



SUMMARY PAPER

**FOOD SECURITY IN AFRICA
AND IMPORTANCE OF RICE
PRODUCTION:**

**PROMOTION OF COALITION
FOR AFRICAN RICE
DEVELOPMENT (CARD) AND
FUTURE RICE DEVELOPMENT
IN SUB-SAHARAN AFRICA**

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Executive Summary

- Among Africa's major food crops, rice stands out for its high growth in demand. "Coalition for African Rice Development (CARD)" has been promoted since 2008. Currently, the CARD has moved into Phase 2 with the goal of doubling rice production in Sub-Saharan Africa (SSA) (56 million tons by 2030). Although production is steadily increasing, progress is behind the target. The main reason is low productivity.
- During the Green Revolution, Asian countries achieved significant increase in rice production through dramatic improvements in productivity. This was made possible by the strong governments' effort such as continued allocation of 10–15% of national budgets to the agriculture sector and the concentrated implementation of research, technological development, extension, and irrigation development. However, the share of the agriculture sector in national budget in African governments averages only 2.55% (2020).
- The goals of CARD Phase 2 cannot be achieved unless the current pace of increasing production area (400,000 ha/year) is maintained and combined with the high yield increase achieved during the Green Revolution in Asia (52 kg/ha/year). African policymakers must demonstrate strong political leadership, seriously address the critical situation of food security, particularly rice, and take urgent measures.
- Considering future food security in SSA, it is more important to promote sustainable and resilient rice development from a long-term perspective, rather than focusing solely on the goal of CARD Phase 2.

The importance of rice and its production in Africa

(1) The importance of rice

Africa is unable to produce sufficient food within the continent and relies heavily on food imports to fill the gap. The issue is whether Sun-Saharan Africa (SSA) can meet this vast increase in cereal demand without greater reliance on cereal imports or major expansion of agricultural area and associated biodiversity loss and greenhouse gas emissions (van Ittersum et al 2016).

Rice has seen particularly rapid growth in demand in the past several decades. When comparing the share of supply and import of the four major food crops in Africa (cassava, maize, rice, and wheat) in 1961, 2000 and 2023, only rice showed a remarkable increase in both shares (Table 1). This indicates that rice demand is growing significantly compared to other major food crops.

(2) Production and import of rice in Africa

In Africa, rice production, which stood at just 4.31 million tons in 1961, has increased, reaching 42.67 million tons in 2023 (FAOSTAT). Out of this, rice production in the SSA targeted by CARD accounts for 36.99 million tons. In SSA, the most significant increase has been in West Africa, which increased from 7.13 million tons in 2000 to 24.17 million tons in 2023.

In Eastern Africa, production also rose from 3.77 million tons in 2000 to 10.33 million tons in 2023. Both regions account for over 80% of Africa's rice production (Figure 1). Furthermore, the total rice production area in Africa in 2023 was 18.45 million hectares, an increase of 6.64 times compared to 1961 (2.78 million hectares) (Figure 2).

On the other hand, the average rice productivity in Africa was 2.31 t/ha (2023), less than half of that in Asia (4.99 t/ha in 2023) (FAOSTAT). Western and Eastern Africa recorded yields of 2.17 t/ha and 2.38 t/ha, respectively, with productivity growth remaining minimal. In Central Africa, the productivity is extremely low at 1.08 t/ha (Figure 3).

Rice imports surged by 3.4 times from 2000 to 2023 (4.99 million tons in 2000, 17.12 million tons in 2023) (FAOSTAT). The most significant increases were observed in Western and Eastern Africa, which imported 9.19 million tons and 4.45 million tons of rice, respectively. The remaining three regions—Central Africa (1.36 million tons), North Africa (0.77 million tons), and Southern Africa (1.35 million tons)—saw their rice imports increase by 3.52 times, 2.75 times, and 2.39 times, respectively, compared to 2000 (Figure 4).

The importance of rice and its production in Africa

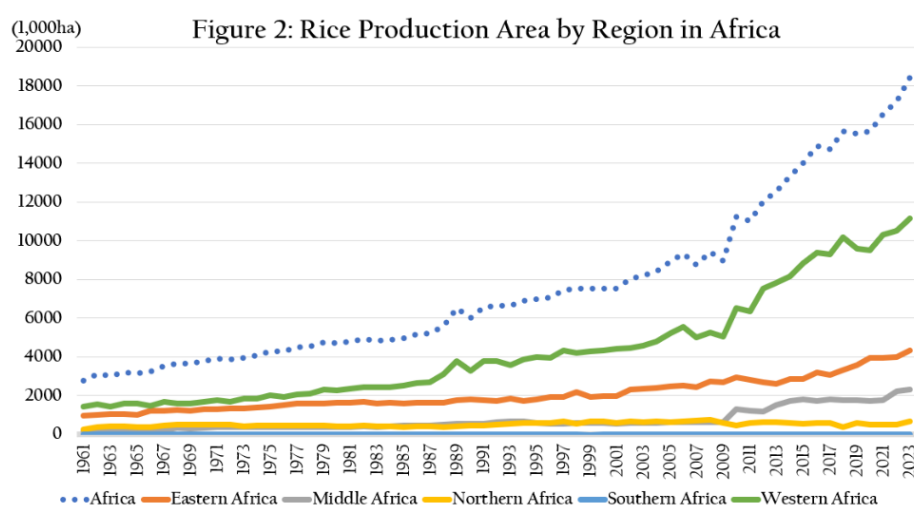
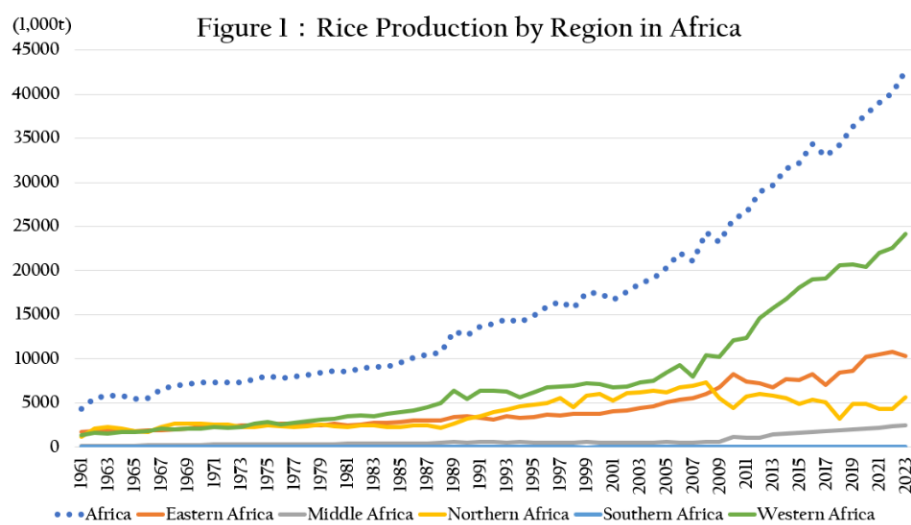


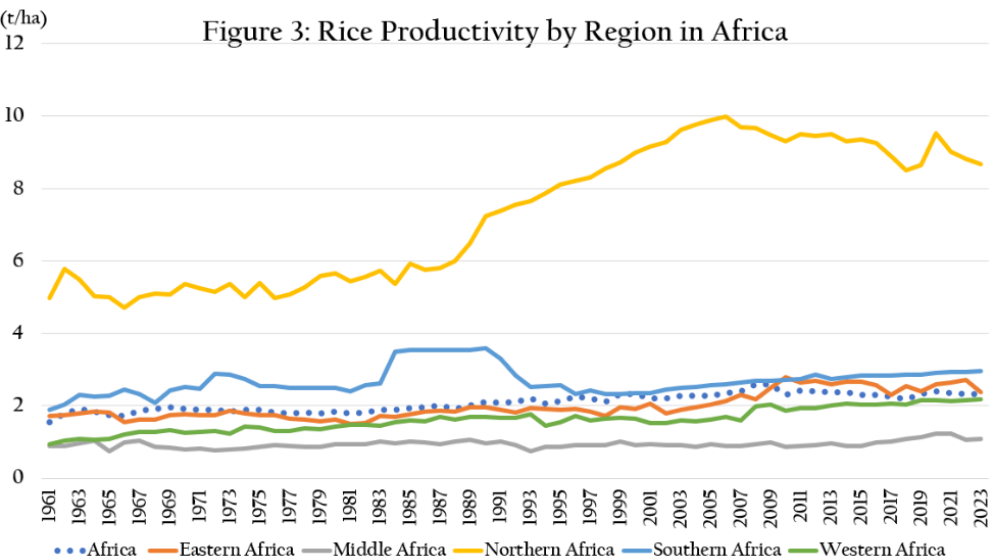
Table 1: Share of Supply and Import among Four Major Food Crops in Africa

(%)

	Share of Supply			Share of Import		
	1961	2000	2023	1961	2000	2023
Cassava	54.05	45.81	47.70	0.00	0.00	0.00
Maize	25.65	25.29	24.03	10.67	25.10	22.61
Rice	7.70	10.58	13.14	15.60	12.85	22.49
Wheat	12.61	18.32	15.13	73.74	62.05	54.89

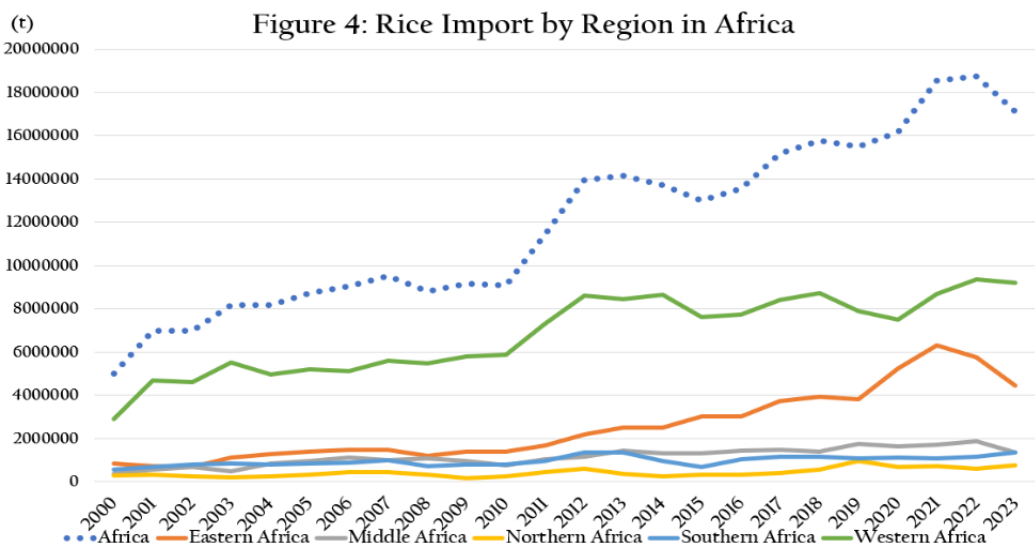
Source : Prepared by the author based on data from FAOSTAT

The importance of rice and its production in Africa



Source : Prepared by the author based on data from FAOSTAT

* In North Africa, more than 99% of rice is produced in Egypt, which conducts highly developed rice production along the Nile River. During the Green Revolution, the government promoted the advancement of rice production.



Source : Prepared by the author based on data from FAOSTAT

Future food security and potential for improving rice productivity in Africa

(1) Future food security in Africa

Africa has the highest population growth rate in the world and is the only region where the population will continue to grow significantly until 2100. In SSA, the population is projected to reach 22.1 billion in 2050 and 33.4 billion in 2100, up from 12.2 billion in 2024 (UN Department of Economic and Social Affairs Population Division 2024).

While global food demand is projected to increase by 60% by 2050 compared to 2005/2007, demand in SSA is expected to grow much more rapidly, with grain demand increasing approximately threefold (van Ittersum et al 2016). Beltran-Peña et al. (2020) evaluated that, under any scenario, Africa will be unable to achieve food self-sufficiency by 2100, with the situation worsening compared to the present.

Rice consumption is increasing more rapidly than any other commodity. Demand for rice has increased at a rate of 6% per annum over the last ten years (Arouna et al. 2021b).

In SSA, the growth rate of rice demand far exceeds the population growth rate (2023: 2.5%, WB). Due to population growth, economic growth and urbanisation, the shift toward rice is expected to continue, leading to an increasing severity of rice consumption.

(2) Looking back at Asia's experience (efforts during Green Revolution)

From 1967 to 1997, during the Green Revolution, the growth rates of global wheat, rice, and maize production significantly exceeded the growth rates of demand (1993–2020), attributing this to high yield growth rates (Cassman 1999).

In Asia, the yield and production area growth rate for rice from 1967 to 1982 was 2.54% and 0.70% per year, respectively (Hazell 2009). This indicates that the increase in production was primarily driven by higher yields rather than an expansion of the production area.

On average, overall cropping patterns, and all production systems in eight African countries, actual yields are only 38% of their potential, and relative yields are lowest in the rainfed upland and lowland, followed by irrigated lowland (van Oort et al. 2015). In African rice cultivation, rainfed upland, rainfed lowland, and irrigated lowland account for 32%, 38%, and 24%, respectively (Diagne et al. 2013). It is crucial to promote research and to develop and extend technologies for farmers, particularly for rainfed rice cultivation, which occupies 70% of the rice cultivated area and faces low actual yields relative to potential yields (Arouna et al. 2021a, Yuan et al. 2021, Rodenburg and Saito 2022).

Irrigated rice farming can also increase yields through strengthened public extension services, mechanization, and irrigation development (Otsuka et al. 2023).

¹ World Bank website "Population growth (annual %) - Sub-Saharan Africa"
<https://data.worldbank.org/indicator/SP.POP.GROW?locations=ZG>

Future food security and potential for improving rice productivity in Africa

In Asia, substantial public investment by national governments has supported the advancement of the Green Revolution. On average, 12 Asian countries allocated 15.4% of their national budgets to the agricultural sector in 1972, 12.4% in 1980, and 9.6% in 1990 (Rosegrant and Hazell 2000, Hazell 2009) (Table 2).

However, the share of the agricultural sector in the national budgets of African countries averages only 2.55% in 2020 (FAOSTAT), which is significantly smaller than during the Green Revolution in Asia.

Currently the African Union (AU) has been promoting the Agrifood Systems, which encompass the entire network of activities, processes, and actors involved in the production, processing, distribution, consumption of food and agricultural products. It means that



Table 2: Share of national budgets allocated to the agriculture sector by Asian countries during the Green Revolution

	(%)			
	1972	1980	1990	1993
Bangladesh	23.2%	12.3%	5.4%	6.9%
India	22.1%	14.6%	11.5%	9.6%
Indonesia	7.6%	9.6%	7.6%	6.6%
Philippines	4.5%	5.3%	6.0%	7.3%
Thailand	7.8%	8.1%	10.4%	10.4%
Average among 12 Asian countries	15.4%	12.4%	9.6%	8.4%

Sources : Rosegrant and Hazell (2000) processed by the author
* 12 Asian countries; Bangladesh, China, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Korea, Sri Lanka and Thailand

Policy recommendations

For future rice production in SSA, the following actions are strongly recommended.

1. Significant increase of budgets, funds and investments

Further allocation of government budgets

The Kampala CAADP Declaration, which was adopted at the African Union Extraordinary Summit in January 2025, called for allocating at least 10% of budgets to Agrifood Systems. The AU and African governments are strongly recommended to thoroughly review their low-level agriculture sector budgets, make best effort to significantly increase them, and ensure that budgets necessary for promoting rice development are secured to the greatest extent possible, even under circumstances where diverse development agendas must be covered

Mobilisation of funds from Development Partners (DPs)

It is clear that public investment by national governments alone is insufficient. It is also extremely important to develop concrete project plans and attract and secure funds from DPs as much as possible.

Private sector investments

Various private actors play important roles in production, processing, and marketing. Mobilising investments by the private sector, not only to supplement the limited role of the governments but also to contribute to improving and developing the rice value chains, is key to sustainable rice development.

2. Research, development and extension of technologies for farmers to improve productivity

African governments have not invested sufficiently in agricultural research. Only eight countries have achieved the AU target of spending 1% of the agriculture sector GDP on agriculture research (AU and AUDA-NEPAD 2024).

Agriculture research and development (R&D) provides some of the highest rates of return among all rural development investments (FAO HP²). Strengthening of agriculture research, technology development, and dissemination aimed at improving rice productivity, including rainfed rice cultivation, should be made, as well as developing climate-resilient varieties and promoting their cultivation techniques under the increasingly severe impacts of climate change.

² [Research and Extension Systems | Food and Agriculture Organization of the United Nations](#)

Policy recommendations

3. Strong political leadership for the long-term promotion of rice production development

AU and African leaders are recommended to reaffirm that food is indispensable for all and food security is one of the seven main categories of human security (UNDP 1994). It is required under their strong leadership to prioritise food security, including rice production, in the agriculture agenda.

The goals of CARD Phase 2 will not be achieved unless the current pace of increasing production area (400,000 ha/year) is maintained and combined with the high-yield increase achieved during Asia's Green Revolution (52 kg/ha/year). This means that this ambitious goal cannot be achieved unless the AU and African governments make the same level of effort as Asian countries did during the green revolution.

However, this goal is highly effective as a message highlighting the necessity of increasing rice production. Given the serious risks posed by climate change, it is recommended that AU and African governments make maximum efforts to increase rice production under their strong political leadership.

In addition to efforts toward the short-term goal of 2030, strong political leadership is also required to promote sustainable and resilient rice production from a long-term perspective.

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