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Zentrum für
Entwicklungsforschung
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ZEF POLICY BRIEF
NO. 64

MAKING THE HEALTHY CHOICE THE EASY CHOICE

POLICY LEVERS TO INCREASE MODERATELY PROCESSED FOODS IN LOW- AND MIDDLE-INCOME COUNTRIES

SUMMARY

Sub-Saharan Africa and many other low- and middle-income country (LMIC) contexts face a triple nutrition challenge. **Undernourishment** in Africa has increased since 2015, now affecting 20% of the population, while 61% experience **moderate or severe food insecurity**. **Micronutrient deficiencies** are estimated to affect 62% of children under 5 in the African context and 80% of women of reproductive age [1]. At the same time, **adult obesity** is also rising, now at levels around 20% in many countries in Africa [2]. Economic growth, rapid urbanization, and globalization are shifting food consumption patterns, replacing traditional diets with more processed products. **Consumers increasingly orient their food choices towards convenience, quality, safety, and variety**, driving expenditure away from primary production toward modified or processed foods [3], [4], [5], [6]. This shift is largely manifested in the ubiquity of so-called ultra-processed foods.

However, today nearly all foods undergo *some* degree of processing, although exact definitions of what different types of processing entail are debated. Here, we consider **moderately processed foods, which are foods that retain much of their nutritional value with added benefits over the raw product**, such as preservation to reduce the risk of spoilage and foodborne diseases [7], [8].[1] Moderate processing also improves food availability by extending shelf life, reducing food losses and waste, and ensuring year-round access despite seasonal fluctuations in the underlying raw commodity [7], [8], [9], [10].

Moderate food processing can make nutritious foods more widely available and affordable, particularly in LMICs. Emerging evidence also suggests that diets rich in minimally or moderately processed foods can play a preventive role in the development and progression of cardiometabolic diseases [11], [12], [13]. Current consumption trends show an increase in processed foods, and increasing the availability of moderately processed foods is an important opportunity to address the triple burden of malnutrition in Africa. Processing, more generally, also creates economic opportunities, promotes employment, and can contribute to gender equality within households [7], [8], [9], [10].

Despite their potential, little systematic evidence is available on the policy mechanisms available or recommended to increase the availability of nutritious, moderately processed foods at different stages of the value chain. To address this gap, this policy brief summarizes the evidence for five value chains in different countries (country-specific findings in the accompanying discussion paper, Table A1). We provide an overview of **(a) relevant actors across the value** chain in LMICs, **(b) key support measures** available to policymakers, and **(c) examples of policies** to overcome value-chain specific barriers. We focus on examples of moderately processed foods, for which evidence on supporting healthy diets exists: soy chunks in Zambia [14], Tempeh in Indonesia [15], [16], the dairy value chain in Rwanda [17], [18], Cashew nuts and apples in Cameroon [19], and general fruits and vegetables in Kenya [20]. We review documentation on policy mechanisms throughout the specific value chains and summarize them to provide an overview of available policy tools.

[1] Please refer to the accompanying discussion paper for a detailed overview and comparison of different food processing definitions.

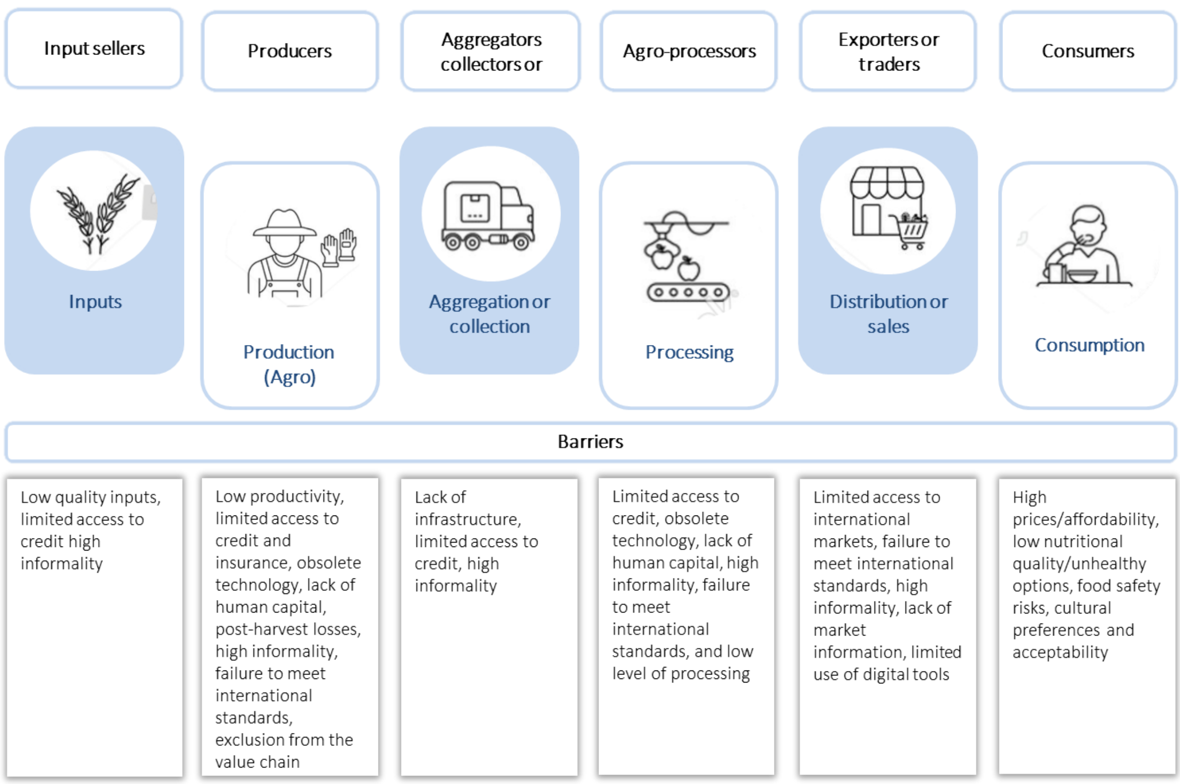
ACTORS AND BARRIERS ACROSS VALUE CHAINS

Figure 1 gives an overview of the stages across a generic value chain: input supply, production, aggregation or collection, processing, distribution and sales, and finally, consumption, either domestically or after export. Figure 1 also outlines the main barriers faced by small producers and processors, who often represent the majority of the private sector in LMICs.

- *Agricultural producers* are still hindered by low-quality inputs, limited access to credit, high informality, outdated technologies, and significant postharvest losses. These challenges extend to aggregators, who face poor infrastructure such as inadequate roads, cold chains, electricity, limited financing, and widespread informality.
- *Small informal food processors* face outdated technologies, limited skilled labor, and restricted access to credit. These challenges reduce the processors' competitiveness in international markets because they often fail to meet quality and safety standards, thereby excluding them from profitable value chains and export markets. In general, their level of processing tends to be low.
- *Small retailers* also face limited access to international markets, a lack of market information, and low adoption of digital tools. This matters for consumers, as it may exacerbate high food prices, poor nutritional quality, and a lack of available options.

To tackle these barriers and ensure improvements across the value chain for sustainable and resilient food systems, governments (can) play a fundamental role in shaping support mechanisms across each stage of production and creating food environments that promote healthy diets [21]. Government action, combined with private-sector investment and activities, can strengthen the role of food processing to increase the availability of favourable foods [22]. Processing is also desirable from an economic perspective as it adds value to the raw product and helps to formalize a largely informal

Figure 1: Main value chain actors and key challenges experienced



production process. While it is clear that policies, regulations, and incentives generally influence the availability of moderately processed foods and enhance the quality of the food environment, it is less clear what specific food policies or economic and regulatory tools are available to countries in Sub-Saharan Africa and beyond [21].

SUPPORT MEASURES AVAILABLE TO POLICY MAKERS

Table 1 provides an overview of support measures, incentives, regulations, and standards available to policymakers that have been part of value chain development for moderately processed foods in our five case studies. They all share the common goal of supporting existing (formal) private sector structures while integrating smallholders and other informal actors.

- Support Measures focus on strengthening key enablers, including improvements in infrastructure, the provision of training and technical assistance, the development of integrated industrial parks or shared hubs, enhanced access to finance, and the promotion of formalization and market access.

Table 1: Support measures, incentives, regulations, and standards in food value chains identified in policy review

Category	Focus/measure	Details
Support Measures	Infrastructure	Investment in roads, ports, clean water, electricity, sanitation, refrigeration, and cold chains.
	Training & technical assistance	Postharvest technologies, business development, and technical skills for producers and processors.
	Development of industrial parks and shared processing hubs	Integrated food-processing parks or hubs with shared facilities; innovation and knowledge hubs; connecting farmers, processors, and research institutes.
	Access to credit	Affordable loans, targeted financial instruments for SMEs and smallholders: subsidized or affordable interest rates, public guarantees to back loans granted by commercial banks, credit lines through public development banks, extended repayment terms or grace periods.
	Enterprise formalization & land tenure	Policies promoting formal businesses and secure land rights: low-cost and simplified registration processes, gradual compliance pathways of formalization, and offering benefits (access to public procurement programs).
	Market access and digital platforms	Promoting rural markets, trade fairs, and procurement programs that favor local, moderately processed foods. Investments in digital infrastructure, literacy, and connectivity.
Incentives	Fiscal Incentives	Tax reductions on processing equipment and spare parts, and loan grace periods. Tax reductions on moderately processed foods and their ingredients.
	Investment in technology	Adoption of high-tech agriculture to improve productivity and product quality. Create a supportive environment that includes adequate regulatory frameworks, and trained local personnel.
	Strengthening inclusive value chains	Contract farming, cooperatives, and market linkages to include smallholders and boost rural incomes.
	Promote consumption of moderately processed foods	Targeted food subsidies, taxes to UPF, cash-based food transfer programmes, and campaigns to encourage healthy diets and affordable, moderately processed foods. Improving the availability of moderately processed foods in stores and fast-food chains.
Regulations and Standards	Standards	Norms for production, processing, and food safety to access domestic and export markets.
	Public procurement	Public procurement programs that prioritize locally moderately processed foods: meals in schools, universities, hospitals, etc.
	Food authority	Ensure compliance with safety, quality, and hygiene standards, and strengthen coordination with other institutions.
	Labeling	Labels based on processing levels to guide consumers and organize supermarket layouts.

- **Incentives** aim to encourage private sector engagement, promote innovation, and expand market opportunities for moderately processed foods.
- **Regulations and standards** encompass the implementation of production and safety requirements, the establishment of a central food authority, the introduction of labeling systems, and the recommendation of rules for public procurement programs.

EXAMPLES OF POLICIES

More specifically, Table 2 summarizes policies that address the specific challenges faced by different actors across the value chain. They outline for each actor, which specific challenges (can) arise ("**Challenges**") and what policy approaches could be recommended in different contexts to address them ("**Policies**"). Many of these arise from the informality of the actors, a lack of credit or access to appropriate financial instruments, and low profitability. While these challenges are not exclusive to nutritious, moderately processed foods, together they pose a substantial barrier to the availability and affordability of healthy, fresh foods.

Table 2: Key challenges highlighted in literature and corresponding policies to address them

Actors	Challenges	Policies
Smallholder farmers	Low productivity • Limited adoption of good agricultural practices • High cost and low-quality agricultural inputs	***Training and technical assistance***: Training in good agricultural and climate-smart/climate-resilient farming practices. ***Input support.*** Provision of high-quality input (seeds, fertilizers, etc.) through subsidies, vouchers, or distribution programs. ***Access to credit.*** Loan guarantees, subsidized interest rates, or grace periods to help enterprises adopt new technologies and boost productivity. ***Investment in technology.*** Targeted incentives for high-tech agriculture to increase productivity.
	Post-harvest losses	***Infrastructure.*** Improving roads, ports, telecommunications, electricity, sanitation, clean water, refrigeration, and cold chain facilities. ***Training and technical assistance.*** Training in postharvest management/technology and storage techniques. ***Development of industrial parks or shared processing hubs***. Establishment of collection centers and cold chains. Facilities for storage, processing, packaging, and preservation in one location.
	Low profitability • Low agricultural prices • Losses due to pests or weather shocks	***Minimum price regulations for agricultural products***. Setting minimum prices for staple crops (price floors). ***Training and technical assistance***: Training in good agricultural practices and climate-smart/climate-resilient farming practices. ***Input support.*** Provision of high-quality input through subsidies, vouchers, or distribution programs. ***Market access and digital platforms.*** Develop rural wholesale markets for producers. Provide digital literacy training for smallholders and expand access to smartphones and internet connectivity.
Smallholder farmers, small-scale aggregators and processors	Limited access to credit • Restricting investment in quality inputs and new technologies (use of outdated methods). • Challenging to meet product quality standards.	***Enterprise formalization, cooperatives/associations registration, and land tenure.*** Gradual registration pathways that allow step-by-step formalization or introduce intermediate categories. ***Access to credit.*** Providing public guarantees for loans or offering credit lines with subsidized interest rates and extended repayment terms or grace periods. ***Strengthening inclusive value chains.*** Encourage food processors to provide small loans or credit to smallholder farmers as part of integrated supply arrangements.

Actors	Challenges	Policies
Smallholder farmers, small-scale aggregators and processors	**Exclusion of smallholders from value chains** and low bargaining power • Smallholders' non-compliance with quality standards for processing, supermarkets, or export • High informality	***Strengthening inclusive value chains.*** Encourage associations or cooperatives and facilitate linkages between farmers and food processors through contracts. Establish quotas for processors to purchase from smallholders. ***Enterprise formation, cooperatives/associations registration, and land tenure.*** Facilitate registration and formalization process. ***Standards.*** Assist with compliance to hygiene and sanitation standards
Small-scale processors	**Inefficient technology**: reliance on outdated or low-capacity equipment • Low level of processing or added value • Low competitiveness	***Enterprise formalization, cooperatives/associations registration, and land tenure.*** Establish registration pathways that allow step-by-step formalization or introduce intermediate categories. ***Access to credit.*** Provide public guarantees for loans from commercial banks/ offering credit lines with subsidized interest rates, extended repayment terms or grace periods. ***Fiscal incentives.*** Zero tariffs or temporary VAT exemptions for the purchase of machinery, spare parts, processing technologies, refrigeration equipment, solar dryers, mills, and packaging machines. ***Investment in technology.*** Coordinate regulatory frameworks on technology requirements with equipment manufacturers to foster innovation. ***Training and technical assistance.*** Technical assistance strengthens skills and knowledge, enabling stakeholders to adopt improved practices. ***Development of industrial parks or shared processing hubs.*** Provide shared access to specialized equipment, cold-chain storage, processing facilities, and standardized quality-control systems.
	Limited human capital • Shortage of trained personnel capable of operating and maintaining modern technologies.	***Training and technical assistance.*** Focus on the operation and maintenance of modern processing equipment and technologies, combined with technical degree programs. ***Access to credit***. *C*omplemented loans with technical assistance. ***Development of industrial parks or shared processing hubs.*** Establish centralized industrial parks as growth hubs, providing technical support, business development services, and targeted training to enhance competitiveness and product quality.
Consumers	**Lack of availability** of moderately processed foods that are competitive with ultra-processed versions.	***Fiscal incentives.*** Tax reductions on moderately processed foods or their ingredients. Tax on UPF to discourage its consumption. ***Promote the consumption of moderately processed food.*** Recognize schools, hospitals, and companies that include moderately processed foods in their menus. Campaign to raise awareness of importance of healthy diets. ***Public procurement.*** Regulations for public procurement programs to prioritize moderately processed foods, e.g. through cash-based food transfer programs. ***Labelling.*** Implement food labelling systems based on processing levels and promote local, moderately processed foods through national branding initiatives.
All actors	**Lack of infrastructure** • Inadequate basic services • Poor road conditions • Insufficient cold-chain systems, storage, or collection facilities	***Infrastructure***. Identify and prioritize critical roads, ports, telecommunications, electricity, sanitation, clean water, refrigeration, and cold chain facilities. ***Development of industrial parks or shared processing hubs***. Centralize facilities for storage, processing, packaging, and preservation. Shared food processing hubs. Access to machinery and facilities through rental or leasing arrangements.

Notably, policies and initiatives targeting barriers around the value chain typically do not include dedicated measures to address consumers. This indicates that demand-side drivers are still not fully incorporated into the value chain and that, in many cases, agricultural development policies fail to account for consumers. It may also reflect a narrow concept of the food system. Only one country (Zambia) part of this review had a concrete initiative to connect supply-side policies with demand-side drivers, by including soya-based foods in the recommendations for a healthy diet (while also generally warning about foods that include soya protein).

The most common barriers addressed focus on low profitability, productive and economic challenges for producers, aggregation, and value added. These include dedicated measures to improve productivity, providing financial support for better inputs and efficient technology, combining access to financial instruments with skill building (credit complemented by technical assistance), and an aggregation structure to increase power and inclusion of smallholders. While the literature provides examples and recommendations for supporting consumers through labels, fiscal incentives, promotion, or public procurement, very few policy measures were identified that integrated this perspective into the overall production support in a concrete way.

CONCLUSION

Rapid urbanization and economic growth are driving a rising demand for foods that are convenient, affordable, and aspirational. Processed foods are filling this gap and are projected to continue doing so. There is ongoing debate about what constitutes food processing and which levels may be harmful to human health, as so-called "ultra-processed foods" are often nutrient-poor and detrimental to human health. At the same time, it is uncontroversial that some processing – for taste, durability, food safety, or marketing – brings distinct benefits.

Based on the review of five moderately processed commodities in LMICs, along with policies and studies on the benefits of processing, we highlight key barriers for different stages of the value chain, summarize policy measures available, and give examples of how they have been used or recommended in support of different actors across the value chain. An important gap identified by this research is the lack of connections between production and supply-side stimuli with consumer-facing policies. By highlighting good policy practices, we show the potential of moderately processed foods in food system transformation: providing nutrition and health benefits while catalyzing sustainable, resilient agrifood systems, stimulated by the private sector and economic growth.

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This brief was developed as part of the Agrifood Systems-Transformative Research and Policy (AFS-TRP) Project. AFS-TRP is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the European Union (EU).

The Project is carried out by the Center for Development Research (ZEF) at the University of Bonn and supported by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. This publication does not necessarily reflect the views of the BMZ, EU, or GIZ.

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Layout: Yesim Pacal / ZEF PR

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