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Overview of the development of organic farming in BRICS countries

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Introduction

The SDG goals have been in force for a decade now and has stimulated several transformations in the food production system. While SDG-12 is particularly focused on responsible production and consumption, agriculture has been the lead emitter of human-caused methane – up to 37% [n4]. [n2] identified manure management as a leading cause of methane emission in agriculture, while, [n1] highlighted that, conventional agricultural practices impact negatively on plant health and soil fertility. These outcomes conflict with global sustainability goals leading to increased transition toward organic agriculture as a sustainable food production technique especially in emerging markets. According to [n6], the world's total organic agricultural area has increased to 99 million hectares in 2023 compared to 17 million hectares in 2001. In addition, consumers in both developed and emerging markets are increasingly aware of the negative consequences of pesticide and are demanding pesticide-free food options [n1]. This research aims to evaluate the dynamics of organic agriculture in BRICS while analyzing current trends and future prospect. BRICS represent a significant bloc of the global economy accounting for up to 37.3% of the global GDP by purchasing power parity and 40% of the entire world population [n5]. In the same vein, they represent a lead emitter of C $_0$ 2 - up to 38% of the worlds total emission in 2023 [n3]. Consequently, a great consideration for organic farming in these countries.

Materials and Method

The study adopted purposive sampling procedure to select the founding countries of BRICS (Brazil, Russia, India, China and South Africa). Data from FiBL statistics (2025) was retrieved and trended. Comparative analysis was used to understand the current market situation and future prospects of organic farming in BRICS countries.

Analysis

From fig. 1, Oceania has the single largest amount of organic farmlands (ha) across the world (54%), while the rest of the world accounts for 46%. Following Oceania is Europe (20%), Latin America (11%) and Asia (9%) respectively. BRICS account for 9% of the world's organic farmlands (ha) - fig. 2. India rank first with 49%, China (38%), Brazil (11%), while the others have just a little above 1% each. These results are due to the increasing trends of converting traditional farmlands to organic farmlands over the years in India and China (Fig. 3). Fig. 3 show slow trend of transition to organic farming in Brazil, Russia and South Africa.

Fig. 4 shows India as leading not only in BRICS but across the world in number of total organic producers with over 2.3 million producers. However, this may not represent an absolute advantage for India as the economy is more focused on primary/small holders agriculture with relatively low capacity. This is evidenced in the share of organic farmland in total farmland where India has only 2.51% (despite over 2million producers) compared to Germany having 11.37% (with 37thousand producers) - fig.5. The resulting effect is higher unit production cost in India.

Moreover, differences between domestic and International classification standard affect organic production in BRICS. For instance bulk of Russia's organic production is classified as wild (ie more supportive of biodiversity rather than intentional organic control). In this category, Russia has 0.8 million hectares - fig.6. Furthermore, the high unit cost of organic output in BRICS may influence domestic consumption as retail cost may be significantly higher than conventional products. Retail sales in fig.7 revealed China (€12.6billion) among the BRICS has the largest domestic market for organic products, and ranks third across the world following USA (€59billion) and Germany (€16billion). However, when compared in terms of per capita consumption (fig.8), Germany has €191 organic consumption per population, meanwhile, China accounts only €9 per population. These points to the relatively low purchasing power of domestic consumers in BRICS. Large discrepancies between BRICS and developed economies is also due to the population densities in countries like China and India. Consequently, significant share of production is exported to the EU (fig. 9) with China ranking 2nd $^{\text{largest}}$ exporter to the EU having over 200,000 metric tons, India ranks 9th (68,000 metric tons) Brazil ranks 15th (45,000 metric tons). This is also partially due to the existence of long-standing trade market between primary producers in BRICS and US/EU industries.

Conclusion

This review revealed that although the transition to organic farming principles is currently popular in BRICS country, however, the domestic market is yet to be fully developed. Firstly, there is popularity of traditional farming principles due to low income of farmers preventing them from employing sophisticated tools and equipment for organic farming causing higher per-unit cost of organic product in these countries. Secondly, low income affects consumer purchasing power, hence, low organic retail sales in BRICS countries. Moreover, cliche export market for output from developing countries to developed economies further affects the availability/suf of organic products for domestic demand. Therefore, the study recommends that emerging countries needs to boost domestic demand for organic products by increasing the overall economic well-being, expand the range of products while reducing unit cost of organic product through mechanisms such as green financing, green credit, etc.

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Illustrations

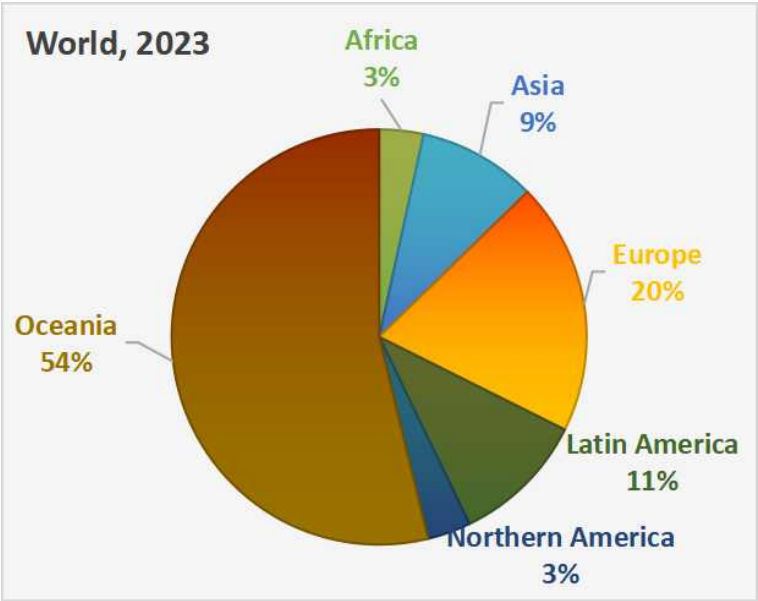

Рис. : fig. 1

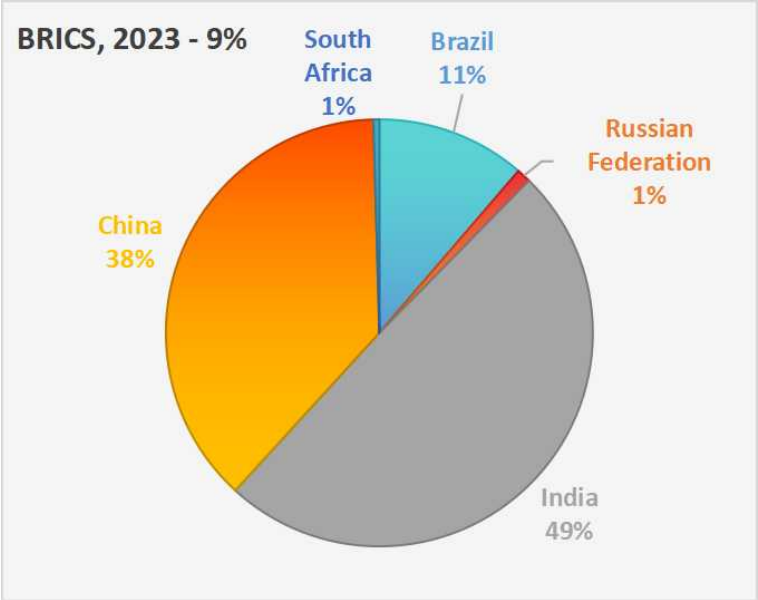

Рис. : fig. 2

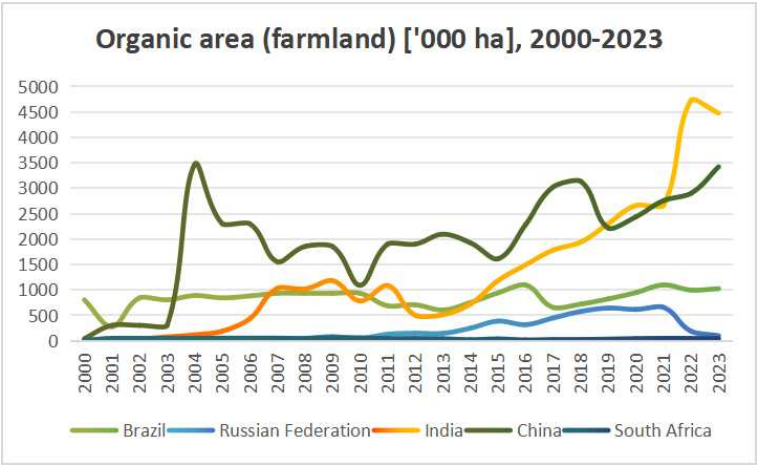

Рис. : fig. 3

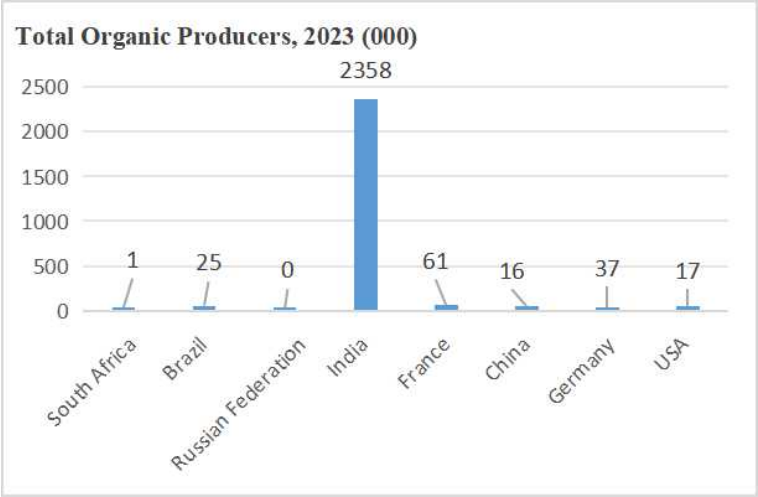

Рис. : fig. 4

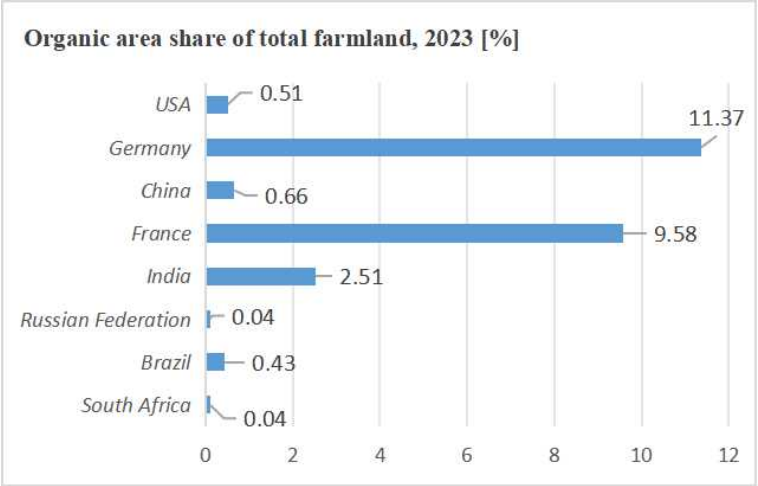

Рис. : fig. 5

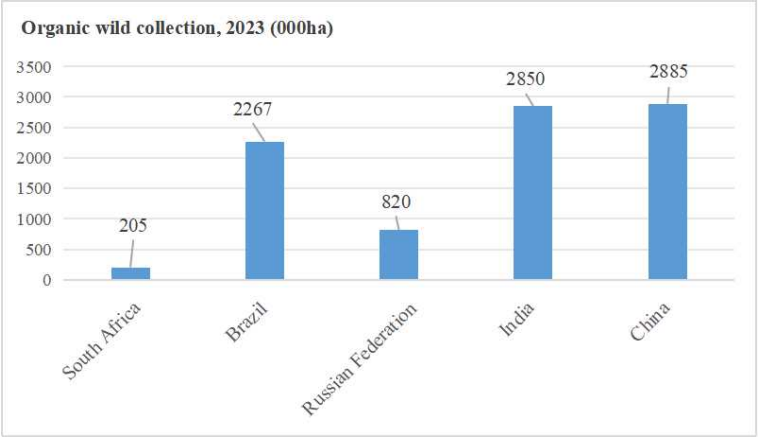

Рис. : fig. 6

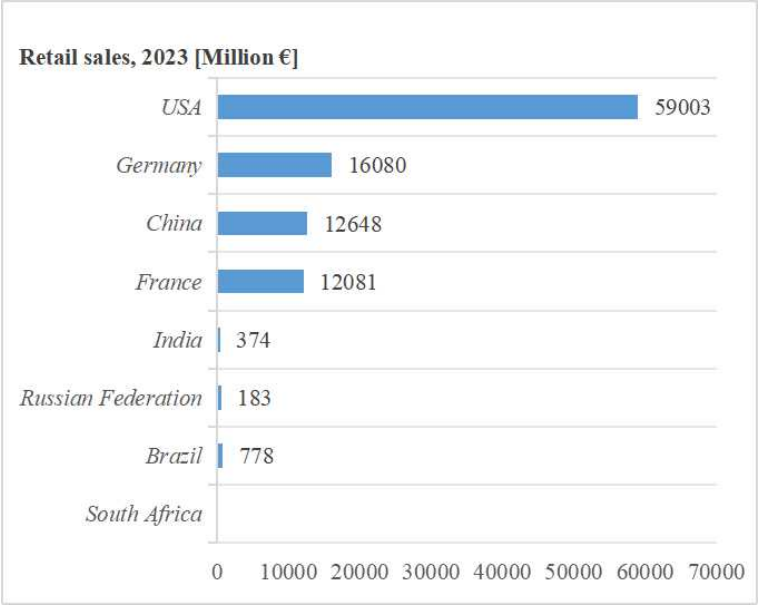

Рис. : fig. 7

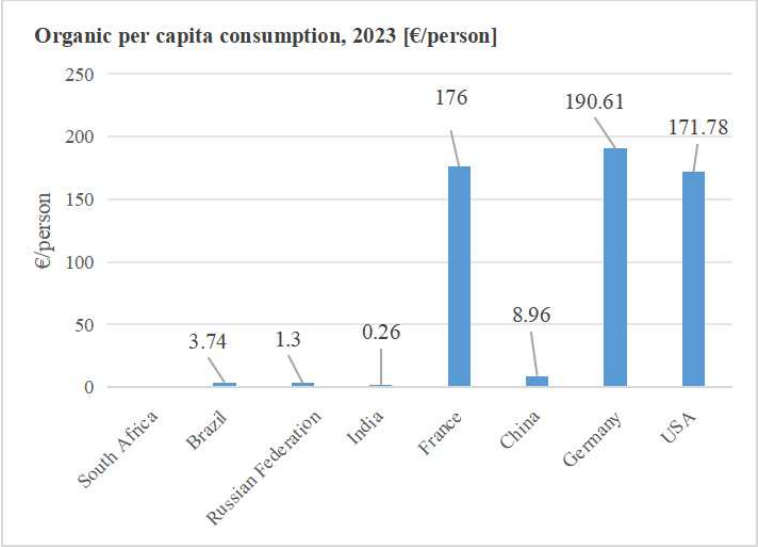

Рис. : fig. 8

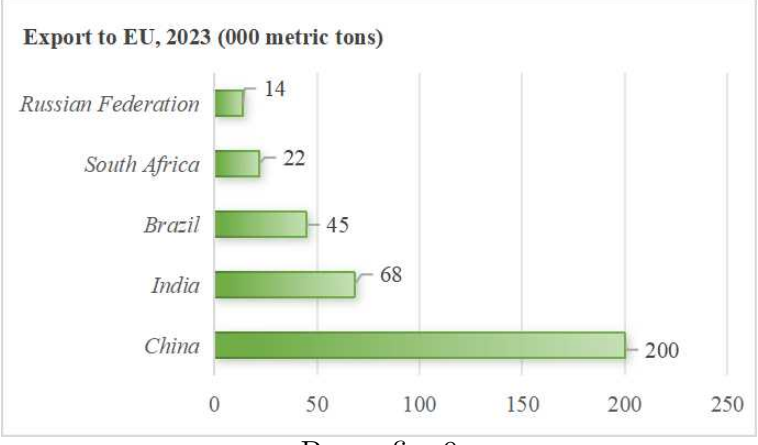

Рис. : fig. 9