



# Briefing Paper

## **Agro-processing in the Context of Trade, Climate Change and Food Security**

### Identifying and Improving the Linkages in the EAC

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#### **Summary**

This briefing paper explores how the nexus existing between climate change, food security and trade in East Africa specifically affects agro-processing in the region. While the EAC Industrialization Policy prioritises agro-processing development, it is yet to acknowledge the many adverse effects of climate change as one of the main factors inhibiting East Africa's industrialization efforts. For instance, volatile weather patterns makes hydropower generation unreliable, resulting in power cuts and raising operation costs for companies. Such issues at the interface of climate change, food security and trade need to be made an integrant part of the region's industrial development.

## Agro-Processing in the EAC

The East African Community (EAC), traditionally heavily dependent on agriculture, has been shifting its economic focus to manufacturing, especially in terms of agro-processing. Agro-processing is defined by the Food and Agriculture Organization (FAO) as “the subset of manufacturing that processes raw material and intermediate products derived from the agricultural sector,” and is a clear pathway to garnering more value-added revenue from an already existing production base.<sup>1</sup> The official shift in focus is demonstrated in the East African Industrialization Policy (2012-2032), which outlines the strategy for a “globally competitive, environment-friendly and sustainable industrial sector, capable of significantly improving the living standards of the people of East Africa by 2032.”<sup>2</sup> Additionally, the EAC Agricultural and Rural Development Strategy (EAC-ARDS) identifies “agro-based industrialization” as a primary development objective.<sup>3</sup> The EAC hopes that this strategy will contribute to the growth of all five Partner economies by adding to import substitution, employment, the tax base, revenue from exports, and the growth of industries along the global value chain.<sup>4</sup>

Currently, the manufacturing sector’s contribution to the EAC’s GDP is 9.7 percent, although this is not only limited to agro-processing. The region hopes to raise local value-added production to 40 percent by 2032. In 2011, dependence on agriculture in the EAC was around 30 percent of total GDP, and the region hopes to take advantage of this agricultural base in terms of agro-processing in leather, dairy, cotton, meat, sugar, fruit, maize, tea, coffee, and vegetable oil goods.<sup>5</sup> In the 2012/2013 year, the agriculture value added to GDP in the EAC was 28.6

percent, while the share of merchandise exports of agriculture or manufacturing goods was 8.94 in 2012.<sup>6</sup> Through the Industrialization Policy, the EAC has identified growth of the manufacturing sector as a key development priority. Previous studies have shown that manufacturing enterprises invest heavily in their national economies, investing millions of USD into their businesses and employing hundreds, contributing to overall growth.<sup>7</sup> The EAC hopes to increase its share of export earnings, contribution to GDP and employment by further developing its agro-industry.

## Climate Change, Food Security and Trade Linkages in the EAC

Previous CUTS International papers have highlighted the importance of recognizing the linkages between climate change, food security, and trade in EAC countries. As mentioned before, agriculture is still the dominant sector in all EAC Partners, ranging from 21 to 44 percent of GDP in 2010.<sup>8</sup> Much of the land that is used for agricultural production relies on rainfall for its water supply, as only 0.15 to 2.5 percent of land is irrigated in EAC countries.<sup>9</sup> This makes EAC agricultural production very vulnerable to climate change, usually seen as extreme weather patterns such as flooding or droughts. These instances can disrupt farm production, community functions, and even lead to loss of human life. This disruption can have a direct impact on food security in the region.

The FAO measures the food security of a country based on the availability of sufficient food, the existence of social and economic accessibility of food, the utilization of safe and nutritious foods, and

1 FAO, 1997.

2 EAC (2012). EAC Industrialization Policy In Brief, p.11.

3 EAC-ARDS – Agricultural and Rural Development Strategy for the EAC 2005-2030, p.63.

4 EAC (2014). Assessment Study on the Need for a Centre for the Development of Regional Industries in the EAC Region, p.48.

5 Enabling Environments Ltd. (2014). Consultancy Study on EAC Strategic Agro-Processing Value Chain: Action Plan.

6 CountrySTAT East African Community (2015). Key Indicators. <http://www.countrystat.org/home.aspx?c=EAC&p=ke>.

7 EAC (2014). Assessment Study on the Need for a Centre for the Development of Regional Industries in the EAC Region, p.48.

8 EAC (2011). EAC Development Strategy (2011/12-2015/16), p.23.

9 CUTS – International (2014). Climate, Food, Trade Nexus: Addressing the Need for Policy Coherence in the EAC. Geneva, Switzerland.

stability for all people at all times.<sup>10</sup> Burundi is the most food insecure nation in the EAC (78 percent food insecure in 2012), while the other Partner countries were around 36 to 40 percent food insecure in the same year.<sup>11</sup> Climate change, manifested as extreme weather, lowers agricultural production, reducing agricultural trade but also food security for many. In addition, trade can worsen climate change by contributing to deforestation, erosion, or pollution, further disrupting agricultural production and food security. For example, increases in maize and rice production in Uganda and increased log, lumber and charcoal exports in Tanzania have contributed to deforestation and soil erosion due to unsustainable production practices.<sup>12</sup> Thus, it is very important for policymakers to fully understand and incorporate climate change in their food security and trade policies, in order to mitigate the effects of current and future climate change.

Because of advocacy surrounding increased awareness of these linkages, EAC countries have worked towards incorporating coherence in national policies between the three topics. For example, the new Kenya Environmental Policy makes specific references to the nation's trade policy. Similarly, Tanzania's Forest Policy makes statements about tackling charcoal trade issues, and climate change officials are being incorporated into Rwanda's National Trade Policy Forum.<sup>13</sup> This holistic approach to policies needs to continue in order to ensure that the EAC region develops in a continued and sustainable way.

## The Linkages between Agro-Processing, Climate Change, Food Security and Trade

The World Bank emphasizes the importance of agro-industries as facilitators of economic growth and the reduction of poverty.<sup>14</sup> Both the FAO and the United Nations Industrial Development Organisation (UNIDO) explain their increased efforts to promote the development of agro-industries by stating that agro-industries have a significant global impact on economic development and poverty reduction.<sup>15</sup> UNIDO states, "in order to achieve sustainable development in Africa, there is an urgent need for fostering a new development approach based on exploiting the full agribusiness potential of the continent."<sup>16</sup> Such sentiments support the importance that the EAC has placed on its industrialization as a development priority. However, the EAC Industrialization Policy fails to acknowledge the adverse effects of climate change as one of the main factors inhibiting the region's industrialization efforts.

As a component of *production* and *trade*, agro-processing is an important link in the relationship between climate change, food security and trade. There are many ways in which agro-processing can positively or negatively affect all elements involved (see Table 1), and all stakeholders in EAC nations need to be aware of this relationship before pursuing policies that are meant to exponentially increase agro-processing abilities. If agro-processing involves unsustainable industrialization, it can negatively contribute to climate change, thus affecting both food security and trade. Instead, the EAC must promote climate-friendly and trade-driven agro-value-addition if it hopes to reduce poverty and improve food security.

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10 CUTS – International (2014). *Climate, Food, Trade Nexus: Addressing the Need for Policy Coherence in the EAC*. Geneva, Switzerland.

11 Ibid.

12 Ibid.

13 Rwanda News Agency (2015). "Climate change is already

impacting agricultural and trade patterns throughout East Africa". Available at <http://goo.gl/NIQazz>

14 The World Bank: "World Development Report 2008: Agriculture for Development", p.2.

15 FAO and UNIDO: "Agro-Industries for Development", 2009, p.ix.

16 UNIDO: *Agribusiness for Africa's Prosperity* (2011), p.11.

**Table 1: Examples of Climate Change-Trade-Food Security Linkages with Agro-Industry**

	AGRO-INDUSTRY	
	<i>Positive Effects</i>	<i>Negative Effects</i>
CLIMATE CHANGE	<ul style="list-style-type: none"> <li>Increased supply inputs</li> </ul>	<ul style="list-style-type: none"> <li>Unreliable electricity generation from hydropower</li> <li>Use of fossil fuels</li> <li>Disrupted input supply and distribution</li> <li>Greenhouse gas emissions</li> <li>Water pollution</li> </ul>
TRADE	<ul style="list-style-type: none"> <li>Increased market opportunities</li> <li>Increased export earnings</li> <li>Global Value Chain access</li> </ul>	<ul style="list-style-type: none"> <li>Competition from imports</li> </ul>
FOOD SECURITY	<ul style="list-style-type: none"> <li>Increased demand for primary produce</li> <li>Reduced post-harvest loss and waste</li> <li>Increased stored food</li> <li>Increased income</li> </ul>	<ul style="list-style-type: none"> <li>Possible reduction in basic foodstuffs</li> </ul>

Clearly, trade and agro-industries are closely related. By expanding agro-processing, the EAC will open up to more market opportunities as it increases its production base and penetrates more global value chains. Additionally, this can result in increased exports and attract better prices with more value addition. Increased trade opportunities in turn encourage better and efficient processing and improve the competitiveness of agro-processors.

In terms of food security, agro-processing can stimulate agricultural growth, resulting in more food generally available that could be stored in reserves. There will also be reduced post-harvest waste and losses, as well as increased income for rural areas. However, depending on which agricultural products are being processed, the focus might turn away from producing basic foodstuffs, limiting poorer peoples' abilities to access affordable foods, thus making them even more food insecure.

Because of its reliance on agriculture, agro-processing is in no way immune to the effects of climate change. Extreme weather and other results

of climate change are likely to inhibit the ways in which agro-processing functions, and agro-industry, if functioning unsustainably, can worsen the current state of climate change. The EAC relies on hydropower for much of its electricity generation, but climate change and volatile weather patterns make this form of power generation unreliable, raising operation costs for companies because power cuts result in huge losses. Additionally, if flooding or drought occurs, agriculture production will be severely disrupted, meaning that the inputs for agro-processing will be unavailable. Additionally, climate change can also damage infrastructure, resulting in the inability to transport or distribute inputs or finished goods. For example, the 1997/1998 El Niño destroyed a vast amount of infrastructure in the Northern Corridor, disrupting road transit as many roads and bridges were inaccessible.<sup>17</sup> Agro-processing can also have negative effects on climate change as well. Some agribusinesses may choose to use fossil fuels, especially coal, in order to avoid hydro-energy or expensive "green" energy sources, resulting in

17 CUTS – International (2014). Climate, Food, Trade Nexus: Addressing the Need for Policy Coherence in the EAC. Geneva,

Switzerland.

further carbon and other greenhouse gas emissions. Additionally, agro-industry chemicals, if improperly handled, can result in water pollution, exacerbating issues of clean water access in the region.

Clearly, agro-processing needs to be used appropriately in order to contribute to poverty reduction and increased food security, taking into account harmonization with policies related to trade and climate change as well. Agro-processing policies should focus on minimal pollution and waste of resources, trade policies need to ensure the availability of inputs despite climate change, ensure markets for processed products, and the incorporation of cleaner technologies, while climate change policies should seek to focus on suitable mitigation targets.

## Conclusion and Recommendations

As evidenced above, agro-processing is influenced by trade, food security, and especially climate change, and can also influence them in turn. With its focus on industrialization for economic growth and development within the region, the EAC needs to ensure that its policy or strategy for increased industrial production takes into account the possible negative consequences that the growth, particularly of agro-industry, can have.

Additionally, the focus on agro-processing needs to incorporate a focus on regional integration as a pathway to success for the sector. Value-added exports generally stay within the region, while nations export raw products, so increasing exports within the region can improve competitive production. Agro-processing can even facilitate productive integration, as certain sub-sectors can provide greater opportunities for intra-EAC trade and global and regional value chain inclusion.<sup>18</sup>

In order for industrialization and agro-processing to improve the living standards for the lives of the East African people, the growth needs to not endanger the environment and ultimately contribute to sustainable development. As such, there are several recommendations highlighted below to set the EAC on track for increasing value addition in agricultural products in a sustainable manner.

- EAC countries need to continue to link ministries or institutions involved in policymaking for climate change/ environment, trade, industrialisation and food security/ agriculture in order to ensure coherence in addressing these issues. These linkages also need to encompass national, regional and international levels for effective information sharing and coordination.
- When implementing the Industrialization Policy, the EAC needs to involve climate experts also in order to ensure that any step of industrialization is sustainable in order to prevent pollution or further carbon emissions.
- As part of the requests for technology transfer and capacity building from developed world companies, EAC nations should specifically request assistance in the transfer of clean or green energy sources and industrialization techniques.
- EAC countries need to spread awareness of the consequences of agro-processing on other sectors so that all producers, small and large-scale, understand the importance of sustainable development in industrialization in order to ensure maximum value-added agro-processing success. This should be focused especially on the grassroots level.
- Agro-processing policies and plans should be conceived and implemented in a manner that contributes to improved food security.

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<sup>18</sup> Enabling Environments Ltd. (2014) Consultancy Study on EAC Strategic Agro-Processing Value Chain — P0/20120764.

- Capacity building should be provided for stakeholders to understand how to deal with these issues and incorporate them into their decisions. Additionally, EAC delegates must undergo capacity-building to better express their interests about agro-value-addition in multilateral trade and climate change forums.
- The EAC should strive to adopt multiple forms of clean energy supply in order to reduce reliance on unpredictable hydro-energy but also reduce dependence on fossil fuels.
- Climate change is not gender-neutral. Women are usually missing in the higher end of value chains, including agro-processing, so emphasis on gender inclusion is necessary for higher productivity and growth for the sector.
- EAC countries need to facilitate regional trade and build a fully integrated EAC market in order to provide specialized regional value chains that can be competitive on the world stage while being conscious of climate change imperatives.

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