CHAPTER 6

Assessing African Economic Policy Responses to COVID-19

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Introduction

In early 2020, African governments adopted a wide range of containment and confinement measures to limit the spread of COVID-19 in the continent. The measures included border closures, suspension of international flights, closures of markets and schools, state-of-emergency declarations, total and partial lockdowns, restrictions on internal movement, imposition of curfews, and closures of nonessential businesses (UN-Habitat 2020; IMF 2020). To mitigate the adverse economic effects of these health measures, governments implemented various emergency economic supports and regulations. Several institutions have tracked the type and size of policy responses by African countries to ease the adverse impacts on agricultural development, food security, finance, and trade (Laborde and Parent 2020; Bisson and Hambleton 2020). These studies have explored the incidence and impacts of emergency responses with the objective of estimating the costs of COVID-19. Similarly, AKADEMIYA2063 has established analytical workstreams to monitor the impacts of COVID-19 on food production, markets, trade, and households (Badiane and Collins 2020). However, these studies have evaluated the overall impact of COVID-19 without disentangling the impacts of the health measures from those of the economic measures.

Unlike previous policy response studies (for example, Hale et al. 2020; IMF 2020; UN-Habitat 2020), which focus primarily on tracking policy responses and to some extent evaluating their political economy, this chapter aims to measure the performance of African countries in designing and implementing emergency policy responses, using a descriptive mixed methods approach. More generally, the study presented in this chapter seeks to explore the performance of countries in managing shocks. The study is motivated by the fact that the extent of public responses, the types of interventions chosen, the implementation strategies followed, and the speed of adoption are notably heterogenous (Hale et al. 2020). While some of the countries have relied on transfers, others have attempted to mitigate the pandemic's adverse effects by regulating markets and transactions. More importantly, some countries have applied innovative digital technologies to implement their responses, while others have continued to depend on conventional physical approaches, with significant implications for the performance of the responses in terms of both meeting the needs of beneficiaries and containing the public costs of implementation.

The chapter describes the sources of data and the analytical methods used to track performance before presenting the results on policy responses. The chapter focuses on the empirical measurement of COVID-19 policy planning and implementation performance in 17 African case study countries (Benin, Burkina Faso, Ethiopia, Gambia, Ghana, Kenya, Liberia, Lesotho, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Sierra Leone, Togo, and Zambia) using two major indicators: responsiveness and implementation performance. While the responsiveness indicator measures the planning capacity of countries in responding to emerging shocks such as COVID-19, the implementation performance indicator measures the effectiveness and innovativeness of countries in implementing emergency responses across four sectors: food, seed, fertilizer, and trade. The chapter also examines the interaction between policy response performance and price changes, based on previous studies on the impacts of COVID-19 on food prices, to demonstrate the importance of policies and their effective implementation in shielding households, markets, and economies from the adverse impacts of COVID-19. The chapter further estimates the overall policy process performance of the countries, characterizes the six best-performing countries, and identifies best practices that can be replicated and scaled up to improve emergency policy process performance in Africa.

Data and Methods

Data

The data used for this study were obtained from two sources. The first is the Oxford COVID-19 Government Response Tracker (OxCGRT), which was launched by the University of Oxford's Blavatnik School of Government at the end of March 2020. It is the first tool ever used to track policy measures adopted by governments in responding to the coronavirus pandemic (University of Oxford 2021). The tracker collects data and information that is publicly available on several indicators such as economic policies, which include income support, debt relief, the provision of aid, and other indicators. The tool launched with 73 countries and expanded continuously to include policy response data from more than 180 countries around the world (Sant 2021). Of all the available indicators, we focus on the income support indicator, which provides data on direct cash payments delivered by governments to those who lost their jobs due to the

pandemic. On an ordinal scale, the data tell whether and to what extent governments are replacing lost salaries. This indicator helps to verify our argument that although African governments were less responsive in supporting lost incomes, they were very responsive in supporting access to supplies and services for households and sectors that are vulnerable and economically critical. However, we also explored the overall economic support scores of the tracker. The raw data of the tracker are obtained from Hale et al. (2021) for the entire list of African countries.

The second major dataset used for this chapter is obtained from the AKADEMIYA2063 expert interviews conducted in September 2020 to track certain African governments' COVID-19 sectoral policy responses and their implementation. The expert interviews were conducted using a semi-structured online survey questionnaire designed specifically to track countries' responses and implementation performance. The questionnaire covers five sectors: food, seed, fertilizer, trade, and transportation. The transportation data are not used here, as the responses were too few. For each sector, three broad questions were covered: the type of responses; the timing, location, and beneficiaries of the responses; and the methods of implementing the responses. The questionnaire asked specific questions regarding the government's approach to mitigating the adverse effects of COVID-19 in each sector. Thus, the questions were designed to reflect self-reporting of attributions rather than causal inference with counterfactuals.

The questionnaire was distributed to purposely selected experts who have knowledge of policy actions and implementations in a specific sector in a country. Thus, different experts were interviewed for the different sectors, in most cases two or three experts in a country: one for food, seed, and fertilizer (mainly from the Ministry of Agriculture) and the other for trade or transportation or both (mainly from the Ministry of Trade). In some cases, where more than two responses were obtained from the same country and the same sector, we used the average response for each question. The experts were selected by Regional Strategic Analysis and Knowledge Support System node coordinators familiar with the knowledgeable persons for each sector.

The questionnaires were sent to experts in more than 30 African countries. However, full responses were received from only 17 countries from the three regions in Africa south of the Sahara: 9 from western Africa, 5 from southern Africa, and 3 from eastern Africa. Though the major countries and regions of Africa south of the Sahara are included in this sample, the number of countries is admittedly too few to represent the whole continent. However, since the purpose of the study is to track sector-level policy responses at the country level and identify best practices, we believe that this is a reasonable sample to allow us to make comparisons and draw lessons and indicative conclusions on emergency responsiveness and implementation performance.

Analytical Approach

To track and examine the sample countries' COVID-19 policy responsiveness (CPR) and program implementation performance (PIP), several indexes are developed based on the two datasets described above. The first indexes to measure CPR are the income support and overall economic support scores of the OxCGRT. The income support scores are based on the intensity of income support and are defined as "0" if a country did not support, "1" if it provided less than 50 percent of lost income, and "2" if it provided 50 percent or more of lost income. The scores are reported on a daily basis and hence the average scores are estimated for the period from March 2020 to February 2021. The average values are normalized to percentages by dividing by the maximum score, which is "2," for example, for income support. In this case, a country scores the maximum score (100 percent) for income support if it has provided 50 percent or more of the income lost and has done so throughout the full year (365 days). The economic support index is an aggregate of various economic response scores, including the income support index, debt relief index, etc., using simple averages (Hale et al. 2021).

Since the OxCGRT indexes mainly capture responses to support lost incomes due to job loss, which is a rare type of support in Africa, we instead regenerated a CPR index at the sector level—sector policy responsiveness (SPR)—that captures in-kind and regulatory responses to support lack of supplies and services due to the COVID-19 lockdowns, based on data from the experts' interviews. The SPR index for country i in sector j is coded as

$$SRP_{ij} = \frac{NR_{ij} + TR_{ij}}{20} 100,$$

where NR_{ij} refers to the number of response categories implemented. We divided responses into two categories: transfers and regulation. Transfers include in-kind free transfers of food, seed, and fertilizer as well as subsidies, transportation,

storage, tax exemptions, and technical supports in all sectors, including trade. Regulation includes imposing or lifting price controls, export bans, informal trades, restricting marketplaces, etc. Thus, NR takes a value from 0 to 2, where "0" represents no response, "1" only one type of response, and "2" both regulatory and transfer programs.

TR_{ij} refers to the speed of the responses, categorized as "0" if there is no response; "1" if a country responded after May 2020; "2" if a country responded in March, April, or May 2020; and "3" if a country responded before March 2020. The speed of response may depend on several factors, including the level of COVID-19 cases and the production season of a country, especially for seed and fertilizer. Thus, we first evaluated the correlation of the countries' responses and the average caseload, and then we gauged the countries' provision of seed and fertilizer transfers against the planting time.

The higher the SPR index, the more responsive the country is in terms of both number of instruments used and timely action. If a country had both transfer and regulation programs and these programs were implemented before March 2020 in all four sectors, it scores a maximum value of 20 (NR_{ij} = 2 + TR_{ij} = 3) x 4). The SPR is normalized into percentages by dividing the scores to the maximum value 20 and multiplying by 100.

The PIP index is developed based on experts' responses to questions related to the timeliness, targeting effectiveness, and innovativeness of their countries' COVID-19 program supports. The PIP index for country i in sector j is computed as

$$PIP_{ij} = \frac{TE_{ij} + TD_{ij} + TF_{ij} + DT_{ij}}{37} 100,$$

where TE_{ij} denotes targeting effectiveness in country *i* for sector *j*. We assumed that targeting effectiveness depends on targeting stringency, which in turn depends on the number of criteria (location, commodity, economic status) applied to select beneficiaries (IPA 2020). We assumed that the higher the number, the more stringent and effective, and vice versa. Based on this rationale, we coded the targeting effectiveness of countries as "3" if a country targeted the program using two criteria, "2" if a country targeted using only one criterion, "1" if a country did not target the program, and "0" if a country did not respond at all. This definition applies for food, seed, and fertilizer programs. For trade programs, targeting effectiveness is coded based on the number of pre-identified trade flows supported by the program, such as (1) export of food/inputs, (2) export of nonfood items, (3) import of food/inputs, and (4) import of nonfood items. Unlike the number of criteria, for which larger values are better, targeting in trade programs is coded such that the fewer the trade flows targeted the better. Thus, trade program targeting effectiveness of countries is coded as "3" if a country provided support to a single prioritized trade flow, "2" if a country provided support for two trade flows, "1" if a country provided support to three or four trade flows, and "0" if a country did not implement any trade support program.

TD_{ij} refers to the time of delivery (speed of implementation), gauged against the time of implementation of COVID-19 containment measures for food support and against planting time for input supports. TD_{ij} also considers the sources of the transfers. We assume that countries that procure the food/inputs for in-kind transfers from the market and deliver the transfers on time are considered more effective than countries that use stocks for transfers. Thus, the timeliness of a country is coded from 0 to 3, with "0" if a country had no program in that sector, "1" if a country did not deliver on time (after the containment or planting time), "2" if a country delivered on time (before containment or planting time) but from stocks, and "3" if a country delivered on time by procuring from the market ahead of time. Swift market procurement helps countries to implement virtual reserves, which are more cost-effective than physical stocks (reserves) for emergency responses (von Braun and Torero 2008). TD_{ij} is measured only for food, seed, and fertilizer supports. It has less relevance for trade support. Thus, TD_{ij} also measures procurement effectiveness.

TF_{ij} denotes the use of a task force to implement COVID-19 policies in each sector. It is coded as "1" if a country used a task force and "0" otherwise.

DT_{ij} denotes the use of digital technologies (pre-identified digital and smart platforms, for example, warehouse vouchers) to monitor progress and deliver the transfers as well as implement the regulations. It is coded as "0" if a country did not adopt any policy, "1" if the country did not use any digital technologies, "2" if it used digital platforms for monitoring progress, and "3" if the country used

warehouse receipt vouchers. These practices were selected based on literature that identifies them as promising best practices that increase the effectiveness of social protection programs (Tadesse 2018; Hidrobo et al. 2014). The use of e-commerce in African food systems remains very limited.

PIP_{ij} is gauged against the sum of the maximum ordinal score (37) for all indicators in all sectors. The maximum score for food, seed, and fertilizer is 10 ($TE_{ij} = 3 + TD_{ij} = 3 + TF_{ij} = 1 + DT_{ij} = 3$), and 7 is the maximum score for trade, as it has no score for TD_{ij}. A maximum of 100 percent implementation performance is achieved if a country scores the maximum in all sectors. The SPR and PIP indexes are compared across countries and sectors to track progress and performance.

An additional indicator—emergency response performance (ERP)—that summarizes the SPR and PIP indexes is also developed to identify best practices and lessons for potential scale-out and scale-up across the continent. ERP measures the relative performance of countries in designing and implementing emergency policy responses. It is estimated using a correlation-weighted performance score of four performance indicators: responsiveness, targeting effectiveness, timeliness, and innovativeness ($TF_{ij} + DT_{ij}$). We choose a correlation-weighted performance score mainly because, unlike a simple average, it helps to measure the systemic performance (or capacity) of a country by capturing policy consistency and synergy across all indicators and sectors. This means that a higher positive correlation among indicators signifies higher consistency and synergy, and thus higher policy design and implementation performance.

The correlation weighting factor is calculated using a principal component analysis (PCA) approach. PCA estimates the principal components of the data that retain the maximum information related to the correlations of the observed variables (indicators). However, PCA generates several components that capture all the possible correlations within a given dataset. In our case, we used the first principal component, as it captures the highest correlation of the data. According to Combes and Azema (2010), the choice of the number of components depends on the percentage of correlation explained by the components. The number of components that explain at least 60 percent of the correlation among the observed variables is sufficient to represent the dataset. In our dataset, 68 percent of the correlation among the four indicators is explained by the first component, confirming the sufficiency of the first component to represent the correlation among indicators and generate an overall policy process performance score.

Policy Responses to COVID-19

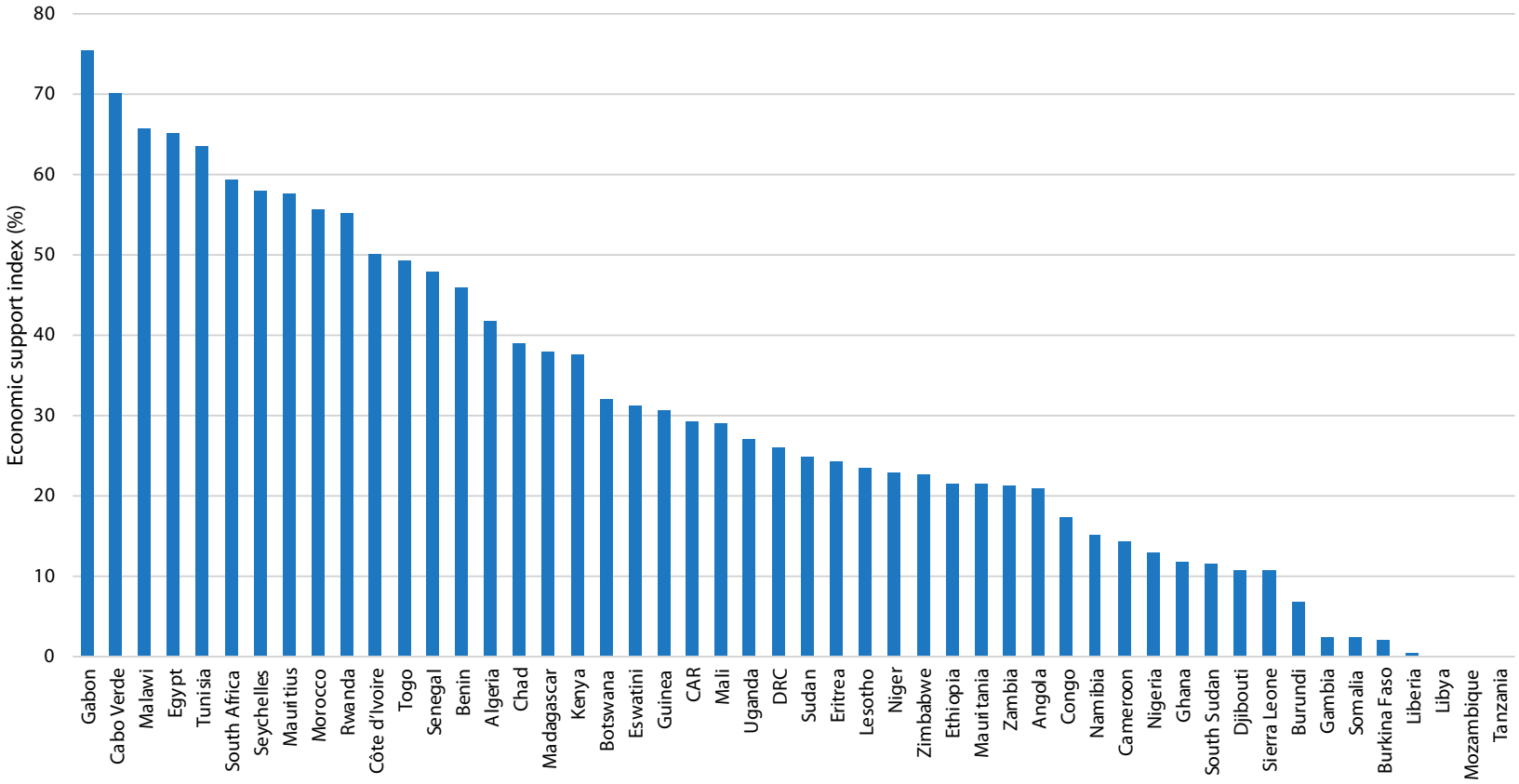
African governments have responded to the pandemic with two types of measures: health measures to contain the spread of the virus, and economic measures to support households and economic activity. The first group includes containment measures (closing schools, closing workplaces and marketplaces, canceling public events, confinement at home, etc.) but also sanitary measures (public information, testing, contact tracing, facial coverings, vaccination policy, etc.). The second group includes income support (salary payment), debt and contract relief for households, food transfers, agricultural input supports, fiscal measures, and trade facilitation.

Economic Support

Figure 6.1 shows the OxCGRT economic support index for African governments. The index is reported daily, and the figure shows the simple average of daily indexes from March 1, 2020, to February 28, 2021. A value of 0 means the country has no income support or debt relief, while a value of 50 percent can mean that the country has provided either income support or debt relief for 182.5 days out of the total 365 days in a year (half) or both income support and debt relief for 91.25 days in a year (one-quarter), or any other similar combination. The index shows the extent of support, and the higher the index, the more intensive the support provided by the country.

No African country is included in the 20 most responsive countries across the globe. The leading nations are mostly from Europe—with some from Asia (Japan, Israel, etc.) —and scored more than 75 percent. The maximum score for Africa is about 75 percent, represented by Gabon, followed by Cabo Verde and Malawi (Figure 6.1). Fourteen African countries scored above the global average of 45 percent. Of the 184 countries included in the global index, only 6 have a score of 0. Three of them are in Africa: Libya, Mozambique, and

FIGURE 6.1—AVERAGE COVID-19 ECONOMIC SUPPORT INDEX OF AFRICAN COUNTRIES FROM MARCH 1, 2020, TO FEBRUARY 28, 2021



Source: Authors' computation based on OxCGRT data reported in Hale et al. (2021).
Note: CAR = Central African Republic; DRC = Democratic Republic of the Congo.

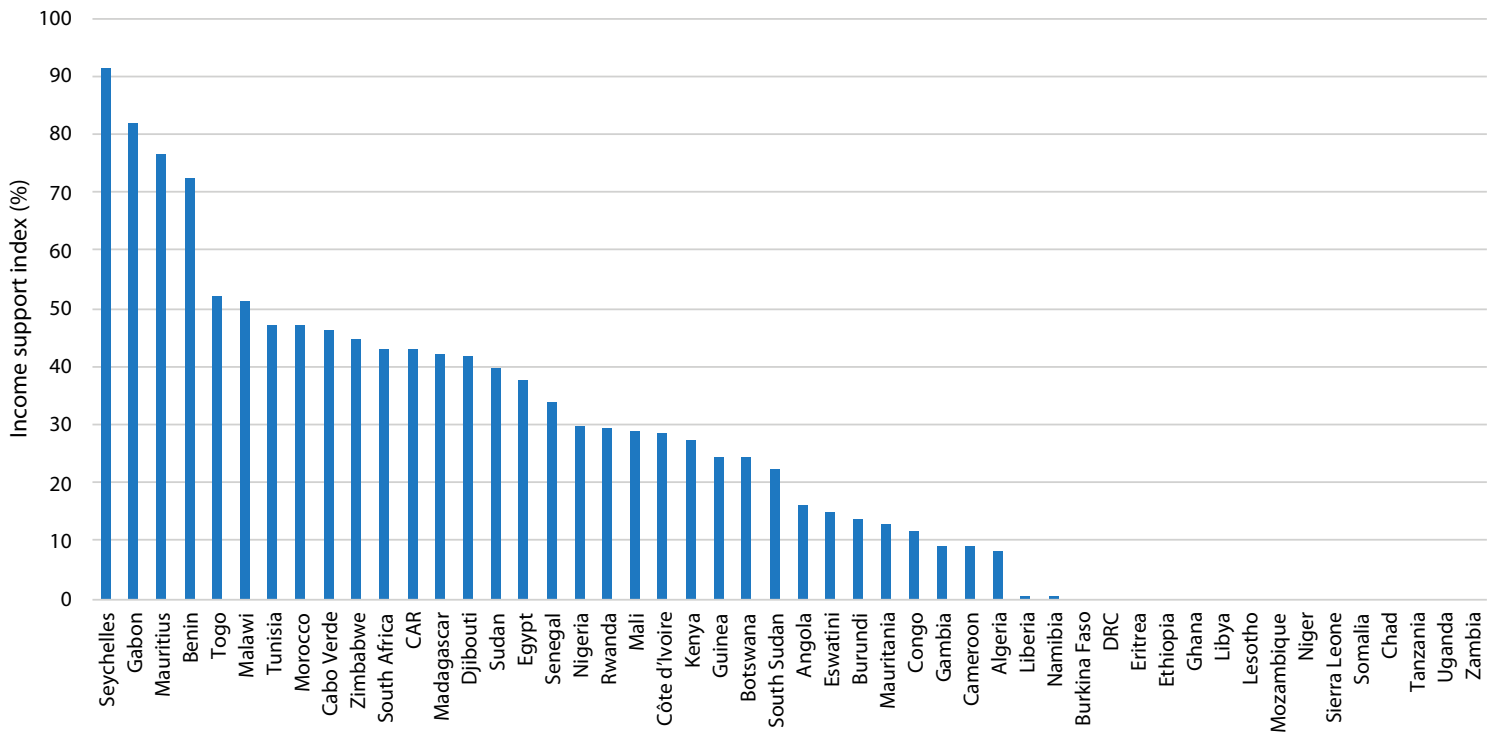
Tanzania. These countries did not provide either income support or debt relief as defined by the tracker.

We further assessed the extent of income support that those African countries have provided to employees to compensate for lost income. Figure 6.2 presents the income support index of African countries for the same period. Of the 50 African countries for which the tracker has data, only 35 provided income support. Seychelles, Gabon, Mauritius, and Benin were the most protective countries, with scores of more than 70 percent. These countries as well as Togo and Malawi covered more than 50 percent of lost salaries for a significant number of days during the year.

Sector Policy Responses

As shown in Figure 6.2, about 15 African countries provided no income support to mitigate lost income. This does not, however, mean that these countries did

FIGURE 6.2—THE EXTENT OF INCOME SUPPORT PROVIDED BY AFRICAN COUNTRIES TO EMPLOYEES AFFECTED BY COVID-19 RESTRICTIONS FROM MARCH 1, 2020, TO FEBRUARY 28, 2021



Source: Authors' computation based on OxCGRT data reported in Hale et al. (2021).
Note: CAR = Central African Republic; DRC = Democratic Republic of the Congo.

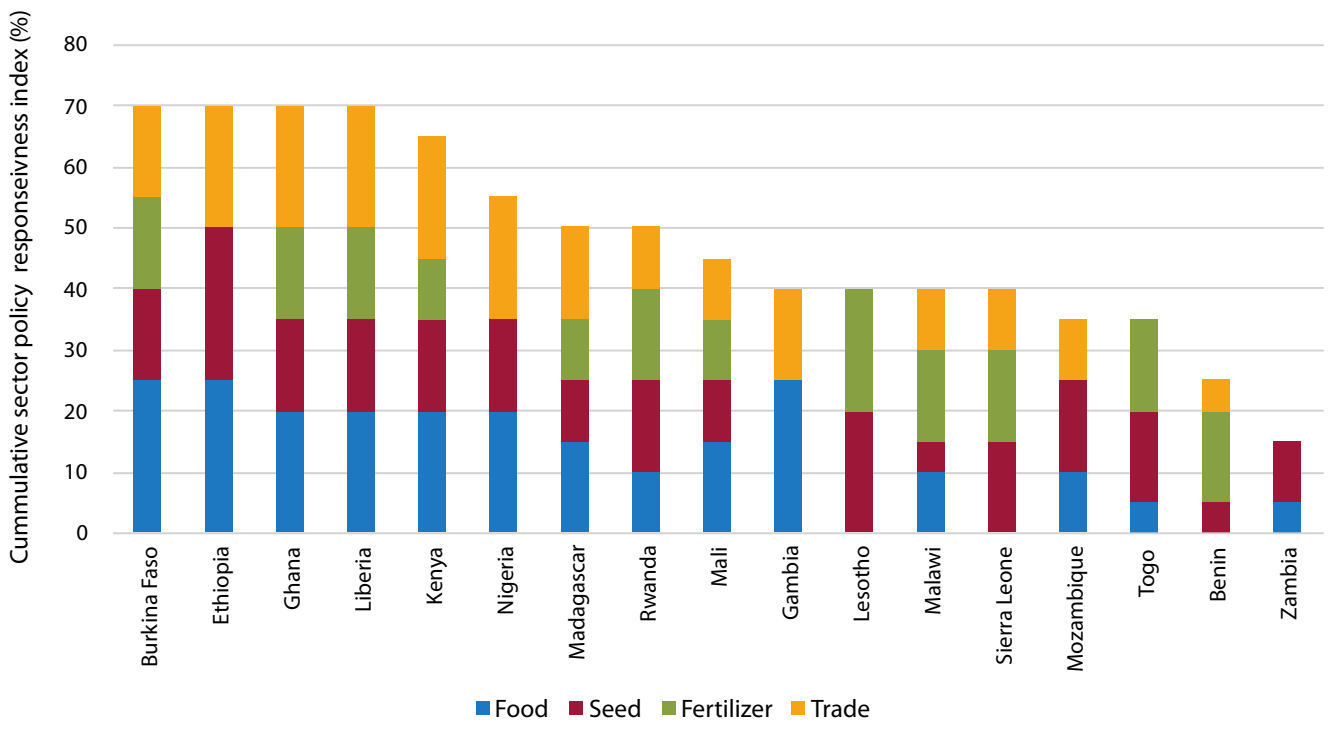
not support households and producers who faced lack of access to supplies and services due to the COVID-19 containment measures and restrictions. Instead, they supported vulnerable households, farmers, and businesses using sector-specific policy instruments through in-kind transfers and regulations. The in-kind transfers are made in the form of supplying food and providing inputs and services either free of charge or at a subsidized price. The regulatory supports are provided in the form of applying or relaxing price, import, and export controls, and enforcing safety standards. These regulatory supports may be intended, however, to protect households, farmers, and businesses from health shocks as well as income shocks.

Countries designing and implementing social protection measures attempt to achieve three important, usually conflicting, objectives (Zimmerman and Carter 2003; Devereux and Guenther 2009). These are (1) protecting vulnerable groups from welfare loss (consumption smoothing), (2) preventing beneficiaries and markets from experiencing disincentives (asset crisis) and distortion effects, and (3) promoting the productive capacity of marginalized groups that

have been trapped by poverty. The prevention and promotion objectives are important for shocks that have long-term effects, whereas the welfare protection and cost minimization objectives are important even in the short term. Since the economic emergency responses are meant to mitigate the adverse effects of the COVID-19 health measures, the overall impacts of the responses should depend on their effectiveness in protecting short-term outcomes (food supply, input use, cost of trade) and minimizing the public costs of implementation.

The impact of the supports in protecting consumers, producers, and trade, however, depends on the extent of the policy responses, the effectiveness of the supports in addressing priority needs, and the innovativeness of the implementation process to deliver and monitor the supports. Thus, in this section, we will measure the responsiveness of government measures, while in the next section we will examine program implementation performance in terms of the targeting effectiveness, timeliness of delivering supports, and innovativeness of countries in implementing supports, using data from the experts' interviews.

FIGURE 6.3—THE INTENSITY AND DIVERSITY OF SECTOR-SPECIFIC SUPPORTS TO COUNTERACT THE ADVERSE EFFECTS OF COVID-19 BY A SAMPLE OF AFRICAN COUNTRIES

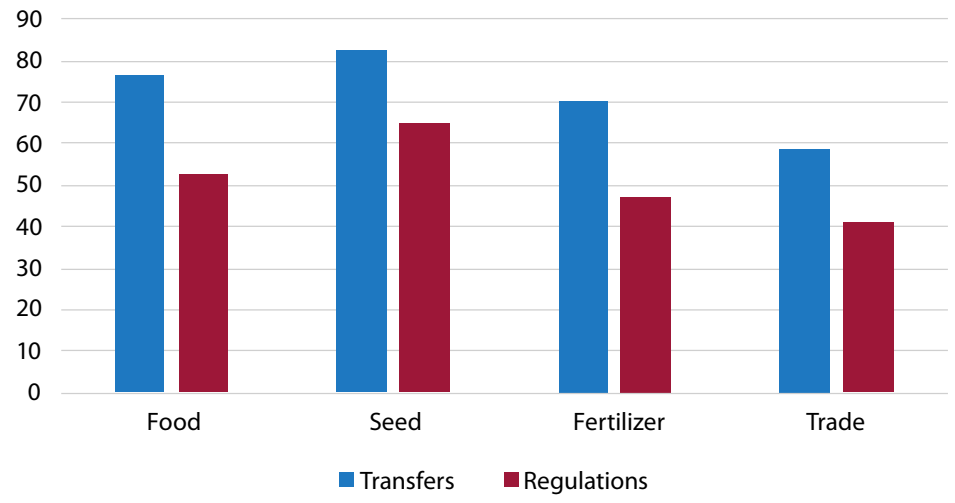


Source: Authors' computation using experts' interview data.

Using qualitative data collected from 17 countries, we assessed the responsiveness of African governments in the food, seed, fertilizer, and trade subsectors. Figure 6.3 shows the number (intensity) and diversity of sector-specific supports for a sample of 17 African countries measured using the method described above. If a country scores more than 10 percentage points in a sector, it implies that the country has adopted both regulatory and transfer programs for that specific sector.

The results suggest varying degrees of responsiveness across countries and sectors. Out of the 17 sample countries, Burkina Faso, Ghana, and Liberia were identified as very responsive countries, as they responded in all four sectors and scored a minimum of 15 percentage points in each sector. Five countries—Kenya, , Madagascar, Malawi, Mali, and Rwanda—supported all the sectors but with minimal degrees of responsiveness. Three countries—Benin, Lesotho, and

FIGURE 6.4—PERCENTAGE OF SAMPLE COUNTRIES USING TRANSFERS AND REGULATIONS



Source: Authors' computation using experts' interview data.

Sierra Leone—focused on supporting farmers and businesses, without providing any kind of support to food consumers. In contrast, Gambia supported only food consumers. With regard to instruments, many governments used transfers to support consumers and farmers, and regulations to support traders.

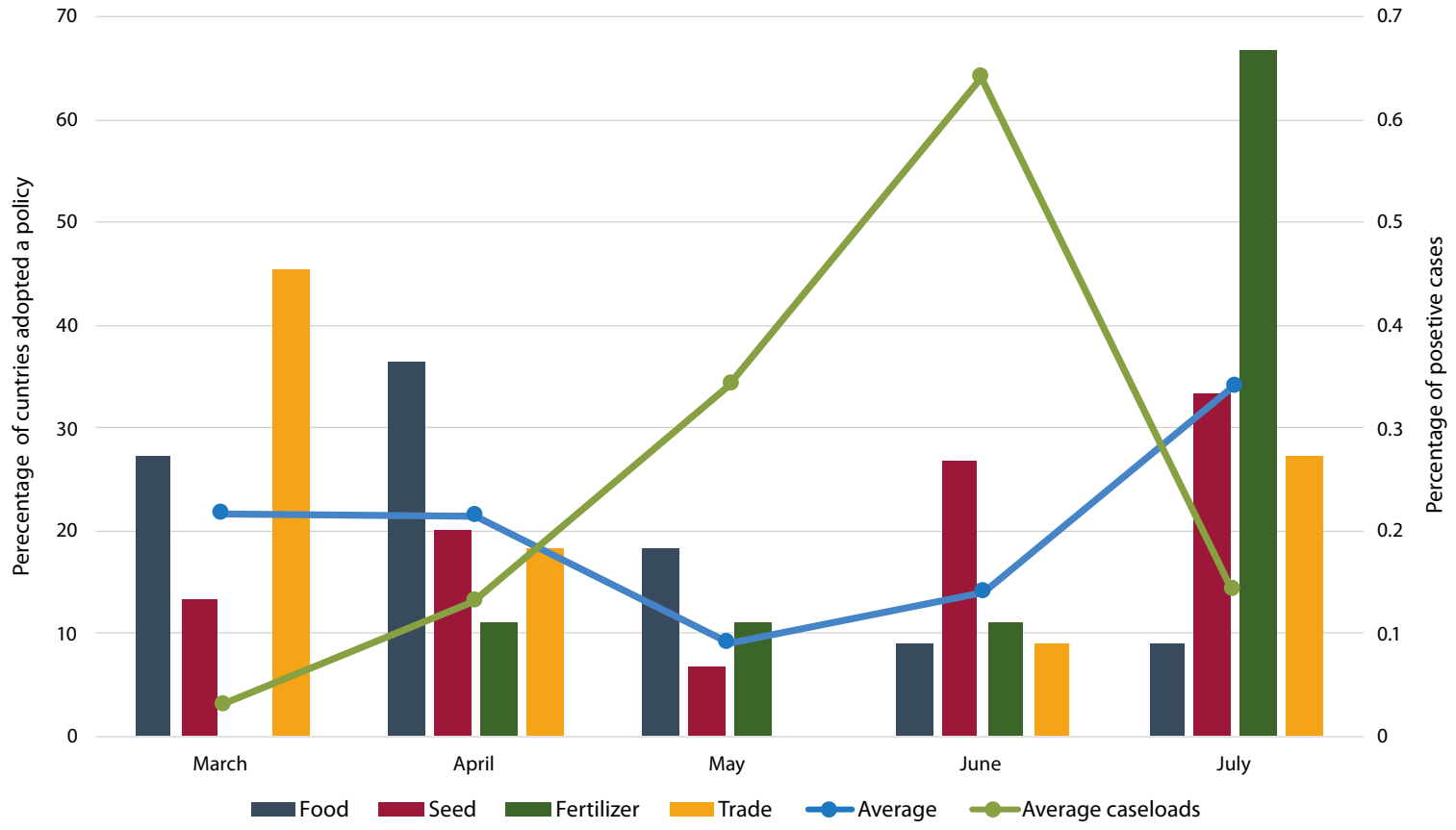
In general, even if many countries in Africa did not respond by providing direct income support, as reported in Figure 6.2, almost all of them have responded in the form of sector-specific in-kind transfers and regulations, with varying levels of intensity and diversity across sectors. More importantly, they implemented the supports at different times using different targeting and delivery approaches, which will have significant implications for the effectiveness of the supports. Below we first explain how we provide evidence on the extent of effectiveness for the sample countries.

Figure 6.4 presents the percentage of sample countries that used transfers and regulations to protect consumers, producers, and traders from the adverse effects of COVID-19. As expected, transfers are more prevalent than regulatory supports. This is particularly the case for the food and seed sectors. Surprisingly, a greater number of countries made transfers in the seed sector than in other sectors, suggesting that countries were worried about shortfalls in the harvest following confinement. Regulatory programs are usually supplemental support for the transfers. While transfers may target poorer households or traders, regulatory supports are intended to facilitate transactions hindered by confinement.

In addition to evaluating the number of policy instruments used to protect consumers, traders, and producers, we also assessed the timing of responses. Figure 6.5 shows the percentage of countries that implemented their first responses in five periods. More than one-third of the sample countries introduced food transfers and regulations in April 2020, while about one-fourth responded before March 31. Some countries responded as late as August or September. In terms of timing, countries were faster to act on trade than on other sectors. Close to half of the sample countries introduced trade measures before March 31, 2020. This is consistent with the fact that domestic containment policies in many African countries were introduced later than in trading partner countries and hence the trade policies were made in response to external restrictions (Hale et al. 2020; IMF 2020). The timing of policy responses for the seed and fertilizer sectors seems more related to the local planting time. Most countries intervened in seed and fertilizer distribution beginning in June 2020. Generally, the timing of responses varied greatly across countries and sectors. In an emergency, earlier responses are often considered to be the most effective. However, responses should be gauged relative to the timing of the shock and the demand for the supports.

Figure 6.5 also shows the average percentage of positive cases in the sample countries (green line) reported in each month. The comparison of the average policy response rate (blue line) and the average caseloads indicates that the policy responses are not highly correlated with COVID-19 caseloads. The average caseload increased from 0.03 percent in March 2020 to 0.64 percent in June, then sharply declined in July to 0.14 percent. However,

FIGURE 6.5—THE SPEED OF POLICY RESPONSES (PERCENTAGE OF COUNTRIES BY MONTH, 2020)



Source: Authors' computation using experts' interview data.

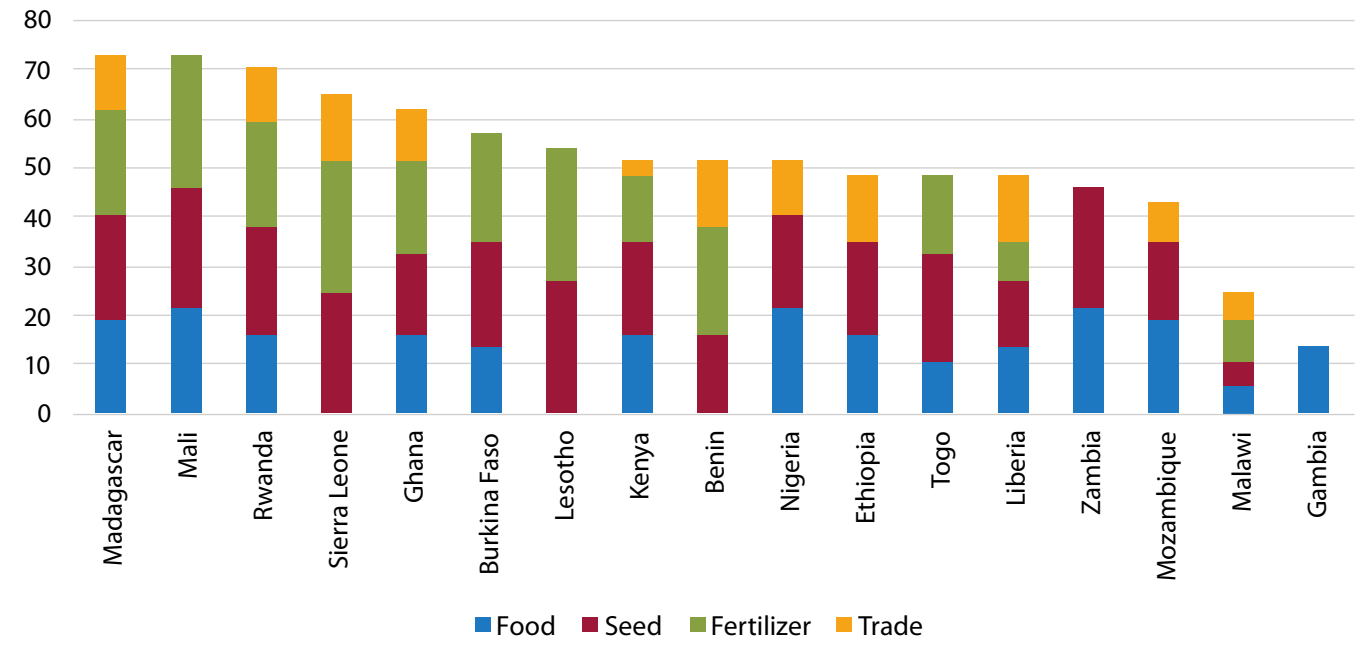
Note: "Average caseloads," which refers to the average percentage of positive cases in the total population of the sample countries, are measured against the secondary (right-side) vertical axis. All other percentages are measured against the primary (left-side) vertical axis.

the average response rate (percentage of countries that adopted a new policy) was higher in March and then declined before climbing in June and especially July. It seems that the countries' policy responses were influenced by two waves—the first being the outbreak of the pandemic in March and April, and the second being the high incidence rate in June that led to a response in July.

Program Implementation Performance

In this chapter, we define program implementation performance (PIP) as the effectiveness of countries in implementing sector-specific policies or programs designed to combat the adverse effects of COVID-19 restrictions. In principle, program performance, as opposed to program impact, is measured at the

FIGURE 6.6—PROGRAM IMPLEMENTATION PERFORMANCE INDEX, NORMALIZED TO 100 PERCENT



Source: Authors' computation using experts' interview data.
Note: The index values are from 0 to 1 but were converted to percentages by multiplying by 100.

process or output levels. At the output level, performance is usually measured by the quantity or size of outputs achieved by the programs, for instance, the number of people benefited, and the amount of food and seed distributed. Unfortunately, we do not have reliable data on the output variables. Instead, we measured the implementation performance at the process level, using qualitative information on targeting effectiveness, delivery timing, institutional arrangements, and the methods or technologies (innovations) used to implement the programs. The advantage of the process approach is that it helps to capture (proxy) not only output effectiveness but also cost-effectiveness. The methods used to deliver the program benefits determine the cost of a social protection program. Thus, we developed a sector-specific PIP index for each country.

Figure 6.6 presents the PIP indexes (normalized to 100) of the sample countries across sectors. Of the 17 countries, only 7 received an overall PIP score of more than 50 percent. However, the overall score may obscure the implementation performance of a country within specific sectors. For example, Mali, Nigeria, and Zambia appear to be the most effective countries in implementing food support programs, as they used innovative warehouse vouchers to deliver foods to targeted households on time. Others, such as Ethiopia, Ghana, Kenya, Madagascar, and Mozambique also scored highly in

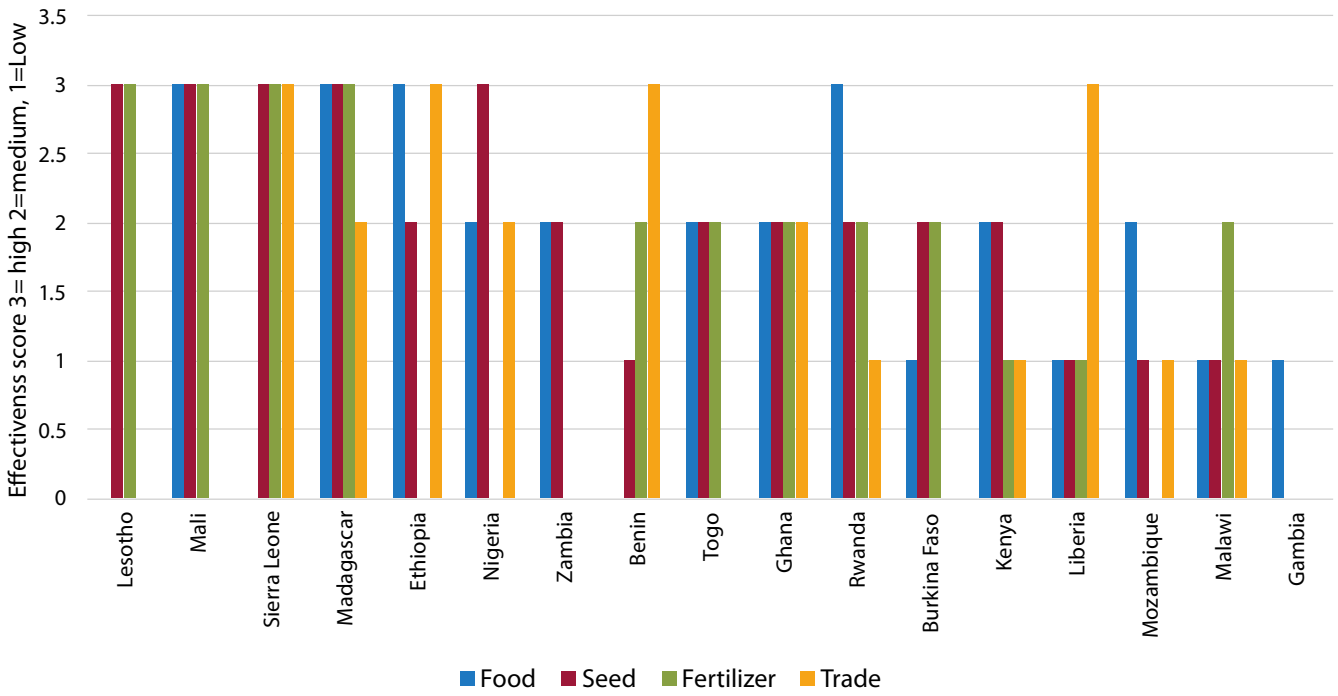
implementation effectiveness of food programs. Similar variations are observed in the seed, fertilizer, and trade programs. To make the analysis more practical and shed light on the weaknesses and strengths of the sample countries, below we describe the countries that have done well in each of the three performance indicators used to construct the PIP index.

Targeting Effectiveness

In a social protection program, effective targeting of locations, commodities, and households is crucial to reach vulnerable groups and enhance social welfare (Cirillo and Tebaldi 2016). For example, in a food transfer program, focusing on staples or nutritious food items helps to reach the poor who depend on staples. Similarly, targeting urban residents during COVID-19 confinement helps to reach most consumers without access to food (IPA 2020). Targeting is also very important for other supports related to seed, fertilizer, and trade, as it ensures the prioritization of locations, commodities, and producers or firms that provide significant welfare effects at the national level. Effective targeting also helps to minimize market distortions and disincentives associated with transfers and regulations (Alderman 2001.). Therefore, we explored the targeting effectiveness of the sample countries in food, seed, and fertilizer transfers, as well as trade facilitation support in response to COVID-19 using the method described in the "Data and Methods" section. It is important to note that we do not have specific data on actual targeting efficiency, and hence we are unable to verify whether the transfers actually reached the target groups or not. But the use of a greater number of targeting criteria indicates how a country is trying to reach those most affected by the pandemic.

Figure 6.7 presents the targeting effectiveness scores for the sample countries by sector and ordered by average values. The results suggest varying levels of targeting effectiveness across sectors and countries. Input supports seem more targeted than food and trade supports. About half of the countries provided input supports to selected producers and commodities only. With regard to food transfers, Ethiopia, Madagascar, Mali, and Rwanda appear to be effective, as they prioritized beneficiaries across locations and economic statuses (Figure 6.7). Our survey data indicate that food transfers in these countries were targeted to urban

FIGURE 6.7—TARGETING EFFECTIVENESS SCORES OF SAMPLE COUNTRIES



Source: Authors' computation using experts' interview data.

Note: In cases of missing values, mainly due to a lack of policy response for one or more sectors, we assign the missing sector a score based on the average of scores for the sectors for which the country has complete data or responses. This is to allow comparison using the full dataset.

areas where COVID-19 containment had significant impacts on food supply in poor households, which is consistent with the recommendation of Innovations for Poverty Action (IPA 2020). Contrary to our expectations, the survey data also showed that about 29 percent of the sample countries did not specify (target) beneficiaries of food transfers. As expected, supports to trade were less targeted. Just three countries, Benin, Ethiopia, and Liberia, were able to provide the supports only for prioritized transactions—either for import or export of food and inputs, or of nonfood products. Generally, out of the 17 case study countries, Lesotho, Mali, and Sierra Leone had the most effectively targeted programs, while the policy responses of Gambia, Malawi, and Mozambique were less targeted or prioritized.

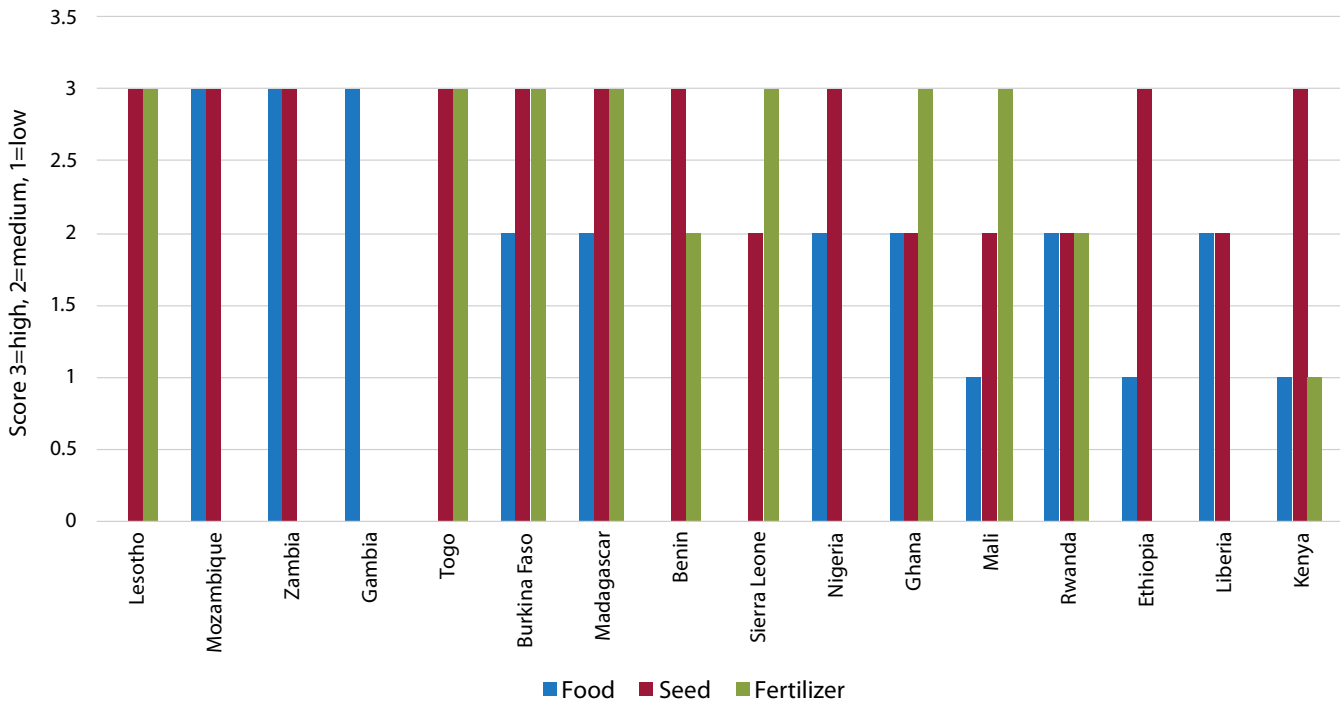
With regard to specific social groups, although most transfer programs during the pre-pandemic period targeted the poorest population only and failed to include informal workers, informal workers began to be included in social protection programs adopted in developing countries during the pandemic (Bilo et al. 2021). This is likely in response to the fact that the informal sector has been one of the hardest hit by the pandemic. A brief published by the International Labour Organization in September 2020 revealed that about 1.6 billion informal workers have been affected worldwide following the lockdown and containment measures that governments devised to combat COVID-19 (ILO 2020).

Timeliness of Delivery

Unlike with other policy actions, the effectiveness of an emergency response greatly depends on the timeliness, or time effectiveness, of delivery. Timeliness also depends on the sources of the transfers. We assessed the timeliness of sample countries' in-kind transfers of food, seed, and fertilizer using the effectiveness codes specified above.

The timeliness scores of sample countries are presented in Figure 6.8. As described above, the timeliness score is measured against containment time for food, and planting time for seed and fertilizer. The score also considers the sources (market or reserves) of the transfers. On average, countries such as

FIGURE 6.8—IMPLEMENTATION TIMELINESS SCORES FOR THE CASE STUDY COUNTRIES



Source: Authors' computation using experts' interview data.

Note: Implementation timelines scores are based on the extent to which a country implements the transfer or regulation in line with the time of containment for food and planting time for inputs.

Gambia, Mozambique, Lesotho, Togo, and Zambia rank higher than the others. However, these countries have implemented responses in only a few sectors.

Figure 6.8 also shows that seed and fertilizer transfers were timelier than food transfers. Most countries procured seed and fertilizer from markets and delivered them on time (before or at planting time). Similarly, most countries (9 out of 11) were able to deliver food transfers before or at the time containment measures were implemented, but most of these countries used foods from stocks. Only three countries (Gambia, Mozambique, and Zambia) were able to procure foods from markets ahead of time and deliver them on time. The use of virtual and physical food reserves is an important policy consideration in managing emergencies and risks (von Braun and Torero 2008). Keeping physical food reserves is usually costly but helps countries to deliver support on time. If a country depends on markets (virtual reserves) and is also able to deliver on time, this is considered the most effective policy response in terms of timeliness. However, from the sample countries' experience, it seems that unlike for transfers of farm inputs, reserves are critical to deliver food transfers on time.

Use of Task Forces and Digital Technologies

In addition to protecting consumer, farmer, and business welfare, governments are obliged to minimize the direct public cost of implementing social protection measures (Baird, McIntosh, and Ozler 2009; Devereux and White 2010). In many cases, the cost of implementation depends on the institutional arrangements and the types of technologies that are put in place to implement the emergency response. For example, the use of e-government resources for stakeholders coordination has significantly contributed to the effectiveness of program implementation (Ashaye and Irani 2019). An emergency-response task force assisted by information and communications technology can improve implementation effectiveness by enhancing accountability and mutual responsibility. The use of virtual platforms for monitoring progress and, more importantly, for procuring and delivering transfers is also critical not only to minimize the cost of implementation but also to increase the welfare effects of transfers. Innovations such as virtual platforms, warehouse vouchers, and smart subsidies, among others, facilitate timely implementation of the support as well as the effective targeting of households (Hidrobo et al. 2014). These innovations also reduce the costs of handling transfers. We assessed the innovativeness of sample countries using ordinal scores, as described above.

Figure 6.9 reports the ordinal scores of sample countries regarding policy implementation innovativeness (the use of task forces and digital technologies) across sectors (types of support), ordered by average scores from top to bottom. The results vary across types of economic support. In food support, only two countries (Mali and Nigeria) used warehouse voucher systems to procure and deliver transfers. Similarly, only two countries (Kenya and Zambia) used digital platforms to monitor the implementation of transfers from procurement to delivery. As explained earlier, these four countries could have been the most cost-effective ones regarding food emergency responses. Many countries organized task forces to oversee the implementation of food support.

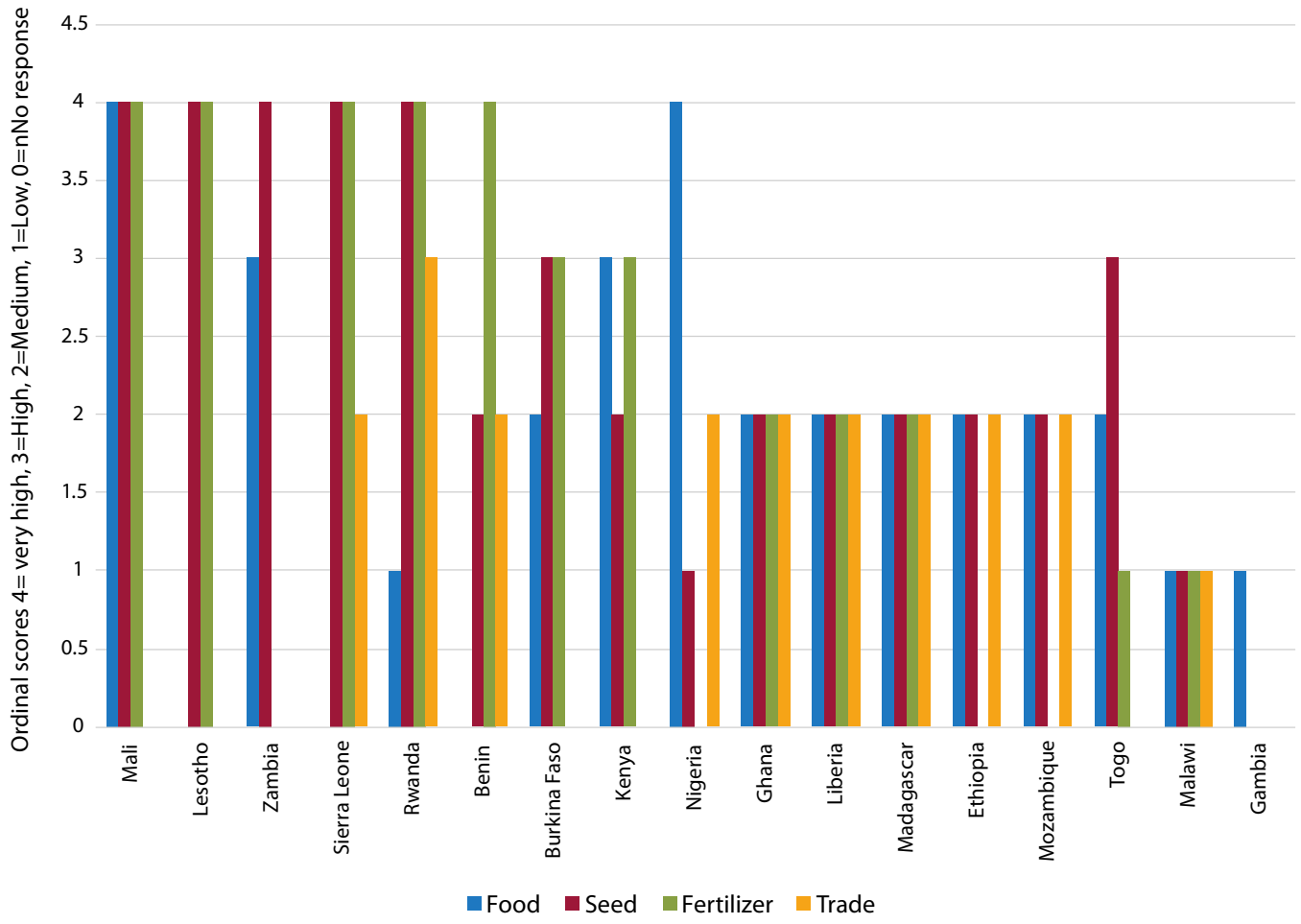
Unlike for food support, many countries used warehouse voucher systems for input support. Lesotho, Mali, Rwanda, and Sierra Leone used voucher systems to transfer both seed and fertilizer. These countries are among the highest-ranking ones when it comes to innovativeness (Figure 6.9). As expected, many countries used only task forces for trade support implementation; the exception is Rwanda, which used both digital platforms and task forces for facilitating trade and monitoring the implementation of trade policies.

The high performance of some of the sample countries, such as Mali, might be surprising given reported issues with fertilizer distribution and cotton farmer boycotts due to the challenges of COVID-19 (Theriault, Tschirley, and Maredia 2021; Wangchuk 2021). However, our results show that the few responses implemented by the government perform reasonably well. Moreover, Mali performs best with certain indicators, such as innovativeness. The adoption of innovative approaches might have been promoted by external support rather than internal state capacity. Mali obtained support for several COVID-19 response projects from international donors (for example, the United States Agency for International Development) in 2020, and this may have helped the country to design quite innovative approaches to implement the responses.

A high level of innovativeness in implementing COIVD-19 responses may reduce the cost of implementation. However, it may not help to minimize embezzlement and corruption due to low governance capacity. This has been

witnessed in many countries, which have shown high performance in many of the indicators discussed above but have performed poorly in the governance of transfers. For example, in Kenya the cash transfer program reached a very small proportion of those in need (Jerving 2021). The approach used to select recipients was not transparent and resulted in the exclusion of thousands of households that should have qualified for support. In Nairobi, the cash transfer program reached only 5 percent of the vulnerable population. Moreover, even though the program was intended to provide weekly cash transfers for several weeks, many households received transfers for periods as short as two to four weeks. To make matters worse, households that were in a better situation were allowed to benefit from the transfer program. Political leaders were alleged to have funneled some funds to friends, relatives, and supporters (Jerving 2021).

FIGURE 6.9—INNOVATIVENESS IN IMPLEMENTING COVID-19 RESPONSES



Source: Authors' computation using experts' interview data.

Note: Innovativeness scores are calculated by summing the ordinal scores of use of task forces and use of digital technologies for implementing and monitoring COVID-19 transfers and regulations ($TF_{ij} + DT_{ij}$).

Impacts and Best Practices

The Role of Policies for Mitigating COVID-19 Impacts

In this section, we explore the importance of policy responsiveness and implementation performance in shielding populations from the impacts of COVID-19, using the impact on local food prices as an example of an economic outcome. The policies were designed mainly to shield households and economies from welfare (consumption and production) shocks and macroeconomic instability. However, they could also affect markets by stabilizing prices, though we expect the impact on prices to be much smaller than the impacts on welfare and macroeconomic stability. Since we lack comprehensive and comparable data on the welfare and macroeconomic effects of COVID-19, we examined the impacts of COVID-19 on staple food prices in sample African countries that have shown varying levels of performance on policy responsiveness and implementation. The price impact studies were obtained from a series of analyses carried out by researchers at AKADEMIYA2063 and published as bulletins.[1] However, before we present the comparison of policy performance and COVID-19 effects on market prices, we summarize the typology of countries based on the two performance indicators presented above: the sector policy responsiveness (SPR) and program implementation performance (PIP) indexes.

Table 6.1 presents the typology of countries based on their food policy response performance indicators. Sample countries are divided into four groups. The first group consists of countries that were not responsive or were less responsive and less effective in implementing the programs. The second group includes countries that were effective in implementing the programs but were less responsive. The third group consists of countries that were responsive but less effective in implementing their responses. The fourth group includes countries that were responsive as well as effective in implementation. Table 6.1 is based on performance scores for food support programs. The typology may vary across sectors, as countries could perform better in some sectors than in others.

TABLE 6.1—TYPOLOGY OF COUNTRIES BASED ON FOOD SECTOR POLICY RESPONSIVENESS (SPR) AND PROGRAM IMPLEMENTATION PERFORMANCE (PIP) SCORES

Group 1	SPR	PIP	GROUP 2	SPR	PIP
Benin	0	0.0	Zambia	5	21.6
Lesotho	0	0.0	Mozambique	10	18.9
Sierra Leone	0	0.0	Rwanda	10	16.2
Togo	5	10.8	Madagascar	15	18.9
Malawi	10	5.4	Mali	15	21.6
Group 3	**SPR**	**PIP**	**GROUP 4**	**SPR**	**PIP**
Liberia	20	13.5	Ghana	20	16.2
Burkina Faso	25	13.5	Kenya	20	16.2
Gambia	25	13.5	Nigeria	20	21.6
			Ethiopia	25	16.2

Source: Authors' computation based on experts' interview data.

We used the typology presented above to examine the role of policy responses to protect food markets in the selected sample countries. We selected one country from each group, for which we obtained comparable price outcome indicators. As shown in Table 6.2, we explored the impact of COVID-19 on maize prices for Malawi, which has low scores for both SPR and PIP; Mozambique, which has a low score for SPR but a higher score for PIP; Burkina Faso, which has a high score for SPR and a low score for PIP; and Kenya, which shows high scores for both SPR and PIP. We assume that both large increases and large decreases in food prices are potentially harmful due to their effects on consumers and producers, and thus we look at the magnitude of impacts rather than their direction. We expect that successful COVID-19 response policies will result in lower-magnitude price changes.

1 For all AKADEMIYA2063 bulletins related to price impacts, see https://akademiya2063.org/food-price-tracking.php#bulletins.

TABLE 6.2—POLICY RESPONSE PERFORMANCE SCORES AND THE IMPACTS OF COVID-19 ON MAIZE PRICES IN SELECTED AFRICAN COUNTRIES

Country	Policy performance indicator scores		Average price impact due to COVID 19 (%)	
	SPR	PIP	Deficit areas	Surplus areas
Malawi	10	5.4	-50.0	-40.0
Mozambique	10	18.9	-30.0	-55.9
Burkina Faso	25	13.5	2.4	-0.4
Kenya	20	16.2	10.3	-0.3

Source: Authors' calculation based on AKADEMIYA2063 research bulletins (https://akademiya2063.org/covid-19.php).
Note: PIP = program implementation performance; SPR = sector policy responsiveness.

The result is vividly clear. Of the four countries, those that were responsive and effective in implementing the polices were able to stabilize food prices in both deficit and surplus markets. COVID-19 had higher-magnitude impacts on food markets in Malawi and Mozambique, which have lower overall scores (the sum of SPR and PIP). COVID-19 had less impact on food markets in Burkina Faso and Kenya, which had higher overall policy performance scores. Regarding the relative importance of responsiveness and implementation effectiveness, it seems that responsiveness has a better shielding effect for food markets than effectiveness. Burkina Faso, which has a higher responsiveness score, showed lower COVID-19 effects on food prices than Mozambique, which has a higher PIP score. We measure implementation effectiveness in terms of targeting, timeliness, and innovativeness, factors that are more important for welfare effects than for market-level effects. Thus, the superiority of responsiveness over implementation effectiveness in protecting markets from COVID-19 is not surprising.

Emergency Response Performance and Best Practices

To identify best practices in designing and implementing emergency policy responses, we developed a relative emergency response performance (ERP) score using a correlation-weighted performance score of the four performance indicators explained above: responsiveness, targeting effectiveness, timeliness, and innovativeness.

TABLE 6.3—THE SIX BEST-PERFORMING COUNTRIES IN TERMS OF EMERGENCY RESPONSE PERFORMANCE (ERP) SCORE

Sector	Country	ERP score	Sector	Country	ERP score
Food	Nigeria	1.82	**Trade**	Sierra Leone	1.93
	Mali	1.28		Liberia	1.93
	Zambia	1.16		Ghana	1.43
	Ethiopia	1.00		Nigeria	1.43
	Kenya	0.97		Ethiopia	1.29
	Ghana	0.92		Benin	1.29
Seed	Lesotho	1.96	**Fertilizer**	Lesotho	2.22
	Sierra Leone	1.44		Sierra Leone	2.22
	Togo	0.97		Mali	1.71
	Rwanda	0.86		Benin	1.42
	Nigeria	0.76		Rwanda	1.42
	Mali	0.70		Madagascar	1.08
Overall	Rwanda	0.85	**Overall**	Ghana	0.55
	Madagascar	0.70		Mali	0.52
	Sierra Leone	0.69		Kenya	0.44

Source: Authors' computation based on experts' interview data.

Table 6.3 presents the list of the six best-performing countries based on the ERP score in each sector. The overall (average) ERP score across all sectors indicates that Rwanda, followed by Madagascar and Sierra Leone, is the best-performing country among the sample countries. However, the list of best-performing countries varies across sectors.

Though the definition of best practices is always elusive and varies significantly depending on the context and type of practice (for example, technology versus policy, process versus outcome), best practices should meet certain common criteria: (1) they should be empirically tested and evidence should exist to verify their performance, and (2) they should be replicable or scalable. Thus, we defined best practices as policy options that have been practiced

by many of the best-performing countries in terms of relative emergency response performance.

Table 6.4 shows the percentages of best-performing countries that adopted various policy options. The best practices depend on the type of emergency responses. For example, targeting using one priority criterion is associated with higher performance in food policy responses, while multiple criteria are needed to achieve higher performance in other sectors. For fertilizer response, reliance on markets for procurement has led to higher performance than use of stocks. Countries that use warehouse voucher systems for agricultural inputs perform better than others. Unlike other sectoral responses, almost all the countries performing best in trade response organized task forces to facilitate and monitor implementation of trade support in order to combat the adverse effects of COVID 19. This indicates that social protection measures should be designed and implemented based on the type of sector or economic agent that the measures aim to support.

TABLE 6.4—PERCENTAGES OF BEST-PERFORMING COUNTRIES PRACTICING POLICY OPTIONS

Policy option	Overall	Food	Seed	Fertilizer	Trade
Use of either transfers or regulation	34.29	33.33	16.67	33.33	33.33
Use of both transfers and regulation	65.71	66.67	83.33	66.67	66.67
Targeting using only one criterion	45.71	66.67	33.33	33.33	33.33
Targeting using multiple criteria	40.00	33.33	66.67	66.67	66.67
Use of stocks	31.43	33.33	50.00	33.33	n.a.
Market-based response	51.43	16.67	50.00	66.67	n.a.
Use of task force	42.86	33.33	0.00	16.67	100.00
Use of digital system for monitoring and evaluation	17.40	33.33	16.67	0.00	0.00
Use of warehouse vouchers	34.29	33.33	66.67	83.33	0.00

Source: Authors' calculation based on AKADEMIYA2063 research bulletins (https://akademiya2063.org/covid-19.php).
Note: n.a. = not applicable, "Overall" represents all the sectors together.

Conclusion

The purpose of this chapter is to explore the performance of African countries in designing and implementing policy responses to combat the adverse effects of COVID-19, and to identify best practices. To this end, we measured policy responsiveness and implementation performance and the roles of these factors in shielding markets and households from COVID-19 impacts. We also estimated a systemic performance indicator that qualitatively measures the relative capacity of a country in addressing emergency challenges and identified best practices that contributed to higher emergency response performance across sectors.

From the results presented in the chapter, we draw three major findings. First, although most African countries provided less direct income support to employees, almost all countries responded at the sector level by delivering in-kind support to vulnerable consumers, producers, and traders, for which targeting, timeliness, and cost-effectiveness are critical. However, the types and intensity of responses varied across countries and sectors. Second, effectiveness in implementing responses is as important as adopting a response to shield markets and vulnerable households from the adverse impacts of COVID-19. However, the effectiveness of countries in targeting and ensuring timely delivery of support and the use of innovative approaches is very low. Third, countries that adopt both transfer and regulatory supports as well as market-based responses score the highest in overall emergency response performance. However, the identified best practices vary across sectors, and it is unclear how index scores reflect real-world performance.

In general, the empirical analysis has indicated the need for a new way of thinking to enhance the performance of policy responses to threats that differ from conventional risks in terms of both coverage and consequences. Risks that cover the globe, limit the transfer of goods and services, and restrict physical contact require a different type of preparedness and innovative approaches for implementation. Thus, it is critical to identify and prioritize areas that are limiting the overall performance of a

country's policy responses. Understanding the interconnectedness of policy processes is also very important. For instance, the use of warehouse vouchers has been an important innovation in implementing effective targeting using multiple criteria. Unlike the well-developed food supply chains in developed countries, where COVID-19 has revolutionized food systems through e-commerce, the extent of digital innovativeness in Africa is very much limited to warehouse receipt systems and the use of information and communications technologies for monitoring the delivery of food and other support transfers. This implies that African countries will need to mobilize their international e-commerce experience to improve the resilience of urban food systems.

The chapter assessed the implementation (process) performance of COVID-19 policy responses very qualitatively, with the objective of stimulating discussion among development researchers and practitioners rather than providing quantitative and exhaustive evaluations of the responses' effectiveness and impacts. Thus, further research is needed to verify the actual effectiveness and impacts of the policy interventions. The effectiveness study could focus on comparing the costs of implementation with the innovations adopted and the number of people benefitting from the programs using detailed data from program implementers. The impact evaluation could focus on estimating the welfare and resilience impacts of the interventions using data from program beneficiaries. The long-term community and market-level impacts of the responses could also be studied using comparable household and market-level data. The findings presented in this chapter can help to identify the impact pathways as well as the specific interventions to be evaluated. They can also serve as benchmarks to help select countries and/or to make comparisons across the case study countries, which are at different levels of COVID-19 policy response implementation.