of agricultural economists from all over the country, capacity-strengthening activities can have a much broader impact. Collaborations with NAAE include jointly organizing capacity-building events for young Nigerian researchers. Support has been provided for them to attend NAAE conferences, where MSU and Nigeria-based faculty lead special sessions for the young researchers followed by joint mentoring by leaders in Nigeria and the United States. Working with the association has also helped expand the exposure to research done on Nigeria by Nigerians. For example, a scholar-led initiative has enhanced the exposure of Nigerian research through online access to the *Nigerian Journal of Agricultural Economics* (NJAE) and AgEconSearch recently

[7] For more information on the scholars' program, see https://www.canr.msu.edu/fsp/countries/nigeria/visiting-scholars-program.

[8] See https://www.canr.msu.edu/fsp/countries/nigeria/communications.

announced that seventy-nine papers from the *NJAE* were downloaded from its site 10,676 times in 2018.[9] By training members of the editorial board of the association's flagship journal, the association has taken over the online publication of its journal.

Four key lessons have emerged from the Nigerian experience regarding capacity support for a strong, sustainable national network of researchers in agricultural economics:

- True capacity strengthening requires both training and mentoring, both of which take time. It is critical to appreciate that outputs for stakeholders take time.
- Local researchers and research networks should commit to proactively transferring skills and knowledge as they incorporate elements of collaborative research, mentoring and evidence-based dialog strategies.
- Working in teams, researchers and stakeholders should identify the key research issues, design and implement the research studies, and disseminate findings together.
- Supporting students and their advisors makes for faster institutionalization of new ideas gained from collaborative research teams or from being at MSU.

3.3. Zambia: The Indaba Agricultural Policy Research Institute (IAPRI)

Zambia has made great progress in developing African-led agricultural policy capacity and arguably has one of the region's strongest agricultural policy research institutes, IAPRI.

The Zambia experience demonstrates that it is possible to develop local policy analysis capacity within a decade if development agencies, international universities, local universities, and governments collaborate closely around a common vision. In the 1990s, agricultural policy analysis capacity in Zambia was among the lowest in the region. In 1999, USAID initiated an agricultural policy project headed by MSU, which over the course of twelve years sent three Zambians for MS or PhD training at MSU and hired several other freshly graduated PhD researchers from other U.S. and European universities to join the project in Lusaka. Slowly the MSU policy project built up a core team of Zambian agricultural policy analysts and facilitated their collaboration with senior MSU faculty serving two- or three-year assignments in Lusaka with long-term funding support from USAID.

The main limitation of the independent international university-led model was one of trust. Many government officials never fully embraced the project led by a foreign organization, especially when its research findings did not support current government policies.

Development of IAPRI :

By 2010, USAID and the Swedish International Development Cooperation Agency (SIDA) missions in Lusaka worked together with MSU to transform the project into an autonomous, Zambian-managed policy institute. The full transition took two additional years to erect the institutional structure, identify effective leadership, and build government support for this independent think tank.[10] Michigan State University continued to work closely with IAPRI to build the hard and soft skills of junior staff, and to interact frequently with IAPRI senior leadership on activity prioritization and development of international partnerships. MSU continues to sit on IAPRI's board of directors and an MSU professor serves as an adjunct IAPRI scholar along with faculty members from other international universities.

[9] See https://econpapers.repec.org/article/agsnaaenj/.

[10] IAPRI was incorporated in October 2011 under the Companies Act of the Laws of Zambia as a private company limited by guarantee, with a local board of directors drawn from various stakeholders including both the public and private sector. The first subscribers to IAPRI include the Ministry of Agriculture and Livestock; Ministry of Commerce, Trade and Industry; Central Statistical Office; University of Zambia; Institute for Economic and Social Research; Zambia National Farmers Union; Grain Traders Association of Zambia; Agricultural Consultative Forum; and two independent esteemed individuals as guarantors. In February 2012, IAPRI was officially launched by the Minister of Agriculture and Livestock, Honorable Emmanuel Chenda.

Today, IAPRI fills a number of diverse roles in the policy analysis and implementation process that go beyond policy analysis per se, including open-access data generation, periodic stakeholder meetings to disseminate research findings (including an annual agriculture budget analysis), coordination of public and private sector actors to debate and develop mutually acceptable stakeholder positions on particular policy issues, responding to Ministry of Agriculture requests for guidance on technical and/or policy issues, and the training of public sector analysts in response to government requests.

IAPRI's ability to provide evidence-based analysis—for its own use as well as for others—comes from USAID and SIDA's willingness to support the institute in collecting periodic rural household panel datasets, which makes it possible for IAPRI's analysis to be up to date and responsive to current policy priorities. The combination of policy analysis capacity plus sustained donor support for data generation created two of the many preconditions for a local policy institute to effectively contribute to important policy discussions in Zambia. USAID and SIDA's sustained commitment to the institute's development is one of the key ingredients of IAPRI's success to date.

IAPRI management set up international remuneration terms to attract and retain highly qualified researchers. Researchers were able to build their own research programs and receive mentorship and training from international collaborators. Able leadership made it possible for IAPRI to forge and maintain good relations with key public and private stakeholders as well as with funding partners.

Lessons learned from IAPRI:

Several observations about sustainable capacity development have emerged from the Zambian experience. First, IAPRI faced a number of crucial challenges through its initial years, and if the institution did not continue to obtain committed five-year funding tranches from two separate bilateral donors and capacity support from international collaborators, it might not have survived. Even though it was fully managed by Zambians, some of whom formerly served in senior government positions, government trust in the new institution did not come automatically. While the government was accustomed to critiques of its policies by international organizations, it often seemed surprised by the degree to which the new local institute also highlighted the need for policy and regulatory changes to make policies more closely aligned with stated national objectives. It took time and a number of tests for IAPRI to show that its policy positions were based on evidence-based analysis and well meaning. Over time, these concerns have subsided, and the Ministry of Agriculture now treats IAPRI as a trusted and valued partner, frequently asking IAPRI to carry out short-term and long-term policy analysis on its behalf. Because of the strength and respect of its leadership, IAPRI in Zambia plays many of the coordination and consensus-building roles that donors funding agricultural transformation organizations (ATOs) play in other countries such as Kenya and Ethiopia.

However, IAPRI faces several major challenges. The first issue is how closely to affiliate the local institute with the University of Zambia and its Faculty of Agriculture. Senior IAPRI leadership resisted formal affiliation, citing concerns over autonomy, ability to nimbly respond to opportunities without depending on the university apparatus to access funds and/or staff, and worries over staff being forced to adhere to university salary structures that were far below international market rates for qualified MS and PhD agricultural economists. As a private company, IAPRI has been able to avoid these problems. Because IAPRI maintains an internationally competitive salary structure, its staff members have generally made long-term commitments to the organization and have rarely been lost to international organizations. An internationally competitive salary structure has certainly promoted IAPRI's sustainability and quality of analysis, though it is sometimes spoken of as a relatively high-cost supplier of policy analysis. However, IAPRI's lack of formal affiliation with a recognized public organization in Zambia, such as the national agricultural university or the Ministry of Agriculture, makes its long-term position in Zambia's policy analysis system no more legitimate than any other independent nongovernmental policy analysis group that may come along. For this reason, IAPRI currently lacks the charter that would encourage the Zambian government to eventually provide recurrent financial support to the institute. Hence, IAPRI remains very much dependent on international donor support.

One of IAPRI's major challenges is therefore to identify a sustainable funding model. In response to this, IAPRI has set up a "business development unit," a consulting arm that manages the demand for short-term consulting work from

organizations such as the World Bank, other bilateral donors, and international research organizations. While this approach is able to fund about a third of IAPRI's operating costs, it imposes a high cost by occupying the institute's key staff as short-term consultants for international groups rather than allowing them to focus on the strategic issues laid out in the organization's annual work plans, which are based on consultations with key Zambian stakeholders. If these competing demands on IAPRI's research staff are not carefully balanced, the institute could risk losing support from government stakeholders and the two development partners that fund the institute's core activities.

3.4. Kenya: Egerton University's Tegemeo Institute

Kenya also has a longstanding local agricultural policy institute, the Tegemeo Institute for Agricultural Policy and Development, but it was constituted according to a different model than that of IAPRI in Zambia. In the mid-1990s, USAID chose to discontinue a policy project headed by Stanford and Arizona State University and encouraged the Kenyan research staff to form a policy analysis unit located within Egerton University, one of Kenya's main agricultural universities. This structure provided immediate government support, as the institute received financial and in-kind support through the publicly funded Egerton University. USAID/Kenya provided long-term support to Tegemeo for twenty years, starting in 1997.

Role of Tegemeo:

As an arm of a public university, Tegemeo was forced to comply with Egerton University pay scales, which provided far lower salaries than those offered comparable analysts in international organizations. As a result, the institute had trouble retaining excellent researchers, many of whom left for higher-paying jobs with international research institutions, the private sector, and even the donor organizations that were funding Tegemeo. Still, sustained USAID support made it possible for continuous staff development training, with over ten Egerton staff receiving MS or PhD degrees at international universities. Bonding requirements ensured that these scholarship recipients would return to Tegemeo for several years at least. However, few of these internationally trained staff would stay beyond this minimum requirement because of the discrepancies between local and international salary scales. Over time this problem was acknowledged and has been addressed by revising pay scales more closely aligned with international levels.

Starting in 1997, USAID supported the Tegemeo Institute to collect rural household panel surveys every three years to provide the evidence base for policy discussions in Kenya and later to monitor the impact of USAID's programs. The Tegemeo panel surveys established a model that the World Bank and the Gates Foundation would later emulate in other African countries through the LSMS-ISA. This data, plus a relatively high level of analytical capacity in Kenya and effective management over a sustained period, enabled Tegemeo to produce some important policy work. Tegemeo also made alliances with international universities that enhanced the quality of its outputs. It held many well-attended and acclaimed policy conferences in Kenya and was integrated into important government agricultural initiatives. It was valued by both donors and by Egerton, which benefited from the indirect cost recovery of grants to Egerton. For a period of time, especially between 2000 and 2010, Tegemeo's role went well beyond simply producing analysis. With active encouragement and guidance from USAID/Kenya, Tegemeo also assumed a leading role in policy engagement and debate, informing public sector leaders about the issues, engaging in policy advocacy (including by embedding one of its senior analysts in the Ministry of Agriculture for a three-year period), contributing members to government technical committees and working groups, and facilitating policy coordination and harmonization of support across the Ministries of Trade and Industry, Agriculture, Lands, and Finance, as well as private sector stakeholders.

However, changes in Tegemeo's leadership and changes in the degree of interaction with the institute's main funding partner (USAID) led to a gradual reduction in its visibility in local policy discussions.

Lessons learned from Tegemeo:

Like other policy organizations, Tegemeo also had to deal with the common challenge of its staff being approached for individual consulting work. Donors unwittingly contributed to a free-rider problem: While USAID funded the institute's long-term costs—including keeping a core team of researchers in place, covering the costs of data collection necessary to carry out evidence-based analysis, PhD training of Tegemeo's MS-level staff, and periodic policy conferences and

workshops in Kenya—other donors were only willing to pay the marginal cost of consulting time for specific analyses of interest to them. The ability of the institute to deliver on its core mission become progressively compromised to the extent that Tegemeo research staff with full-time responsibilities to their core funding mission were diverted by short-term consulting opportunities. Over time, USAID determined that it could not continue to bear the long-term operational costs and terminated this type of support to the institute in 2017. The institute currently receives smaller short- and medium-term grants from several donor organizations, and operates with a much smaller cadre of research staff. Today it cannot make the same wide-ranging contributions to policy discussions and government strategies that it did in 2010, but it still has well-trained researchers and the potential to recover its former influence if sustained long-term funding can be re-established. Sustainable funding will in turn require ensuring that the institute consistently performs at a high level and effectively manages its relationships with others in the policy space, especially government, Egerton University management, and funding partners.

3.5. Malawi: Agricultural Policy Research Unit (APRU) at the Lilongwe University of Agriculture and Natural Resources (LUANAR)

Owing to the historical quality of primary, secondary, and undergraduate education at the University of Malawi (both Bunda College and Chancellor College), a large number of Malawians were admitted to international MSc and PhD agricultural and development economics programs in the 1980s and 1990s. Malawi has hence benefited from having many well-trained Malawian agricultural and development economists, many of whom have returned to LUANAR (formerly University of Malawi Bunda College) and Chancellor College. However, very few of these well-trained individuals have seriously engaged in an indigenous Malawian agricultural policy research institute despite the fact that such an organization has existed at University of Malawi Bunda College/LUANAR since the mid-1990s.

Development of APRU and CARD:

The APRU was established in 1993 and was supported by USAID funding and technical assistance from the University of Minnesota and Tuskegee University. APRU later became a part of the Center for Agriculture and Rural Development (CARD), the larger institution at the University of Malawi/Bunda that was also created in 1993 to manage research and development projects. CARD was created to provide research support to all the departments of Bunda College while APRU was specifically meant for the agricultural economics faculty. One year before, in 1992, the regional food security program initiated by IFPRI began supporting the Department of Agricultural Economics and Rural Development in developing an MSc-level graduate program in agricultural economics with emphasis on policy analysis. APRU also supported several faculty members who were sent to receive their PhD degrees overseas, most of whom returned home to serve in the department. IFPRI continued to work with the department over the years to build its capacity for teaching and research.

The APRU and the MSc program were supposed to work together on research projects and student advising. These two programs were further complemented by the World Bank's support to the Ministry of Agriculture under the agricultural sector loan. This loan helped to build the student hostel and an Agricultural Policy Training Center adjacent to APRU, where policy analysts from the Ministry of Agriculture would be trained routinely on specific policy issues facing the ministry and methods for addressing them. Together, these programs formed an integrated package that included the generation of research that would feed into policy discussion, long-term capacity development to sustain the process, and short courses designed to build the skills of mid-career staff at the Ministry of Agriculture. CARD and APRU were set up to initially receive government and donor funding but to later sustain their activities through service provision.

Since 2013, USAID has supported the creation of the New Alliance Policy Acceleration Support: Malawi Project (NAPAS: Malawi). NAPAS enables staff from the FSP-IL at MSU and IFPRI to provide policy advisory support to the Ministry of Agriculture, Irrigation, and Water Development (MoAIWD) to better enable the government of Malawi to achieve its agricultural policy goals. A recent independent evaluation of NAPAS indicated that it helped the government to draft agricultural bills and policy positions that the government valued. However, the external evaluation also noted that the project experienced difficult working relationships with key MoAIWD officials and was generally unable to build the capacity of local policy institutes at LUANAR or at the MoAIWD.

Lessons learned from APRU and CARD:

About a quarter century later, the Department of Agricultural Economics of LUANAR today has grown to become a faculty (further expanding into agribusiness, rural extension and development, and communications programs) that offers PhD degrees in agricultural economics. LUANAR is now recognized by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) as a "center of excellence" in agricultural economics in the region.

By contrast, APRU and CARD have continued to struggle. While USAID continued to support the research and the educational programs of APRU through scholarships and research projects in the agricultural policy area, the individual-level training has not been applied to strengthen the performance of the institutes. APRU-affiliated faculty tend to cultivate individual consulting arrangements with the major funding partners rather than encouraging funders to formally partner with APRU. Many Malawian analysts have developed very good capacity for household data collection and analysis, and funders have been generally content to work with these individuals and their network of LUANAR graduate students and associates rather than to take the much more difficult and time-consuming path of routing projects through the institute. Essentially, APRU and LUANAR resources have been privatized, enabling senior faculty members to leverage LUANAR graduate students and other LUANAR infrastructure for their consulting work, while still obtaining guaranteed university salaries for their official duties at LUANAR. One possible interpretation is that what has been missing is the university leadership required to incentivize LUANAR researchers to commit themselves to building APRU and CARD.

Another issue that has been informally raised in Malawi is whether APRU/LUANAR researchers are influenced by concerns that funding could be jeopardized if their analysis challenges the policy positions of the government. This has led to some suspicions of self-censorship in the work undertaken by local policy analysts—a concern that arises worldwide and even in developed, democratically governed countries—but it seems to be particularly problematic in Malawi, perhaps because of the lack of a policy institute with a strong brand for credible, unbiased analysis that can withstand occasional pressure from government. As a result, for politically sensitive policy analysis, development partners often prefer to fund international groups such as IFPRI, which also operates a field office and research program in Malawi.

In summary, APRU seems to have lost credibility over time in the eyes of both donors and the government. In contrast to the situation with Kenya's Tegemeo and Zambia's IAPRI, most of the agricultural policy projects undertaken by APRU staff are contracted between donors and individuals. This skews donor funding toward short-term consultancies rather than long-term programs that integrate institution building, research, policy analysis, and policy coordination.

A key lesson from building policy research and analytical capacity in Malawi in the last thirty years is that unless the local capacity is organized effectively through institutional development and policy-system strengthening, the investments made by donors to educate and train individuals in policy analysis capacity may not contribute to the development of indigenous policy analysis institutions.

3.6. South Africa: The South African Bureau for Food and Agricultural Policy (BFAP)

The Bureau for Food and Agricultural Policy (BFAP) was established in 2004 as a virtual organization consisting of researchers associated with the Department of Agricultural Economics, Extension and Rural Development at the University of Pretoria, the Department of Agricultural Economics at the University of Stellenbosch, the Provincial Department of Agriculture in the Western Cape, various industry organizations, and a private sector network with a shared vision for the agricultural sector in South Africa. In the initial years, the University of Missouri's South African Education Program and the Food and Agriculture Policy Research Institute (FAPRI) actively collaborated with University of Pretoria researchers to provide a strong foundation for the empirical modeling work undertaken by BFAP.

Role of BFAP:

The Bureau's mandate is two-fold: to inform and support decision making by stakeholders in the agrifood, fiber, and beverage sectors across the continent of Africa and to develop capacity in analysis and research relevant to the sector. As with many of the other agricultural policy analysis institutes in the region, BFAP carries out applied agricultural policy

and business analysis, including foresighting, scenario planning, commodity market projections, value chain analytics, and food price and farm-level analysis. BFAP has also been actively involved in supporting the land reform policy process in South Africa.

The initial funding and support model consisted of a combination of direct financial contributions from the private sector and commodity organizations, as well as in-kind contributions by private sector, industry organizations and the Pretoria and Stellenbosch Universities and Western Cape Provincial Government. These included the secondment of selected staff and access to databases, models and infrastructure. Although the relative weight of funding and support has fluctuated over time, BFAP has sought funding from diverse sources including partners in the public, private, and NGO and donor sectors.

Today BFAP is an independent nonprofit company established under South African law, with a board of directors and corporate structure aligned with principles of good corporate governance. Currently, three of the four directors are full-time salaried staff of the Universities of Pretoria and Stellenbosch. Furthermore, several BFAP researchers hold part-time appointments in agricultural economics at the University of Pretoria and Stellenbosch University, supporting academic output through journal articles, supervision of graduate students, joint research publications, and teaching. BFAP also funds bursaries for postgraduate students. In exchange for BFAP analyses, the Provincial Department of Agriculture in the Western Cape also supports BFAP through joint research projects, shared databases, and financial support for the annual launch of the BFAP "Baseline" Food Supply-Demand Projections. Similarly, the Bureau for Economic Research and BFAP collaborate on macroeconomic forecasts and models for the wine industry.

Currently, BFAP also receives support from partnership agreements with fifteen industry organizations in South Africa. A memorandum of understanding exists with the Department of Agriculture, Forestry and Fisheries and the government's own agricultural marketing advisory body, the National Agricultural Marketing Council. International partners include FAPRI (University of Missouri), MSU, the Food and Agriculture Organization of the United Nations (FAO), the OECD (Paris), and agribenchmark (Thünen Institut - Germany). As with Tegemeo and IAPRI, BFAP is also a member of the recently formed Regional Network of Agricultural Policy Research Institutes (ReNAPRI, see Section 3.8), which provides a platform for regional policy research and analysis. In collaboration with FAPRI at the University of Missouri, staff from the University of Pretoria and BFAP have also actively supported capacity building and training in partial equilibrium modeling over several years. This work has been included in a recurrent session on price and supply-demand projections at ReNAPRI's annual policy stakeholder conferences. The FSP-IL funded this capacity-development activity until early 2019.

BFAP produces an open-access annual baseline assessment and outlook for the South African agricultural economy. The current version projects agricultural production, consumption, prices, and trade in South Africa for the period 2018 to 2027. The baseline draws on an outlook generated by the BFAP partial equilibrium model in conjunction with the global outlook of commodity markets developed by FAPRI and the OECD and FAO. The annual launch of the outlook report gets wide coverage in the South African press and BFAP also releases regular updates on agricultural growth, trade, and food price inflation. BFAP's partnership with industry organizations and the private sector in South Africa and the region are strong. Apart from one contract with the Department of Agriculture, Forestry and Fisheries, it has few requests for assistance from the South African government. BFAP notes that the majority of policy requests come from industry organizations in combination with government.

Lessons from BFAP:

The BFAP model has several key features. BFAP benefits from strong leadership and the support of the South African universities with which it is affiliated. Publications of regular outputs (the outlook reports and other communications) and the active engagement on public-private sector platforms, such as the Maize Forum and Fruit Industry Round Tables, provides predictable access for policymakers and organizational leaders who need timely inputs. Visible engagement with stakeholder groups, industry forums, and associations such as the Agricultural Economics Association of South Africa and the African and International Associations of Agricultural Economists provides opportunities for interaction with

academics, public officials, producer organizations, and the private sector. Because BFAP is independent and outside governmental structures, it is not affected by electoral cycles or the vagaries of public budgets. The diversified funding model also insulates BFAP from the funding cycles of the separate entities.

However, BFAP is facing several challenges. As with most local policy institutes in the region, the unforeseen exit of key staff could unsettle BFAP's ability to deliver quality. Without core funding, maintaining a steady flow of products such as the BFAP outlook reports can be difficult. Yet the steady flow and the consistent engagement and participation in public-private sector forums is what keeps policymakers and business leaders aware of BFAP and its ability to respond quickly to emerging policy challenges. The institute's core work revolves around partial equilibrium modeling suitable to providing commodity price and trade projections. It has limited expertise in analysis of the farm household surveys that form the foundation of policy analysis institutes in other countries such as Zambia and Kenya. At present, the Bureau aspires to meet international standards and is well regarded within South Africa.

It must be noted that South Africa's economy is more developed than that of most other African countries, which influences the overall resources and organizational support provided to UP, in turn providing advantages to BFAP relative to those bestowed upon other locally led African policy research institutes.

3.7. Senegal: The Bureau d'Analyses Macro-Economiques (BAME)

MSU had a succession of three projects funded by USAID between 1982 and 1992 to support the activities of the Institut Sénégalais de Recherches Agricoles (ISRA), the national agricultural research institute of Senegal. The objective of the three projects was to incorporate agricultural policy analysis into ISRA's program, which previously focused mainly on agronomic issues. MSU's project supported the creation of two new units within ISRA: a unit to carry out research on farm production systems (Département de Recherches sur les Systèmes de Production et le Transfert de Technologies, D/Systèmes) and a unit to carry out agricultural policy analysis (BAME).

An MSU in-country team was based in the same office complex as ISRA, supporting both units. The MSU contract was the principal source of technical assistance to the BAME. It included two in-country MSU faculty on long-term assignment, supported by three MSU PhD student researchers and a number of junior Senegalese MS agricultural economists trained under the contract. The project also trained twenty-one junior ISRA employees in MS degree programs covering seven academic fields at eleven participating universities throughout the United States. French government and university support to BAME was also critical; CIRAD in particular played a major role in the development of ISRA and BAME.

In the early 1980s, the government of Senegal (GOS) was reassessing its agricultural policies and programs, with the support of the World Bank and USAID.[11] The BAME's original mission was "to carry out macro-economic research on food, nutrition and agricultural policies in order to provide guidance to policymakers on economic and institutional constraints on agricultural production and marketing with emphasis on the food grain subsector" (Newman, Crawford, and Faye 1987). MSU staff and the director of BAME identified two necessary conditions for the BAME to become an effective policy analysis unit. First, the BAME should be located within ISRA. This would foster a scientific research orientation, rather than a focus on shorter-term, "quick and dirty," and perhaps less objective studies. Second, it would also help ensure adequate attention to agricultural, rather than general, economic policy issues.

On the first point, several ministries and other agencies opposed placing a "macro-economic analysis" unit within ISRA. However, support from a World Bank project allowed ISRA to overcome these objections. On the second point, in order to justify its existence to GOS policymakers and to help it obtain support from donor agencies, the BAME needed a well-defined research program that addressed issues of current policy concern. Such a plan would also help the BAME refuse requests for ad hoc studies motivated by special interests, thus protecting the BAME from becoming a consulting firm or statistics collection agency.

[11] The following sections draw heavily from Bingen and Crawford (1988).

With the help of MSU, the BAME prepared a draft document that identified priority areas for research and adopted a "food systems" framework that identified producers, traders, processors, and consumers all along the value chains as the conceptual basis for the BAME's research (République du Sénégal 1983). By 1984, detailed research plans and budgets were finalized for six BAME programs. Similar plans and budgets were prepared each subsequent year as part of ISRA's regular programming and budgeting process.

The BAME's contribution to agricultural policy:

The BAME established a reputation as a Senegalese institution capable of conducting timely policy-relevant research and it continues to operate today. By demonstrating the value of such research, the BAME helped create a demand for more and better information on which to make policy decisions. Improvements to both the supply of and the demand for policy-relevant analysis are vital in strengthening national policy analysis capabilities. GOS and donor staff regularly consulted with BAME researchers or sought BAME involvement in specific studies. The significant impact of BAME research can be attributed not just to the quality and relevance of the studies, but also to procedural innovations such as the use of working papers and information notes designed to rapidly get information to policymakers. BAME researchers also participated on government task forces, publicly presented research results, and briefed USAID/Dakar personnel. The BAME's research approach therefore represented a successful blend of traditional scientific research, with its high quality but long gestation, and ad hoc studies that were timely but reached less depth. BAME's investment in the first type of study made it possible to provide rapid response analysis superior to that of typical consulting groups that could not draw upon a wealth of prior data collection and in-depth analysis.

Factors contributing to the success of the project and the BAME:

1. Project design process. A collaborative design process was used, involving USAID/Dakar, ISRA, and MSU. Two of the three MSU design team members joined the long-term in-country team.
2. On-campus support. The project allowed for significant and valuable on-campus managerial and technical support.
3. Local leadership. Early leadership from the director of both the D/Systèmes and the BAME, provided very strong and inspirational technical and managerial leadership. He had the necessary stature and was astute enough to win support for the BAME as a unit within ISRA, to protect BAME researchers from being co-opted as consultants for government ministries, and to communicate the value of BAME researchers to key government decision makers.
4. Technical assistance. All members of the in-country team contributed technical competence, French language skills, and relevant experience. The MSU PhD researchers also had relevant prior experience and solid technical and language skills, commitment to doing ISRA-relevant research, flexibility in terms of required living conditions, and lower costs. All MSU staff and research associates assumed low-profile assignments within ISRA. They were considered as ISRA researchers first, and as MSU team members second. The presence of a number of high-quality, experienced Senegalese and French researchers working in the D/Systèmes also supported the effectiveness of many BAME research activities.
5. Research focus and modus operandi. The emphasis on supporting both micro- and macro-level research activities had a significant payoff in terms of research relevance. Support for both BAME's production systems research and applied economics programs made this possible. The fact that both units were housed in the same office, and directed by the same ISRA scientist, also contributed to the integration of the two research programs. Also critical in ensuring the policy relevance of the research was the use of working papers and information notes as a means of disseminating results quickly, promoting policy dialogue, and encouraging review of preliminary findings and modification of ongoing research activities when necessary. The concept of the working paper was a real departure for many government officials, but it was quickly accepted within ISRA, by other GOS agencies, and by the donors as a valuable mechanism for exchanging ideas.
6. Funding of in-country research costs. In-country costs, including housing for the MSU team, were paid for by USAID funds administered by ISRA and a government committee. Difficulties with timely payment of the team's housing costs led to the inclusion of those costs in the MSU contract. Administrative difficulties with the Title III funding mechanism in 1985 led to the establishment by USAID of a "special fund" that covered the in-country

costs of research programs in which MSU team members participated. With the agreement of ISRA, this fund was administered by the MSU field team leader. The availability of this fund made it possible to continue important fieldwork and aided in the achievement of project objectives.

7. As a final note, funding for the BAME, and for ISRA in general, has fluctuated since the early 1990s when the MSU projects ended. However, the unit stayed alive with a small corps of researchers, reflecting a sustained demand for its services. More recently, BAME personnel established a track record in the area of field survey implementation, which attracted donor funding. The BAME played a leading role in implementing the many field surveys conducted as part of the Senegal Associate Award (Projet d'Appui aux Politiques Agricoles [PAPA]) under the FSP-IL.

Lessons learned from BAME:

1. Locating the BAME within a national agricultural research organization was successful in ensuring that the BAME had a genuine research focus and was not simply a collection of individuals available for short-term consulting jobs.
2. Having a medium- to long-term research plan that was explicitly designed to be policy relevant made it possible to carry out a quality research program while effectively responding to urgent requests for analysis using information being generated by on-going research activities.
3. It was effective to base the research plan on an explicit conceptual framework: in BAME's case, "agrifood systems." This approach is arguably even more relevant in 2019 with the relative expansion of the off-farm component of African agrifood systems.
4. The government appreciated the results of BAME research programs because they were based on previously unavailable empirical information, not just the recycled information that often appears in consultant reports. Improving the quality and value of policy-relevant information helped stimulate further demand from policymakers.
5. The methods used to disseminate the results of BAME research were successful. The introduction of working papers in particular ensured early communication of results rather than waiting for publication in scientific journals. Presentations by BAME researchers in workshops and conferences and participation in government task forces were also successful methods used to contribute to government policymaking.
6. The credibility that the BAME built as a policy research unit during the 1982–92 period of USAID and World Bank support enabled it to continue operation after that support ended. The BAME's continued existence since then is at least partially a result of the track record built by BAME personnel in the area of field survey implementation. The fact that the BAME remains as a unit within ISRA is evidence of its perceived legitimacy as a contributor to ISRA's mission.
7. The BAME's continued existence also signals that it has developed a sustainable funding model, based on a combination of government and donor support.

Threats:

It was not clear whether the political and other conditions within Senegal would allow the BAME to become the primary "go-to" policy research institution. The fact that the PAPA project's objective was to create a multi-institutional network to implement policy research suggests either that one institute could not meet all needs or perhaps that there exists a desire to avoid concentrating resources on strengthening the capacity of a single institute.

Agricultural Policy Support Project (Projet d'Appui aux Politiques Agricoles-PAPA):

More recently in Senegal, the FSP-IL initiated the Feed the Future Senegal Agricultural Policy Support Project (Projet d'appui aux politiques agricoles, or PAPA). The goal of PAPA has been to strengthen Senegal's policy and enabling environment for increased public and private sector investment in agriculture through an effective and sustainable system for formulating, implementing, and monitoring agriculture sector policies. The technical approach employed by PAPA involved (1) building a network of local centers of expertise which was empowered to generate knowledge to meet the evidentiary needs of Senegal's Ministry of Agriculture and Rural Equipment; (2) setting up an inclusive policy dialogue and consultation platform to allow a wide group of state and non-state actors to review and influence agricultural policies;

and (3) constructing a knowledge-management infrastructure which acts as a portal for disseminating data and analyses to agriculture sector stakeholders. The project activities were organized into four components: (1) Enhancing national capacity for policy research, analysis, and policy communication; (2) fostering political buy-in, stakeholder involvement, and ownership of agricultural policies and processes; (3) promoting evidence-based agricultural policy formulation and implementation; and (4) facilitating effective policy implementation and monitoring and evaluation.
The PAPA activity was successful in establishing a local analysis network (LAN), which includes BAME. This network brought together, for the first time in Senegal, research centers and universities to agree with the Ministry of Agriculture on a research agenda and work jointly to produce relevant data and analysis to inform agricultural policy making. The network also produced the most comprehensive set of primary farm survey data in the country's history, covering all segments of major agricultural input and output value chains. It also prepares reports and analyses to guide agricultural policies, and strengthens institutional and individual technical capacity for agricultural policy research and analysis.

Key challenges and lessons learned:
The main characteristic of PAPA is its novel approach, whereby local entities have been entrusted to collaboratively conduct research needed to feed into policymaking. Previously, local centers worked in silos, with research being largely disconnected from the government's policy priorities. In that environment, government requests for technical support were conducted primarily on an ad hoc basis, usually drawing upon outside expertise.

However, setting up such a novel system is not straightforward, as it involves inducing research institutions that have barely worked with one another in the past to depart from their usual, inwardly focused research approaches, instead partnering with other groups around a shared data collection and analysis agenda. Issues such as institutional independence and individual interests had to be addressed before institutions could cooperate within a local analysis network. It is important that funding models be cognizant of the time involved in developing mutually agreeable roles for all organizations in order for the policy ecosystem to function in ways that result in effective policy processes and impacts.

3.8. Regional Approach to Strengthening Economic Modeling Capacity: ReNAPRI

ReNAPRI is a network of national policy think tanks in Africa. The network was formed in 2014 and was initially composed of seven institutes in east and southern Africa,[12] but it expanded to West Africa in 2019 with the addition of the University of Ghana's ISSER. ReNAPRI is currently consulting with universities in Nigeria and Ethiopia for potential membership.

Development of ReNAPRI:
The genesis of ReNAPRI was a policy analysis grant to MSU by the Bill and Melinda Gates Foundation in 2012. During the project preparation phase, officials of the Gates Foundation noted that well over 90 percent of its agricultural development funds were granted to non-African organizations, due at least partially to difficulties in identifying local partners who could effectively manage and implement activities across multiple countries. This led MSU to convene a series of meetings with several African-led local policy institutes with which it had been working, as well as other national policy units in the region. These meetings revealed that many of these local policy analysis units had never coordinated or communicated with each other, each focusing on work in their own countries, despite the common transnational issues that underlay this work. This led to the realization that there were potential gains to cooperation and coordination among the local institutes in the region.

The original member organizations of ReNAPRI registered the network in Zambia in 2014, establishing a board of directors composed of the executive directors of each member organization and a secretariat to carry out the administrative duties of the network. These duties included the administration of grants, annual policy conferences,

[12] These are (1) the Institute of Social and Economic Research (IRES), University of Kinshasa, Democratic Republic of Congo; (2) Tegemeo Institute of Agricultural Policy and Development, Egerton University, Kenya; (3) Centre for Agriculture Research and Development (CARD), Bunda College, Malawi; (4) Sokoine University of Agriculture (SUA); (5) the Research Center for Agricultural and Food Policies and Programmes, Eduardo Mondlane University, Mozambique; (6) Bureau for Food and Agricultural Policy (BFAP), Universities of Pretoria and Stellenbosch, South Africa; and (7) Indaba Agriculture Policy Research Institute (IAPRI), Zambia.

finance and accounting services, drafting ReNAPRI articles of association and bylaws, managing the ReNAPRI website, and other tasks. Starting in 2014, ReNAPRI received a subgrant from MSU as part of the Gates Foundation-funded Guiding Investments in Sustainable Agricultural Intensification in Africa project, which lasted until 2016. ReNAPRI also received funding from the Southern Africa Regional USAID office, from the International Water Management Institute, and from the Food Trade Project funded by the British Department for International Development, in all cases to undertake collaborative cross-country research and regional policy outreach around particular policy issues.

Lessons learned from ReNAPRI:

As ReNAPRI marks its fifth year, a number of strengths and weaknesses are evident. On the positive side, there is generally strong support for the development and strengthening of a pan-African agricultural policy research network—from African governments, international development partners, African universities, and the private sector. As the number of well-trained African PhD economists and agricultural economists has grown rapidly, there is growing recognition that the region may benefit from a strong African-branded think tank or network of regional and national think tanks. ReNAPRI has established memorandums of understanding and partnerships with other organizations such as the African Union, the African Capacity Building Foundation, and ReSAKSS. The partners in the network have been able to identify a set of common policy challenges faced by governments in the region and to work together on these issues by sharing data, undertaking joint analyses, and coordinating annual policy conferences in east and southern Africa.

Among the many challenges that ReNAPRI faces are the uneven stocks of quality staff and funding among the institutes, which has led to uneven power relations among the members of the network. The stronger organizations are to some extent cross-subsidizing the weaker ones, and occasionally encroaching into activities in other countries that could be covered by another member of the network. Sometimes, well-intentioned donor groups have failed to foresee the problems they can create by funding a subset of policy institutes—generally the stronger ones—to engage in regional work that ReNAPRI is set up to do. Despite these challenges, the network has maintained a strong sense of purpose and loyalty among its members, occasionally self-financing funds for ReNAPRI activities during times of tight funding.

3.9. Other Regional Policy Analysis Initiatives

Several other regional networks have also contributed to policy capacity in developing countries. We mention selected networks to identify the roles they play and how their contribution could be improved in connecting policy analysis capacity to national policy systems in order to influence policy outcomes.

Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN):

FANRPAN started in the late 1990s as a regional network in Southern Africa. It assembles teams of researchers within the region to engage in projects and grants received by FANRPAN. The network benefited from an effective leader able to raise money and assemble effective teams. A shortcoming of the approach is that the research activities were sprinkled out to consultants without building the organizations to support FANRPAN over the long run. FANRPAN never had significant in-house policy analysis capacity, as it depended on the national researchers to conduct contracted and commissioned research on current topics agreed upon by the members. It is supportive of the national researchers in their official capacity to continue their research. But for FANRPAN to contribute to the national policymaking process, the quality of research and peer-reviewed mechanisms needs to improve. Starting in 2019, ReNAPRI and FANRPAN have resolved to organize and host their annual policy conferences jointly, a move that may increase the sustainability of both organizations.

Association for Strengthening Agricultural Research in Eastern and Central Africa/Eastern and Central Africa Programme for Agricultural Policy Analysis (ASARECA/ECAPAPA):

This is a policy analysis and advisory component of the regional association for the National Agricultural Research Systems (NARS) in Eastern and Central Africa. Initiated to provide and enhance social science capacity development in the NARS of the region, the initiative has contributed to the strengthening of the policy capacity related to agricultural research and innovation. This capacity, however, was not sustainable due to high turnover of the personnel in the national systems.

ReSAKSS:

ReSAKSS is another network which monitors policy change and compliance of African countries with Comprehensive African Agricultural Development Program (CAADP) goals. Policy analysis is carried out through IFPRI researchers and collaborators working on specific policy themes. It is published in ReSAKSS annual reports and presented at annual conferences. ReSAKSS provides a platform for debate and dialogue on issues related to the Malabo CAADP commitments and the policy challenges countries face in meeting those targets. ReSAKSS and ReNAPRI have been in discussions about collaborating on their annual conferences and reports, but these plans for collaboration are not yet concrete.

ReSAKSS-Asia is an initiative funded by several development partners including USAID's Food Security Bureau. It constitutes an informal network of individuals from policy institutions, governments, private sectors, and NGOs with the goal of meeting and sharing policy lessons on specific themes relevant to developing countries in Asia.

African Growth and Development Policy Modeling Consortium (AGRODEP):

AGRODEP is a capacity-strengthening program of IFPRI that builds policy analysis capacity by selecting participants through a competitive process and providing training and sharing of economic modeling techniques. AGRODEP's broad goal is to increase the number of high-quality local researchers through participation in a continent-wide network. AGRODEP focuses on strengthening key analytical skills of the participants, who undertake policy research and analysis on issues relevant to their countries. Analytical training includes computable general equilibrium modeling and microeconometrics.

The individual analytical skills developed through the ReNAPRI and AGRODEP networks have complemented country-level capacity-development activities and provided a regional platform for policy analysis to engage in economy-wide modeling exercises.

Africa Lead, a USAID-funded project initiated in 2010, provides individual capacity-development opportunities for enhancing the leadership skills and soft skills required of policy actors and other relevant players. Such skills are useful for policy analysts to be effective in the policy system particularly when they have to mobilize the local human resources for enabling the policy system to meet the demands of the policymakers. Africa Lead has also demonstrated that improving inter-organizational coordination and cooperation across the policy system creates an improved environment for all organizations, including policy research institutes.

3.10. Strengthening Policy Analysis and Policy Process Capacity in Myanmar

After sixty years of top-down military rule, and thirty years of international isolation, Myanmar provides unique lessons about institutional capacity building under challenging circumstances that prevail in many developing countries. The military has guaranteed representation in national and regional parliaments, is not subject to civilian authority, controls large parts of the economy, and retains significant landholdings. We first present the legacy of the period leading up to 2011, followed by subsequent changes in the policy ecosystem and implications for capacity building going forward. One of the key lessons from the Myanmar case is that development pathways for policy ecosystems are heavily contingent on historically embedded policy beliefs and organizational culture.

At the beginning of the transition, Myanmar's policy ecosystem was very simple. Ministers (and the cabinet) announced policies by fiat, without debate or analysis of options. Line ministries were responsible for the implementation of the policies without question. For example, the minister in charge of the former Ministry of Agriculture and Irrigation (MOAI) announced a policy of promoting hybrid rice in all regions of the country. The minister had formally been a general in charge of a highland area close to the border with China, where hybrid varieties do well and there is a ready market for that type of rice. In the lowland areas of Myanmar, however, hybrid rice does not grow well and is disliked by consumers. Nevertheless, hybrid rice was to be promoted in all areas of the country in accordance with this fiat. Furthermore, farmers were obligated to produce rice wherever the land had been designated as "paddy land," regardless of whether it was profitable or not, and they risked fines or dispossession if they failed to respect the requirement. Indeed, as

a result of this policy, many farmers became severely indebted and lost their land rights as a means of paying their debts.

In this environment, MSU was invited in September 2012 to undertake a scoping study to help the new USAID mission in Myanmar determine whether it could usefully invest in the agricultural sector and, if so, how. MSU formed an international team that identified smallholder-led agricultural diversification as a key means to broad-based economic growth in rural areas. Improved information about the actual situation of farming and the rural economy in Myanmar's highly agro-ecologically diverse country would be essential to the design of effective programs as there was almost no accurate, empirical information. The USAID mission agreed with the recommendations and in late 2014 initiated a five-year program of research on agriculture and value chains in different ecologies. As sanctions were still in place, MSU and IFPRI worked with a recently created think tank, the Myanmar Development Research Institute (MDRI). The president had agreed to the creation of MDRI as a means to attract the intellectual diaspora back to Myanmar and help guide the country as it opened up to international engagement and investment. MSU and IFPRI worked with one of MDRI's three wings, the Centre for Economic and Social Development (CESD), whose CEO was a presidential advisor. Meanwhile, the minister in charge of the MOAI refused to accept the team's recommendations, due to the political priority of rice production. Since the former general in charge of MOAI was too senior to be replaced, the president created a new Ministry of Livestock, Fisheries and Rural Development (MLFRD) as an alternative mechanism to improve farmers' welfare.

In 2015, the first elections in twenty-five years resulted in a sweeping victory for the National League for Democracy led by Aung San Suu Kyi. A highly influential agricultural sector white paper, entitled "From Rice Bowl to Food Basket," was prepared by a team led by the chair of the National Social and Economic Advisory Council, who was a presidential advisor and very experienced former head of the Department of Planning in MOAI. The team included analysts from a USAID economic policy activity implemented by Nathan Associates, USAID economic growth office staff, a USAID-funded land policy advisor, and MSU and IFPRI analysts. The report was presented to the new government as soon as it was formed in April 2016 and it was widely disseminated in English and Myanmar languages to parliamentarians, most of whom had little experience in agriculture. The National League for Democracy readily accepted the report, which became the foundation of the agricultural development strategy launched in June 2018 by the Ministry of Livestock, Agriculture and Irrigation (MOALI), a new ministry formed through the merger of the former MOAI, MLFRD, and the Ministry of Cooperatives.

Development of the Agricultural Policy Unit (APU):

With sanctions lifted by the Obama administration in October 2016, the project implemented by MSU and IFPRI could now engage directly with government for the first time. They proposed the formation of an Agricultural Policy Unit (APU) in the Department of Planning, to serve as a source of policy analysis for MOALI as it prepared and implemented its new agricultural policy and strategy. The proposal was accepted. Establishment of the APU has faced many of the same constraints identified in earlier parts of this report. The APU faced the additional challenge of there being only a handful of agricultural economists in the ministry, most of whom hold senior positions and for whom a move to the APU would imply a significant demotion in the ministry hierarchy. Furthermore, MOALI does not have a unified policy agenda or policy process at this stage. Different departments handle different policy questions according to their technical subject matter, and they may or may not consult with other departments or with the private sector.

Lessons learned from APU:

Despite the constraints noted above, the creation of the APU has served as a valuable addition to the policy ecosystem. First, it has provided a home base for international advisors approved by the minster, thereby facilitating regular communication with ministry officials. Currently four approved advisors are active in the areas of land, nutrition, agricultural productivity and competitiveness, and implementation. Prior to the creation of the APU, international advisors could only engage with MOALI officials occasionally and with written permission. Second, the APU is playing an important role in promoting and popularizing the concept of policy debate within MOALI. The APU organizes a monthly "policy free talk" on a wide range of topics. Representatives of all departments are invited. The concept of a policy free talk is that any attendee, regardless of rank or departmental affiliation, can ask questions and express opinions

without the risk of being perceived as insubordinate. Previously, middle management and junior staff would only speak at a meeting when invited to by the senior official presiding over the meeting. The APU has also prepared a list of all staff in MOALI with graduate degrees in the social sciences with a view to developing a ministry-wide professional network for capacity-building activities.

Development of the agricultural policy ecosystem outside MOALI has also progressed, albeit slowly. The Livelihoods and Food Security fund, an international donor trust fund managed by the United Nations Office for Project Services, has formed a policy community of practice that includes civil society organizations. Recently, representatives of Yezin Agricultural University (YAU) and MOALI have also been invited to attend meetings of this group. Government, university, and civil society participants have all been exposed to the Kaleidoscope model developed under FSP-IL to foster dialog. In the meantime, attempts to build sustainable evidence-based policy capacity at CESD have not been successful. Although individual capacity has increased enormously within CESD, with eight analysts going on to further graduate training through competitive scholarships, the CESD leadership has not yet demonstrated a commitment to longer-term evidence-based policy research. Many analysts will likely move to other organizations at the end of the current project phase. In the meantime, the NLD has established another think tank in place of the former MDRI: the Myanmar Development Institute (MDI), which is funded by South Korea and modeled on the Korean Development Institute (KDI). This institute plays a key role in advising the government's National Economic Committee, as well as the Development Assistance Coordination Unit. It has expressed strong interest in increasing its capacity for agricultural policy analysis in recognition of the sector's key role in development. Consideration has also been given to the establishment of an institute modeled on the Institute for Policy and Strategy for Agriculture and Rural Development (IPSARD) in the Ministry of Agriculture in Vietnam. In Myanmar's case, YAU would be a logical place to house an entity like IPSARD, but YAU was recently transferred from MOALI to the Ministry of Education, and YAU faculty are stretched very thin by heavy teaching loads. In any case, any further significant changes in the policy ecosystem will depend on the outcome of the 2020 elections and formation of a new government.

3.11. Policy Analysis Capacity Building in Bangladesh

Over the past forty years IFPRI has been associated with strengthening the capacity of policy analysts and their institutions. This case study describes the development of policy analysis institutes in Bangladesh, their roles in the policy process, and lessons learned from working with them in their capacity-development efforts. We first describe a ministry-based analytical unit. This is followed by a national policy think tank that addressed food security and nutrition policy issues as a major part of its portfolio. At the end these case studies, we draw some lessons from strengthening the capacity of these institutions.

Embedding Analytical Capacity in the Bangladesh Ministry of Food: The Food Planning and Monitoring Unit (FPMU):
The Bangladesh Food Planning and Monitoring Unit (FPMU) was created in the late 1980s to support agricultural and food policy analysis for the Bangladesh Ministry of Food.[13] Initially, this small unit of five to ten total staff focused on supporting the management of the Bangladesh Public Foodgrain Distribution System in decisions about levels and timing of domestic procurement, government imports, and distribution of rice and wheat to enhance household food security, stabilize prices, and guarantee adequate public stocks for future interventions. IFPRI's initial efforts to strengthen the analytical capacity of the FPMU focused largely on practical training and short courses related to these tasks.

While FPMU was widely viewed as playing a useful role in Bangladesh, it remained small with a limited staff for long time. A food crisis triggered an institutional strengthening opportunity for FPMU. Following an unexpected monsoon season *aman* production shortfall in December 1997 and a sharp increase in the price of rice, the secretary of food proposed an expansion of the FPMU's mandate, as well as an increase in its staff to reach eighteen full-time members. Although the proposal was approved, the additional positions were not endorsed by the Ministry of Establishment at that time. As a result, temporary officers seconded from other parts of the Ministry of Food filled these positions.

[13] This was a recommendation in a World Bank Agriculture Sector Report prepared by Raisuddin Ahmed, who was a Division Director at IFPRI at that time.

Several years later, as a condition of a new large European Commission project implemented by FAO—the National Food Policy Capacity Strengthening Programme—these new positions were filled with permanent staff. Work under the new project also included drafting a new national food policy, initially drafted in 2001 under IFPRI's USAID-funded Food Management and Research Support Project (FMRSP). The new national policy specified a significant expansion in the roles of the Ministry of Food (and the FPMU) to include support for implementation of policies and investments related to agriculture, food, and nutrition, including the Agricultural Investment Plan.

Role in food policy process:

Throughout its existence, the FPMU has had a major role in the implementation of food policy in Bangladesh, in part because of the presence of skilled national analysts who earned the trust of policymakers. The FPMU was also supported by a series of major food policy projects that provided the services of international experts who conducted policy-related research, analysis, and training that significantly contributed to FPMU's work. Sustained donor support through these projects in part reflected donor concern in the 1980s and 1990s that large-scale food aid should be well targeted and should not result in major disincentives for domestic cereal production. These projects have been especially important in supporting household and market surveys that have enabled empirical analysis of food and nutrition interventions not only relating to food aid issues but also to many other important policy issues.

Lessons from capacity strengthening

Establishment of a separate policy-monitoring unit in the Ministry of Food helped the ministry with critical decision making relating to food sector management, including decisions that would help avert major crises and disasters. In the initial stages of institutional development, the limited human capacity to undertake basic tasks including simple policy analysis was a major constraining factor. More in-depth research and analysis on food policy issues was supported through technical assistance by IFPRI and the Bangladesh Institute of Development Studies (BIDS), which was funded through USAID and other donors. Several policy analysts within the FPMU who later became leaders in the Ministry of Food played a critical role in translating research results into policy and program interventions. Regular upgrading of skills through food policy courses maintained and enhanced capacity for addressing policy issues. In addition, such capacity was essential to effective use of the technical assistance provided through donor funding. Finally, though FPMU capacity built through external technical assistance has been effective in addressing food crises and preventing disasters, there is continued dependence for long-term policy development on assistance from outside the government.

A government-supported think tank: The Bangladesh Institute of Development Studies (BIDS):

The Bangladesh Institute of Development Studies (BIDS), an offshoot of the Pakistan Institute of Development Economics, was created in 1971 after the Bangladesh liberation war.[14] The institute is an "autonomous public multi-disciplinary organization," funded both through direct government support and donor-funded projects and consultancies.[15] It is managed by a board of trustees that includes the Minister for Planning as ex-officio chairman,[16] several other representatives of the government of Bangladesh, two BIDS senior fellows, and three staff members. Given the structure of the board of trustees and the substantial amount of funding coming directly from the government, the institute has at times struggled to maintain its autonomy.[17]

[14] The Pakistan Institute of Development Economics was founded in 1957 as a public enterprise funded by the government of Pakistan and the Ford Foundation. It was initially located in Karachi but moved to Dhaka in 1970. See Maitrot (2015).

[15] According to the BIDS website, "Initially, funding for BIDS was made through regular government budgetary support. In 1983, the Government created an endowment fund to ensure a source of recurring revenue for running the Institute, thereby reducing its dependence on regular budgetary support, and enabling BIDS to enjoy more functional autonomy. In 2009, the Government provided a Research Endowment Fund of Tk. 200 million to support core institutional research of BIDS. Some donor agencies and foundations also provide resources for its activities". https://www.bids.org.bd/page/about-us/

[16] Members include a member of the planning commission nominated by the chairman, the chairman or a member nominated by the University Grants Commission, the Governor of the Bangladesh Bank (ex-officio), the Secretary of the Ministry of Finance (ex-officio), and the Secretary of the Ministry of Education (ex-officio).

[17] For example, the government attempted to nominate the director of BIDS in 1991, resulting in a leadership crisis (Maitrot 2015, 49).

BIDS is a relatively large research institute, employing about 200 permanent staff members, including about eighty researchers.[18] There are five research divisions: Agriculture and Rural Development, General Economics, Human Resources Development, Industries and Physical Infrastructure, and Population Studies. In 2015, only fifty-three of the seventy-six research positions sanctioned by the board of trustees were filled (Maitrot 2015). Currently, BIDS has only thirty-six senior research staff, including the director general, two research directors, seven senior research fellows, one post-doctoral fellow, and eighteen research associates. Publications in international peer-reviewed journals are a requirement for the promotion of senior research staff. BIDS also publishes its own journal, Bangladesh Development Studies, as well as the *Annual Review of the Bangladesh Economy*.

Role in food policy process:

In the 1980s and 1990s, research and policy analysis on agriculture and food policy were a major focus of the institute, with several senior researchers involved in one or more projects. Over time, however, the focus on these topics has waned. Nonetheless, ten of the thirty-five research projects listed on the BIDS website in mid-2019 involved agriculture, food policy, nutrition, climate change, or rural development. A large share of the work on these topics has involved collaboration with IFPRI, including USAID-funded projects working with the Ministry of Food—including the Bangladesh Food Policy Project (1988–1994) and the FMRSP (1997–2001)—as well as those with the Ministry of Agriculture, such as the Policy Research and Strategy Support Program (2010–present). These projects provided international expertise (based in Dhaka, as well as in the United States), as well as funds for staff and consultant salaries in Bangladesh, household and market surveys, and training activities. Through these projects and other studies, BIDS has contributed to reforms of the Public Foodgrain Distribution System, stabilizing markets and food supplies following major production shocks, such as the major flood in 1998, and generating evidence on the effectiveness of various channels for improving household food security. Although the number of researchers working in BIDS is less than the approved number of positions and much of the research focuses on non-agricultural sectors, about one-third of the current projects of the institute are related to food security, nutrition, climate change, rural poverty, non-farm economy, rice markets, migration, and rural livelihoods.

Lessons from capacity strengthening and institutional strengthening:

Stable government financial support for BIDS has been a major factor accounting for its sustainability. From its inception, BIDS was designed to be a leading think tank to support government policymaking and development planning. For almost fifty years, the researchers in BIDS have worked on a wide range of policy issues, with agriculture, food, and nutrition policy issues comprising a large share of its research portfolio. BIDS has also taken part in or led many technical assistance projects that have strengthened its own research capacity, as well as provided policy research support for government. Stable financial support from the government of Bangladesh has enabled BIDS to maintain human capacity over the years, though in the past decade, the number of senior researchers has declined. Project funding for specific research projects as well as external collaborations have also played an important role in strengthening the institute, providing opportunities for enhancing and utilizing the policy research skills of the staff.

[18] According to 2002 data from the National Institute for Research Advancement's World Directory of Think Tanks, it employs 197 regular staff (81 research, 116 administrative/support) and an average of 75 temporary-project staff. See http://www.nira.or.jp/past/ice/nwdtt/2005/DAT/1022.html.

INSIGHTS FROM EFFORTS TO STRENGTHEN INSTITUTIONAL AGRICULTURAL POLICY ANALYSIS CAPACITY

The case studies presented in Section 3 and other reviews provide several insights for future institutional capacity-building efforts.

4.1. Importance of Attending to the Policy Ecosystem in Efforts to Build Indigenous Capacity

Building sustainable indigenous agricultural policy analysis organizations requires explicit attention to the ecosystem in which these organizations operate. This is especially the case in recent years as foundations and bilateral and multilateral funding organizations have created new organizations with inevitably overlapping mandates. Investments in a new policy research or advisory organization may unintentionally marginalize local policy units with similar mandates but with far fewer resources to carry them out. The evolution of the policy ecosystem in a given country may be greatly influenced by even short-term donor funding decisions, which may be made without full cognizance of their effect on the viability of other actors and functions in the system.

Today there are many more international-caliber agricultural policy analysts in Asia, Latin America, and Africa than was the case two or three decades ago. Many of them are attracted to the higher salaries and greater resources that international organizations can provide, which is at least partially an outgrowth of prior funding decisions in the policy support space. Donor investments in the capacity development of individuals alone may risk creating an enclave of better-educated nationals working, even in their own countries, for international organizations whose agenda may not always reflect national priorities and which attract the bulk of donor research funds, which may impede efforts to develop locally led policy organizations.

The goal of encouraging locally led agricultural policy institutes will be achieved more quickly with a level playing field in terms of long-term access to funds, time to develop, and a seat at the table within the national and regional policy ecosystem (e.g., strategic linkages with the African Union, African Development Banks, or CAADP processes). As with international policy organizations, the sustainability of locally led policy institutes will depend on their ability to articulate their views and interests in pan-African policy processes, produce and distribute annual reports that publicize their research, and organize regional policy events, potentially jointly with international groups—to develop an impactful "brand" that will help retain long-term funding support.

4.2. Recognition and Support of Diverse Kinds of Policy Analysis Needs

Effective policy analysis involves the generation of three types of analytic products: (1) demand-led analysis that responds to government requests for particular types of information; (2) analysis that is demanded by organizations other than government, such as analysis of the impacts of government-imposed trade bans; and (3) "discovery" analysis that is not demanded by either governments or stakeholders but which opens up new insights and knowledge that is broadly relevant to all stakeholders. The embedded technical advisor model is well suited to the first type of analysis but not to the second or third types. Only policy units that are not managed directly by government officials, such as university-affiliated or independent policy research institutes, are sufficiently protected from direct government oversight to engage in policy analysis that might be unwelcome by government but otherwise of broad interest. Moreover, it could be argued that type-3 "discovery" research may have the most enduring relevance and impact, often creating a subsequent demand for type-1 and type-2 analysis. In fact, certain examples of demand-led policy analysis articulated by governments and development

agencies can be traced to prior "supply-led" research driven by researchers.[19] Especially in light of rapid demographic and economic transformation in Africa, this third category of policy analysis can help African governments anticipate future opportunities and emerging challenges, so that they can respond proactively rather than reactively to them. A policy ecosystem that produces growth-enhancing, equitable policy decisions relies on all three types of analysis. Attempts to achieve quick wins or to pick low-hanging fruit frequently rely on an evidence base created by investments in longer-term research five to ten years earlier. If the support for type-3 research dries up, the evidence base to inform future demand-led policy debates may be eroded.

4.3. Building Credibility and Demand for Evidence Among Stakeholders Is Key

Developing strong local demand for the work done by agricultural policy analysis organizations is crucial for their sustainability. This means that policy analysis institutes might need to be more proactive, building a constituency of support from a wide range of public and private stakeholders as well as mainstream society for the knowledge products that they generate. It also means that policy institutes must not just produce research but may need to actively work with governments and other stakeholders to translate research findings into policy discussions and ultimately policy impact. IAPRI has achieved a reasonable degree of success by engaging actively with local stakeholders and participating in government-led exercises, while remaining largely independent.

In virtually all countries, agricultural policy analysis units depend primarily on external funding.
Because few developing country governments directly fund independent agricultural policy analysis institutes, there is an urgent need to identify why this demand tends to be so thin. Do governments perceive that there is no need for them to fund local policy institutes as long as donors are willing to do so? Should cost-sharing arrangements be explored whereby donor commitment to funding national policy analysis capacity is conditional on medium- to long-term government co-funding? Would this approach generate greater local ownership for locally led policy institutes?

Several other issues may influence the demand for research by local policy analysis units. Many local agricultural policy units outside the governments were set up as NGOs or private entities. Their legal charter does not provide a means for governments to fund them directly. For instance, ministries of agriculture, economic development, and education are not in a position to include a private firm or NGO in their budget line-items for recurrent funding. Development partners could offer support to policy analysis units to restructure their legal status to position themselves to potentially receive recurrent funding from governments. On the other hand, a policy institute receiving funding from government for its operations may lose its independence and freedom to address politically sensitive issues, as has occasionally been asserted regarding the Kenya Institute for Public Policy Research and Analysis.

4.4. Evidence-Based Policy Analysis Requires Data Generation

Agricultural policy institutes cannot be productive without data to produce evidence-based analysis. In recent years, the Gates Foundation has invested significantly in generating open-access data on farmer and consumer behavior through the LSMS-ISA. Because of this investment in data, great strides have been made in supplying evidence-based analysis to policymakers to achieve a greater degree of consensus among researchers around particular policy issues. For example, input subsidy programs were prominent and widely studied in the 1970s–80s, but their analysis relied on aggregated market-level data on quantities and prices due to the paucity of household survey data at that time. Relatively little was known about how the subsidies affected household and community-level behavior, the distributional effects of subsidy programs, and their effectiveness in achieving national policy goals. However, the wider availability of household panel survey data, combined with advances in estimation methods, have enhanced analysts' ability to identify program effects with greater confidence and accuracy. In Zambia, for example, IAPRI has made important analytical contributions that have shaped mainstream understanding and subsequent policy discussions of input subsidy programs in the country.[20] Investing in data generation capacity along with policy analysis capacity is crucial for the sustainability of indigenous

[19] Current examples include how dietary change in Africa is altering employment in agrifood systems or how the rise of commercialized African middle-sized farms is transforming agrifood systems in the region.

[20] See, for example, its work regarding electronic vouchers (Mulenga 2017; Ngoma 2017).

policy analysis units.

However, the number of African countries with nationally representative datasets is remarkably small. The LSMS-ISA surveys discussed above are carried out in only eight of sub-Saharan Africa's forty-six countries.[21] It is therefore difficult to provide up-to-date evidence-based analysis to guide policy decisions on specific policy issues in most African countries. Creating an evidence base to guide policy discussions is a major priority for locally led policy units to be effective in most African countries.

Ideally, efforts to collect data should be generated in close cooperation between local policy institutes and government statistical offices, with agreements among them determining how the data will be collected, supervised, processed, released, and utilized.

4.5. Strengths and Weaknesses of Alternative Policy Analysis Models

The embedded technical advisor model:

This model helps to address day-to-day policy issues faced by governments. It also helps at times with longer-term strategic planning, as with the development of national CAADP investment plans. A technical advisor who succeeds in establishing trust and respect can have substantial influence with senior ministry staff. While the *embedded technical advisor* model can be effective for as long as the technical assistance continues, experience shows that it cannot fulfill the wide range of tasks necessary for an effective environment for policy improvement over time. Trust issues also emerge with short-term technical advisors who are not in a position to make a long-term commitment to the country's development. It is therefore not a substitute for building sustainable long-term policy research organizations, either within one of the government ministries (as with the OMA in Mali or the BAME in Senegal), in a local university (as with Tegemeo in Kenya), or as an independent organization (as with IAPRI in Zambia). Moreover, as embedded policy analysts are answerable to policymakers within the ministry, they may not always be able to express independent views supported by independent analysis. Moreover, the ability of embedded advisors to provide evidence-based guidance relies almost entirely on prior research and data generation efforts. In countries where little investment has been made in data generation or research, then advisors' ability to provide evidence-based technical guidance is also limited. We feel that the embedded policy advisor approach may fill valuable short-term niches in some cases, but it is in no way a substitute for locally led policy analysis units, which provide a much wider breadth of functions of the *policy analysis value chain* (discussed in Section 2.3).

National university-affiliated policy analysis institutes:

Since university-affiliated think tanks are often a highly visible component of the university system, they tend to engender a sense of local national ownership and pride that tends not to result from wholly independent or international policy institutes. University-based policy institutes come under the administrative and governance structures of the university and may experience the funding volatility that the rest of the university system often experiences. They have more independence than the ministry-based policy units. A major advantage for university-affiliated policy institutes is that they can leverage the resources of their university, such as professors and graduate students with relevant expertise, soil testing labs, vehicles, and political entrée. Moreover, local universities have become the main supplier of undergraduate and MS-level policy analysts in most African and Asian countries. So, in the long term, efforts to upgrade the quality of a policy institute's staff will be facilitated by affiliation with strong university departments and will increase the supply of effective human resources in these countries (SHAEA 2019).

A major potential detraction of university-affiliated policy institutes occurs when university management insists on closely managing or directing resources allocated to the institute. At best, this slows down the operations of the institute; at worst it may result in misallocation of funds. Another issue in some countries, especially those with more repressive governments, is that academics may view themselves as part of the opposition to the government and may be reluctant to

[21] For more information about the surveys and their geographic coverage, see the project's webpage: http://surveys.worldbank.org/lsms/programs/integrated-surveys-agriculture-ISA.

collaborate in analyzing its policies. Moreover, in cases where salaries of institute research staff are subject to university pay scales, it is difficult for these institutes to maintain international-quality staff, as they tend to be attracted to better paying jobs at international institutes or in the private sector. In such cases, progress in developing institutional capacity can be very slow, and over time, donors may give up and support international organizations instead. However, as described in Section 2, there are cases where university-affiliated policy research organizations in Africa have established strong trust by government officials, a sense of national pride, extensive and longstanding engagement in national policy processes, and clear impact on improving policy decisions.

Independent indigenous policy research institutes:
The third model features the development of local think tanks that are independently managed, though they may also be affiliated in some way with national universities or other local organizations. Independent management avoids some of the interference that has sometimes plagued university-affiliated institutes. This model is capable of attracting high quality local researchers because salaries are not limited in the way they often are at university-affiliated institutes, and there is less potential for overzealous supervision. However, this advantage may turn into a weakness if the institute is not managed effectively, as this model lacks the potential for oversight except from the institute's board of directors, assuming it has one.

As with all models, the internal management of the policy institute plays a decisive role in its effectiveness and sustainability. Effective management is required to attract and retain highly qualified research staff, to design and implement an appropriate strategic plan, to demonstrate sound financial management, to build a sense of ownership and appreciation from other stakeholders in the agricultural policy space, and to mobilize sustained funding to carry out its mandate. A particular challenge for independent policy analysis institutes is that unless the institute succeeds in sustainably raising core funds for its operations, it often turns to local consulting activities to sustain its members. The core activities of the project—those established by government, core donors, or the institute's board of directors—can become neglected as staff pursue independent consulting arrangements to augment their salaries during periods when institutional funding is inadequate to fully support the staff. Also, because all three organizational models are dependent on external donor funding, the research agenda tends to be driven from the outside rather than by necessarily national priorities. Despite these management challenges, the independent indigenous policy research institute model has produced some notable successes and extensive impact on local policy processes.

4.6. Developing Strategies for Sustainable Funding

Several issues have been identified as particularly important for sustainable funding of indigenous policy analysis organizations:

- *Creating enough financial incentives to retain key staff while not becoming a private consulting firm.* Within the public sector, salary levels are not likely to rival those that a skilled analyst can get working for a regional or international organization or by going into private consulting. Therefore, it is important to structure rules and incentives within the organization to address these challenges. The OMA in Mali developed a set of rules that allowed its staff to engage in a certain amount of consulting with the researchers splitting the resources earned with the organization. While not always successful, it recognized a need to offer some incentives to retain key staff in an environment in which salary rates were constrained from rising to international levels. Moreover, one has to constantly monitor the situation to prevent the organization from ignoring important "public good" duties to pursue private contracts. This is most effective if the public agency also makes an effort to boost base salaries and if there are other opportunities for the staff to participate in professional development and networking, such as attending international conferences and capacity-development activities.

- *Having enough core funding to respond flexibly to key, immediate issues.* Occasionally a policy issue arises that requires immediate analysis, such as road barriers showing up on key trade routes or a locust attack on crops. As information is often a perishable good, it is very important to have enough flexible funding to allow the agency to address such issues in a timely way without totally giving up its important routine activities (e.g., monitoring prices and trade flows in key markets).

- *Managing pressure to prematurely become financially diversified and sustainable.* The funding challenges of independent local policy analysis institutions are compounded when donors insist that the institute search for outside funding sources to become financially diversified before it is fully capable of doing so.

- *Importance of having a source of contingency funding in case of a rupture in government funding.* Assuming that the agency's base budget is covered by the government budget, as is the case with the OMA in Mali, it is important to have a source of contingency funding—either from donors, an endowment, or a "rainy day fund"—in case there are delays or disruptions of government funding. This is particularly important for agencies like the OMA that collect information on a regular (e.g., weekly) basis and where breaks in data collection compromise the whole system. This issue became a big problem for the OMA beginning in the second half of 2018, when the government sharply cut the budgets of all agencies in order to cover the costs of the presidential election and Mali's ongoing security crisis. The system ran out of money, so enumerators were not paid for several months, resulting in dubious quality of data "collected" during this period. It is likely that some enumerators, lacking resources and motivation to go out to some markets, just made up data. The issue of such contingency funding is delicate, as it can create a moral hazard problem on the part of the government. Knowing that such funding is available, the government may cut its own contribution to the agency to meet other needs. So there needs to be clear guidelines for the release of such funds.

- *Effectively manage the "free rider" behavior of some international organizations.* Some development partners have been willing to support indigenous policy analysis units for decades, funding the long-term institutional development costs of building a research institute. Other groups tend to fund the marginal cost of a study or two of particular interest to them, for example through a thirty-day contract for a researcher in the institute to engage as a consultant to produce a report. The funder, typically an international financial organization, research institute, university, or foundation, may select the consultant based in part on their access to data collected by the local institute at great cost. In this way, the funder can meet their objective of producing an evidence-based report without contributing to the costs of generating the data or maintaining the fixed costs of the institute—"free riding" on the investments of other funders. If too many international partners treat local policy institutes this way, the institutes are at risk of becoming uncoordinated groups of consultants responding to the disparate needs of international clients rather than those of local stakeholders. Moreover, if the institute cannot find funding partners willing to support the full range of its activities, it will ultimately lose the ability to perform its core mandate.

4.7. A Continuous Process Requiring Sustained Support

It is sometimes under-appreciated that investing in "improved policies" or "improved policy processes" requires support for a wide set of activities. An effective agricultural policy process fulfills the following tasks over a sustained period:

- A system that generates qualified technical and policy analysts. A university offering high-quality MSc and PhD programs will be the foundation for generating this expertise over time, either in the host country, the region, or internationally. If the university is local, there are major advantages for ensuring local context and leveraging support services.

- Evidence-based analysis.

- Policy engagement and sensitization of public sector officials to new evidence-based analysis.

- Policy advocacy (internal/embedding and external) around a particular policy option or for general day-to-day technical and/or policy guidance.

- Inter-ministerial coordination: harmonization of support across multiple government ministries with jurisdiction over a policy issue.

- Public-private sector platforms for incorporating the concerns of private firms into the policy formulation process.

- Guidance on policy implementation.

- Support for data generation. While national bureaus of statistics are often responsible for collecting agricultural data, data collection activities must be guided by policy analysts who are end users of the data and who can articulate the particular types of data that are needed to inform current policy priorities.[22]

Data collection is just one of the important components of an effective agricultural policy analysis institute that requires sustained funding. To maintain a policy unit's research quality, resources such as sabbaticals, short courses, and longer-term training programs are also required to enable staff to upgrade their skills and stay abreast of cutting-edge analytical techniques and issues. Resources are also needed for local institutes to forge collaborations with other research institutes, regional and pan-African organizations, and international partnerships. Sustainable locally led policy analysis institutions require adequate resources to maintain many activities that are essentially long-term fixed costs. Funding partners that wish to support the development of locally led policy analysis units will recognize and cover these fixed costs.

Historically, international universities have been the main sources of MS- and PhD-trained policy analysts, but this is changing rapidly. African universities are graduating masters and PhD candidates at a rapidly growing pace (AERC 2018). African universities can produce postgraduates at a fraction of the cost of international universities (Jayne, Kabaghe, and Minde 2017).[23]

South-South educational programs may hold great promise. The Collaborative Masters Program in Agricultural and Applied Economics (CMAAE) is an African initiative involving seventeen African universities, which is centered at the University of Pretoria. MSc candidates from the seventeen universities come to Pretoria for a year of coursework and then prepare their MSc theses based on guidance from committee members in their home universities, faculty in UP, and international faculty who are recruited to teach and participate in the program. The CMAAE has succeeded in producing over 400 MS-trained African agricultural economists since it was started in 2005 (AERC 2018). Upon graduation, many CMAAE alumni join agricultural policy institutes in the region, demonstrating the reliance of these institutes on programs like the CMAAE to produce well-trained graduates and upgrade the quality of policy institutes' activities.

The CMAAE also effectively overcomes a major challenge that graduate students at many African universities face: sufficient guidance and supervision to produce quality work. Given African faculty members' heavy undergraduate teaching responsibilities, a major constraint to postgraduate education on the continent is finding the time required for supervision of thesis and dissertation research and write-up. Resources provided under the CMAAE grant make it possible to recruit visiting fellows from international universities to teach and supervise students. Many African universities are also increasingly turning to graduate training in other countries of the South, such as Brazil, India, and China.

These programs must also anticipate the rapid changes in the skill sets required of MSc and PhD graduates in light of rapid agrifood systems transformation in Africa. They must proactively upgrade course curricula accordingly (Minde et al. 2014).

Retaining capacity in local institutions remains a crucial challenge. Retaining qualified staff revolves largely around local institutions' ability to provide adequate incentives, both financial and professional, to enable well-trained Africans to have a fulfilling and rewarding career (SHAEA 2019). According to Ezeh and Lu (2019, 16), "Many CEOs complained that

[22] For example, while it is known that medium- and large-scale farms are rising rapidly and playing a more important role in many African countries, many national data collection systems are confined to smallholder farms. Consequently, some African governments are losing their ability to accurately estimate national food production for food balance sheets and food import/export planning because their statistical systems are missing a rapidly growing segment of the farm population. This is but one example that illustrates why data generation must be guided by policy analysts who are knowledgeable about emerging developments and associated data gaps in their particular countries, and how they can be effectively addressed.

[23] The training of scientists with master's and doctoral degrees at major land-grant universities in the United States costs at least $55,000 per year when relocation costs, living costs, and overheads are counted. This is four times the cost of producing MSc graduates through the AERC Collaborative Masters in Agricultural Economics and Extension sandwich program at the University of Pretoria, which may serve as a model for experimentation and replication in other fields. This program allows graduate students from developing countries to get classroom training at the University of Pretoria, but they conduct field research for their theses in their home countries under the joint supervision of local and international professors. Where regional demand is sufficient, U.S. universities may also consider providing affordable graduate-level training at overseas campuses in collaboration with one or more African universities.

their organizations have become revolving doors to international jobs." Increasing the operating budgets of these units is in most cases a necessary but insufficient precondition for effectively addressing these challenges, which manifest as low salary levels, short contract durations, short-term funding by donors, and unhealthy organizational cultures.

The main takeaway point from this discussion is that developing sustainable national systems of agricultural policy analysis and guidance to policymakers involves much more than placing one or two analysts in public ministries. The process of creating and retaining local technical and policy capacity involves the functioning of many actors in the policy ecosystem including local universities who generate the supply and quality of technical analysts who fill public and private sector positions in agricultural policy-related positions.

4.8. Reconciling the Demands for Academic Publication with Responsiveness to Client-Driven Policy Analysis

Frequently, relatively simple analyses can highlight very important policy issues for policymakers. Policymakers can benefit greatly from research showing, for example, that price differentials between two markets consistently exceed transfer costs or that the price differential between two markets linked by a poor road is X percent higher than that between two markets linked by a good one. This kind of analysis, however, is rarely of interest to peer-reviewed journals. At the same time, the international standing and credibility of a research organization is positively related to its members' ability to produce internationally peer-reviewed scholarship, which in turn attracts new business to the institute as well as invitations from international organizations for research collaboration. An effective balance is needed. The leadership of locally led policy institutes needs to ensure that researchers have time to produce peer-reviewed publications to establish the institute's reputation for producing credible and respected work, while also recognizing the need for more basic analysis and related policy extension efforts to bring the messages home to key decision makers in the public and private sectors. The institute's management must ensure that the institute delivers on addressing real-world local problems and is responsive to stakeholders' policy analysis interests. Ideally, a well-functioning institution is shaping the demand for its services, not only responding to externally-defined demands.

4.9. Importance of Building Networks of Collaboration

The ReNAPRI example has demonstrated the benefits that individual national policy institutes can derive from collaborating on activities within a regional network. Such benefits include conducting regional policy discussions that harvest policy-relevant analysis on a particular topic across countries, making it possible to educate policymakers in one country based on experiences in neighboring countries; data sharing among network members; enabling national policy units to engage as a network in pan-African or regional policy initiatives that require groups with a presence in multiple countries; and multi-institute skill development training programs that reduce costs per trainee. In recognition of these benefits to national policy institutes, the ReNAPRI network has expanded from seven to eleven members over its four-year existence.

In situations in which analytic resources are relatively weak, it is important for organizations to network with others who have complementary skills rather than try to cover all tasks themselves. For example, the OMA in Mali does not try to do all market analysis itself but works to conduct more sophisticated analyses through collaboration with researchers at the IER and Mali's agricultural universities, from which they often receive student interns. In an agency's initial stages, an external organization like MSU that has ties with various organizations may play an important role in brokering the creation of such networks. A key challenge is to structure working relationships and funding among all the partners, including external organizations like MSU and IFPRI, such that all organizations in the network feel that they are being treated equitably and that one party does not get most of the funding and/or credit. A frequent complaint heard over the years is that "We don't like to work with X, as they just treat us like enumerators and then take all the credit."

The networks are often not only between information generators, like the OMA, and units that do more detailed analysis, but also among similar agencies across countries. For example, the OMA played a key role, with initial funding from USAID, in creating the West African Network of Market Information Systems, which shares information and capacity-

building activities across countries and is partially supported by ECOWAS. Such networks are critical for learning from others' experiences and for brainstorming about how to address emerging issues. The OMA also built key links with a regional organization of agricultural traders, facilitating flows of information on regional trade opportunities, and with high-level policymakers. The key in network building is identifying the comparative advantages of each partner and, to the extent possible, collaborating rather than trying to duplicate each other's activities.

4.10. Importance of Leadership and Management

The case studies of the IAPRI, APRU, and Tegemeo institutes collectively indicate that leadership is critical for effective utilization of the policy research institutions. For example, while APRU services were highly demanded by government and local stakeholders in its early years when donor funding was assured, the leadership in the university and institute were unable to achieve a level of performance for APRU that was able to maintain consistent funding support.

Effective leadership of indigenous policy institutes requires an effective balance between *externally facing* and *internally facing* responsibilities. Externally facing responsibilities include managing relations with government, donors, and other stakeholders, thereby creating demand for the institute's activities; effectively prioritizing the various stakeholder "asks" for the institute's work; and effectively managing relations with the institute's board of directors. Internally facing responsibilities include providing incentives to attract and retain quality research and administrative staff, as well as creating a conducive work environment that rewards good performance.

In the context of future institutional policy analysis investments, leadership of local universities also needs to ensure high-level university support for the affiliated policy institute. Specific agreement may be required on how to:

1. Offer remuneration packages that are close to market rates for salaries and benefits, so as to attract and retain valued staff over the long term.
2. Make available research funds to enable individual scholars to build a respected and impactful research program.
3. Recognize individuals' contributions to the institute through awards, endowments, and salary increments, so that individuals feel a strong incentive to serve the interests of their institution.
4. Continually invest in individual capacity development, such as opportunities for continued professional development, training programs, and mentoring in the case of young research staff.
5. Create opportunities for promotion and upward mobility to leadership roles within the institute.

All the points listed here require enlightened university leadership to ensure altruistic management of the institute, underscoring the importance of the ecosystem in which policy research institutes tend to operate.

4.11. Partnerships with International Research Organizations Can Strengthen Local Policy Analysis Institutes

Collaboration with Northern institutions has a mixed record but in some cases has contributed greatly to the quality of research, the credibility of the individual researchers, and the effectiveness of the indigenous policy institutions. For example, IAPRI's initial research collaboration with MSU in Zambia resulted in IAPRI researchers publishing studies in international journals that conferred exposure to IAPRI's work and attracted a range of other international groups such as IFPRI, FAO, and the World Bank seeking to collaborate with IAPRI. In the long run, IAPRI has built a solid brand for high-quality agricultural policy analysis with multiple international collaborators. By contrast, while APRU researchers in Malawi also collaborate with international research teams, the individual as opposed to institutional nature of their collaboration failed to build a brand known for quality. Therefore, long-term collaboration is typically essential but not sufficient for building quality institutional research capacity.

CONCLUSIONS

In reflecting on the main insights described in Sections 3 and 4, and based on the authors' own experiences with institutional capacity strengthening in developing countries, this concluding section underscores three general points to guide future capacity-building efforts.

5.1. Appropriate Policy Analysis Model Depends on Objectives and Timeframe for Impact

All three models—embedded advisors or units in government ministries, university-affiliated policy institutes, and independent policy think tanks—can be effective.[24] The suitability of each depends on objectives and timeframe for impact. The common denominator of success in any institutional capacity-development model is effective leadership—setting an internal culture that incentivizes individuals to bring out their best and to support the institute's objectives. This can be achieved in any model, but it is especially important to the policy institute model because the range of activities that a policy institute can fulfill in a country's policy ecosystem is broader than that usually possible in the embedded technical advisory model. For funding organizations aiming to improve the policy-enabling environment over the long run and for sustainable development, clearly the locally led policy institute—affiliated with a credible national organization—is likely to be the most suitable model.

5.2. Influence of the Ecosystem on Institutional Capacity Development

In 2019, there are many more well-trained African policy analysts than there were in 1990, but relatively few are within locally led policy analysis institutions. An important conclusion of this report is that progress in building institutional capacity in Africa is not just a matter of generating more qualified local policy analysts, or following best-practice management principles, as important as those are. Institutional capacity development is also greatly influenced by the external environment in which indigenous policy analysis units operate. This "policy ecosystem" determines the scope for locally led policy institutes to develop and thrive. Historical patterns of donor funding may impede the development of relatively new indigenous policy analysis units. In prior decades, local universities or agricultural policy research institutes were often seen as too weak to provide effective guidance to their governments and other local stakeholders and hence development assistance was channeled to international organizations and universities to initiate projects that would provide the needed technical and policy guidance. These substantial grant investments often provided important services to public sector ministries but (with a few notable exceptions) devoted a small fraction of their budgets to helping African organizations deliver such services themselves. While this approach generally succeeded in providing usually high-quality technical analysis, it tended to entrench the role of international institutes and universities as central players in the agricultural policy ecosystem of many developing countries, and contributed to a vicious cycle in which local universities and policy analysis units were perceived as too weak to make them the foundation of agricultural policy grant activities, justifying future grants that maintain their status as peripheral actors in the ecosystem.

Policy analysis is necessary for evidence-based policy discussion, but it is not sufficient. Other organizations and capacities need to appreciate the value of policy analysis and how it guides policy implementation, especially those in government broadly defined to include the executive, legislative, and judicial branches. This implies that policy analysis institutes need the resources to invest substantially in policy outreach and extension, especially to groups like parliamentarians and ministry officials, as well as to journalists to help inform the general public.

There are several noteworthy examples in which locally led research organizations engaged in agricultural policy analysis have become the central actors in their countries' agricultural policy space. Examples are ISSER/University of Ghana, BFAP/University of Pretoria, and IAPRI in Zambia. The national governments of these countries rely on these institutes in many ways, including (1) commissioning studies to guide policymaking on important policy topics; (2) asking for

[24] It is possible that different conclusions might have emerged if it were possible to account for the vastly different conditions of the country case studies (e.g., governing administrative structures, political parties, stability of governance). However, it was not possible in this report to rigorously account for differences in country conditions to assess the viability of alternative policy analysis models.

guidance or participation on special assignments undertaken within government ministries; (3) seconding individuals from the institute to join government task forces; and (4) periodic outreach activities co-organized by the policy institute and a government body. These organizations in many respects play a role in their countries similar to those of think tanks and policy institutes in most high-income countries. However, in many African countries, international groups continue to assume a dominant role in agricultural policy analysis and policy engagement activities with local governments. And in many of these countries, the current structure of external grants in the agricultural policy space does little to build the long-term development of the type of locally led research organizations that play a major role in almost all high-income countries.

5.3 From Studying to Implementing Capacity Development

Studies of how capacity development can more effectively contribute to policy processes are needed but they are not a substitute for resources devoted to on-the-ground institutional capacity development. Institutional capacity development may be accelerated by shifting the balance of funding meant for capacity development from studying capacity development and one-off workshops for individuals in targeted policy units to actually implementing comprehensive institutional capacity-development activities. This is not to argue that it is unimportant to study what works in building institutional capacity and what does not—it certainly is. But we note that considerable resources are already being dedicated to the providers of capacity-development knowledge used in the trainings and workshops of the individuals tasked with building up their policy institutes. Yet, many of these individuals and their institutes remain too under-resourced to implement comprehensive programs to sustainably build their policy institutes. In other words, sustainable funding to the institutes themselves—rather than knowledge of how to develop strategic plans, management trainings, and capacity-building plans—may increasingly be a binding constraint. Especially in recent years, the supply of internationally trained professionals in low-income African and Asian countries has increased dramatically. Many more Africans today possess professional job expertise related to agrifood systems, both in the public and private sectors, than was the case twenty-five years ago. Many were educated internationally, possess valuable technical skills, and can operate effectively in their countries given superior knowledge of local culture and connections with centers of local power. Many may benefit from additional training and guidance in various ways—provided that adequate resources are also provided to effectively implement institutional capacity-development plans.

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This study was made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the Feed the Future Innovation Lab for Food Security Policy Grant No. AID-OAA-L-13-00001. The contents are the responsibility of the study authors and do not necessarily reflect the views of USAID, the United States Government, Michigan State University, IFPRI or the University of Pretoria. This report has not undergone any peer review process.

Published by the Department of Agricultural, Food, and Resource Economics, Michigan State University, Justin S. Morrill Hall of Agriculture, 446 West Circle Drive, Room 202. East Lansing, Michigan 48824, USA

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