GLOBAL HANDBOOK
of Rice Policies

RONALD JEREMY ANTONIO   HAROLD GLENN VALERA   ALVADO DURANT-MORAT
HOA HOANG   MANDIAYE DIAGNE   FAZAL MALAKHAIL   VALERIEN OLIVIER PEDE

IRRI International Rice Research Institute
CGIAR
U of A DIVISION OF AGRICULTURE RESEARCH & EXTENSION University of Arkansas System
University of Missouri
AfricaRice

International Rice Research Institute

The **International Rice Research Institute (IRRI)**, a research center of CGIAR, provides research-based policy solutions to abolish poverty and hunger and malnutrition among people that depend on rice-based agri-food systems, improving the health and welfare of rice farmers and consumers, and protecting the rice-growing environment for future generations. IRRI is an independent, nonprofit, research and educational institute, founded in 1960 by the Ford and Rockefeller foundations with support from the Philippine government. The institute, headquartered in Los Baños, Laguna, Philippines, has offices in 17 rice-growing countries in Asia and Africa, and has more than 1,000 staff.

www.irri.org

Published by: International Rice Research Institute, Los Baños, Laguna, Philippines.

Suggested citation: Antonio, R. J., Valera, H. G., Durand-Morat, A., Hoang, H., Diagne, M., Malakhail, F., & Pede, V. O. (2024). Global Handbook of Rice Policies. International Rice Research Institute.

Editing: Bill Hardy
Cover design and page makeup: Vincent Jhairus Salazar and Ellanie Cabrera

ISBN No.: 978-971-22-0337-4.

Authors

Ronald Jeremy Antonio (r.antonio@irri.org) is an Assistant Scientist in the Transformative Policies and Investment Units at the International Rice Research Institute, Los Baños, Laguna, Philippines.

Harold Glenn Valera (ValeraHA@bsp.gov.ph) was formerly a Scientist in the Transformative Policies and Investment Units at the International Rice Research Institute, Los Baños, Laguna, Philippines. Harold is a Principal Researcher in the BSP Research Academy at the Bangko Sentral ng Pilipinas, Metro Manila, Philippines.

Alvaro Durand-Morat (adurand@uark.edu) is an Assistant Professor in the Department of Agricultural Economics and Agribusiness at the University of Arkansas, Fayetteville, Arkansas, USA.

Hoa Hoang (HoangH@missouri.edu) is a Senior Research Associate in the Food & Agricultural Policy Research Institute at the University of Missouri, Columbia, Missouri, USA.

Mandiaye Diagne (mandiaye.diagne@ugb.edu.sn) was formerly an Agricultural Economist at the Africa Rice Center, Saint-Louis, Senegal. Mandiaye is an Associate Professor at Gaston Berger University, Saint-Louis, Senegal.

Fazal Malakhail (fmalakhail@missouri.edu) is a Senior Research Associate in the Food & Agricultural Policy Research Institute at the University of Missouri, Columbia, Missouri, USA.

Valerien Olivier Pede (v.pede@irri.org) is a Senior Scientist and Head of the Transformative Policies and Investment Units at the International Rice Research Institute, Los Baños, Laguna, Philippines.

Table of Contents

List of Figures - - - vii
List of Tables - - - ix
Foreword - - - x
Acknowledgments - - - xi
Executive Summary - - - xii
I. Introduction - - - 1
Why this Handbook? - - - 1
Roadmap - - - 3
II. Asia - - - 4
Southeast Asia - - - 4
Cambodia - - - 4
Indonesia - - - 5
Laos - - - 7
Malaysia - - - 8
Myanmar - - - 10
Philippines - - - 12
Thailand - - - 14
Vietnam - - - 16
East Asia - - - 18
China - - - 18
Japan - - - 20
South Korea - - - 21
Taiwan - - - 23
South Asia - - - 24
Bangladesh - - - 24
India - - - 26
Nepal - - - 28
Pakistan - - - 30
Sri Lanka - - - 31
III. The Americas - - - 33
Colombia - - - 33
United States - - - 35
Mexico - - - 37
Peru - - - 39
Brazil - - - 41
Uruguay - - - 42

Argentina - 43
Central America (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) - 45
IV. Africa - 47
Benin - 47
Burkina Faso - 49
Cameroon - 50
Chad - 52
Congo (Kinshasa) - 54
Côte d’Ivoire - 55
Egypt - 58
Ethiopia - 61
The Gambia - 63
Ghana - 65
Guinea - 67
Guinea-Bissau - 69
Kenya - 70
Liberia - 73
Madagascar - 75
Mali - 77
Mauritania - 79
Mozambique - 80
Niger - 82
Nigeria - 84
Senegal - 86
Sierra Leone - 88
Tanzania - 90
Togo - 91
Uganda - 93
V. Europe - 95
European Union - 95
The United Kingdom (England, Scotland, Wales, and Northern Ireland) - 98
VI. Middle East - 99
Iran - 99
Iraq - 100
Jordan - 102
Saudi Arabia - 103
Turkey - 104
United Arab Emirates - 106

VII. Summary and Conclusions - 107
VIII. References - 117
Section References - 117
Introduction - 117
Summary and Conclusion - 117
Country References - 117
Cambodia - 117
Indonesia - 118
Laos - 118
Malaysia - 119
Myanmar - 119
Philippines - 120
Thailand - 121
Vietnam - 122
China - 123
Japan - 123
South Korea - 123
Taiwan - 124
Bangladesh - 124
India - 125
Nepal - 127
Pakistan - 127
Sri Lanka - 128
Colombia - 128
United States - 129
Mexico - 129
Peru - 130
Brazil - 130
Uruguay - 130
Argentina - 130
Central America (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) - 131
Benin - 131
Burkina Faso - 132
Cameroon - 132
Chad - 133
Congo (Kinshasa) - 133
Côte d'Ivoire - 134
Egypt - 135
Ethiopia - 136
The Gambia - 137

Ghana - - - 137
Guinea - - - 138
Guinea-Bissau - - - 139
Kenya - - - 139
Liberia - - - 140
Madagascar - - - 141
Mali - - - 142
Mauritania - - - 144
Mozambique - - - 144
Niger - - - 145
Nigeria - - - 145
Senega - - - 146
Sierra Leone - - - 147
Tanzania - - - 148
Togo - - - 148
Uganda - - - 149
European Union - - - 150
The United Kingdom (England, Scotland, Wales, and Northern Ireland) - - - 150
Iran - - - 150
Iraq - - - 151
Jordan - - - 151
Saudi Arabia - - - 151
Turkey - - - 152
United Arab Emirates - - - 152

List of Figures

Figure 1. Cambodia rice production, consumption, and exports, 2017–2021. 4
Figure 2. Indonesia rice production, consumption, and imports, 2017–2021. 5
Figure 3. Laos rice production, consumption, and imports, 2017–2021. 7
Figure 4. Malaysia rice production, consumption, and imports, 2017–2021. 8
Figure 5. Myanmar rice production, consumption, and exports, 2017–2021. 10
Figure 6. Philippines rice production, consumption, and imports, 2017–2021. 12
Figure 7. Thailand rice production, consumption, and exports, 2017–2021. 14
Figure 8. Vietnam rice production, consumption, and exports, 2017–2021. 16
Figure 9. China rice production, consumption, and imports, 2017–2021 18
Figure 10. Japan rice production, consumption, and imports, 2017–2021. 20
Figure 11. South Korea rice production, consumption, and imports, 2017–2021. 22
Figure 12. Taiwan rice production, consumption, and exports, 2017–2021. 23
Figure 13. Bangladesh rice production, consumption, and imports, 2017–2021. 25
Figure 14. India rice production, consumption, and exports, 2017–2021. 26
Figure 15. Nepal rice production, consumption, and imports, 2017–2021. 28
Figure 16. Pakistan rice production, consumption, and exports, 2017-2021. 30
Figure 17. Sri Lanka rice production, consumption, and imports, 2017–2021. 31
Figure 18. Colombia rice production, consumption, and trade, 2017–2021. 33
Figure 19. U.S. rice production, consumption, and trade, 2017–2021. 35
Figure 20. Mexico rice production, consumption, and trade, 2017–2021. 37
Figure 21. Peru rice production, consumption, and trade, 2017–2021. 39
Figure 22. Brazil rice production, consumption, and trade, 2017–2021. 41
Figure 23. Uruguay rice production, consumption, and exports, 2017–2021. 42
Figure 24. Argentina rice production, consumption, and trade, 2017–2021. 43
Figure 25. Central American rice production, consumption, and imports, 2017–2021. 45
Figure 26. Benin rice production, consumption, and imports, 2017–2021. 47
Figure 27. Burkina Faso rice production, consumption, and imports, 2017–2021. 49
Figure 28. Cameroon rice production, consumption, and imports, 2017–2021. 50
Figure 29. Chad rice production, consumption, and imports, 2017–2021. 53
Figure 30. Congo (Kinshasa) rice production, consumption, and imports, 2017–2021. 54
Figure 31. Côte d'Ivoire rice production, consumption, and imports, 2017–2021. 56
Figure 32. Egypt rice production, consumption, and imports, 2017–2021. 58

Figure 33. Ethiopia rice production, consumption, and imports, 2017–2021. 61
Figure 34. The Gambia rice production, consumption, and imports, 2017–2021. 63
Figure 35. Ghana rice production, consumption, and imports, 2017–2021. 65
Figure 36. Guinea rice production, consumption, and imports, 2017–2021. 67
Figure 37. Guinea-Bissau rice production, consumption, and imports, 2017–2021. 69
Figure 38. Kenya rice production, consumption, and imports, 2017–2021. 71
Figure 39. Liberia rice production, consumption, and imports, 2017–2021. 73
Figure 40. Madagascar rice production, consumption, and imports, 2017–2021. 75
Figure 41. Mali rice production, consumption, and imports, 2017–2021. 78
Figure 42. Mauritania rice production, consumption, and imports, 2017–2021. 79
Figure 43. Mozambique rice production, consumption, and imports, 2017–2021. 81
Figure 44. Niger rice production, consumption, and imports, 2017–2021. 83
Figure 45. Nigeria rice production, consumption, and imports, 2017–2021. 84
Figure 46. Senegal rice production, consumption, and imports, 2017–2021. 86
Figure 47. Sierra Leone rice production, consumption, and imports, 2017–2021. 88
Figure 48. Tanzania rice production, consumption, and imports, 2017–2021. 90
Figure 49. Togo rice production, consumption, and imports, 2017–2021. 92
Figure 50. Uganda rice production, consumption, and imports, 2017–2021. 93
Figure 51. European Union rice production, consumption, and trade, 2017–2021. 95
Figure 52. Iran rice production, consumption, and imports, 2017–2021. 99
Figure 53. Iraq rice production, consumption, and imports, 2017–2021. 101
Figure 54. Jordan rice consumption and imports, 2017–2021. 102
Figure 55. Saudi Arabia rice consumption and imports, 2017–2021. 103
Figure 56. Turkey rice production, consumption, and trade, 2017–2021. 104
Figure 57. United Arab Emirates rice production, consumption, and trade, 2017–2021. 106

List of Tables

Rice sector policies in key countries in Southeast Asia. ---------- 108
Table 2. Rice sector policies in key countries in East Asia. ---------- 109
Table 3. Rice sector policies in key countries in South Asia. ---------- 110
Table 4. Rice sector policies in key countries in the Americas. ---------- 111
Table 5. Rice sector policies in key countries in Africa. ---------- 112
Table 6. Rice sector policies in key countries in Europe. ---------- 115
Table 7. Rice sector policies in key countries in the Middle East. ---------- 116

Foreword

Rice research, development and extension (R, D, & E) to improve productivity and our natural environment is one of the most important, if not the most important, activities in the agri-food system. But its impacts do not take place in a vacuum, and rice policies are one of the key mediating factors that help to determine the impact of R, D, & E. Policies can and do affect technology adoption, farmer incomes, jobs, poverty, the affordability of healthy diets, food security and nutrition, as well as a range of other outcomes.

Thus, there is a need to understand the types of policies in use in different countries in order to have a more informed discussion about those impacts. A better understanding of the policies in effect around the globe can also give countries a better sense of the options available to them, and it can spur research into the impacts of these policies. This volume, by collecting in one place a range of different sources of information relating to country policies, can spark such investigations and lead to improved lives for rice consumers and producers everywhere.

David Dawe

This ***Global Handbook of Rice Policies*** is so much needed, and has been long in coming, following the *Handbook on Rice Policy for Asia* produced in 2013 also by the International Rice Research Institute (IRRI). National and international rice markets are currently in flux due to a complex combination of influences ranging from political and economic developments in key rice-producing as well as consuming countries, to conflict centered in Ukraine, to the emerging, and all-encompassing impacts of resource degradation and climate change.

In facing the multi-faceted challenges of food security, national governments often tend to try to “re-invent the wheel” or focus and act solely on domestic considerations. Yet there is a wealth of experience on what works and what does not in rice sector policy and programming, and this ***Global Handbook of Rice Policies*** is a unique and excellent resource for policymakers and other rice sector actors and stakeholders to refer to and draw lessons that will inform, enrich, and enhance the effectivity of their own policies and programs.

V. Bruce J. Tolentino

Acknowledgements

We would like to thank many individuals and organizations who have made the writing and publication of this book possible.

First and foremost, we would like to acknowledge our respective organizations and departments, the Transformative Policies and Investments (TPI) unit of the Sustainable Impact Through Rice-based Systems (SIRS) Department at the International Rice Research Institute, the Research Academy of the Bangko Sentral ng Pilipinas, University of Missouri's Food and Agricultural Policy Research Institute (FAPRI), University of Arkansas Division of Agriculture, and AfricaRice Sahel Regional Station for supporting our work on this handbook.

We extend our gratitude for the support of CGIAR Initiative on Foresight and Metrics and the funding of FAPRI provided by the U.S. Department of Agriculture and the National Institute of Food and Agriculture (NIFA) in funding the work of several of the authors of this material.

We also recognize Dr. David Dawe and Dr. V. Bruce J. Tolentino for writing the foreword for this book. Their thoughtful words and insightful perspectives not only lend credibility and depth to the work but also sets the perfect tone for the readers.

We highly appreciate the enormous help of Dr. Shirley Mustafa of FAO in reviewing the contents and structure of this publication. We would also like to thank Hasil Sembiring of IRRI Indonesia, Dr. Orachos Napasintuwong of Kasetsart University, Dr. Roehlano Briones of the Philippine Institute for Development Studies, Dr. Tran Cong Thang of the Institute of Policy and Strategy for Agriculture and Rural Development in Vietnam, and Dr. Julian Binfield of FAPRI for reviewing specific chapters and country sections, as well as policy information. Your valuable comments and suggestions have provided accuracy and validity to the contents of the handbook.

The handbook has also been launched during the 6th International Rice Congress last October 2023. We acknowledge the discussion of the panel members consisting of Dr. Samarendu Mohanty, Dr. Shirley Mustafa, and Dr. Nicostrato Perez which provided a direction for improving our work. We would also like to thank Ellanie Cabrera and Maureen Gimutao from IRRI's TPI unit and the IRRI Communications and Advocacy team for their invaluable help in organizing and promoting the event. We also acknowledge the audience at the event for providing suggestions on how to improve our work and expand its reach.

We would also like to thank Ellanie Cabrera for her invaluable efforts in designing the initial cover of the book, to Vincent Jhairus Salazar for designing the final cover and doing the layout work for the book, and to Bill Hardy for editing the document.

Lastly, we would like to thank all those who have provided assistance to the development of this publication that we failed to mention

Executive Summary

This Handbook aims to provide a global coverage of policy instruments used by governments to realize objectives related to rice production and supply, rice markets, and trade. The handbook covers major rice markets in Asia, Africa, the Americas, Europe, and the Middle East. There are similarities in policies in general and within regions. Given the importance of food security to all countries, policies are designed to increase and supplement farm income to sustain domestic production while ensuring access to and availability of affordable rice for consumers. Rice trade is still regulated mainly through import tariffs to protect domestic producers. Import tariffs are implemented in several countries in Southeast and South Asia and Africa, and in all countries reviewed in East Asia and the Americas. Based on the summary tables below, we can also see that two-tier tariffs are most common in East Asia, with them being implemented in all four of the countries reviewed.

Several Asian countries procure rice through state-owned enterprises (SOEs). These countries provide significant control to SOEs to ensure stable domestic prices and control of foreign trade. From the recent developments brought about by the export restrictions imposed by India, state trading as well as government-to-government procurement have both been used to ensure that domestic supplies remain adequate. Asian importers such as Indonesia and Bangladesh have set up government-to-government trade agreements with major Asian exporters such as Thailand, Vietnam, and Myanmar to ensure domestic food availability. India has also secured several exemptions to its trade restrictions for some of its trade partners, most of which are for African countries to provide them with access to lower-priced rice while allowing India to remain as the top rice exporter in the world.

Subsidies also remain prevalent, especially in South and Southeast Asia, as well as in some African countries. These subsidies are aimed toward raising farmer income and providing aid for farmers to produce efficiently and continuously. Recent subsidies have been implemented to help farmers navigate increases in fertilizer prices. Aside from providing incentive and aid to farmers, ensuring consistent production also leads to higher domestic supply, less reliance on imports, and lower consumer prices.

To protect domestic farmers, several countries in Asia and the Americas also implement minimum support prices. Similar to subsidies, minimum support prices are used to encourage domestic production for both rice-importing and -exporting countries. Major exporting countries such as Thailand and India implement them to ensure their place in the world market while importers such as Malaysia, Indonesia, Bangladesh, Laos, Nepal, and Sri Lanka implement them to secure food availability in their domestic markets.

Lastly, measures such as temporary export bans and price controls are implemented in several African countries. Such measures are usually implemented to control volatile domestic prices and ensure domestic food access.

I. Introduction

WHY THIS HANDBOOK?

For policymakers, their advisers, public officials, and other stakeholders, keen attention to up-to-date information on rice policies is warranted. Not only is rice the most important staple food worldwide, it also constitutes a major source of livelihood for many poor households and is an object of considerable cultural and social importance in many countries (Dawe et al. 2014). That is why the study of rice policy has been among the most rapidly developing fields in food policy analysis over the past several decades. Rice policy analysis has emerged to better understand the political economy for this food staple and to provide policymakers with reliable policy-relevant knowledge on pressing problems in the rice sector. It is particularly relevant in the current world rice market context, in which global rice price fluctuations created by export restrictions raise concerns about domestic and global food security and the policy responses made by rice-importing and -exporting countries.

Several early efforts have compiled information on policy developments in the rice sector. An early compilation of rice production and trade policies around the world was provided by the Foreign Agricultural Service of the U.S. Department of Agriculture in its Global Agricultural Information Network Attaché Reports, started in 1995. The 2011 Food Outlook published by the Food and Agriculture Organization (FAO) of the United Nations started documenting policy developments for rice and other agricultural commodities. In 2011, the Markets and Trade Division of FAO also established the Commodity Policy Developments tool. This tool provides concise accounts of national policy changes deemed relevant not only to rice markets but also to other cereal, oil crop, meat, dairy, and sugar markets, and to markets of basic foodstuffs. The Organization for Economic Cooperation and Development (OECD), through its annual report Agricultural Policy Monitoring and Evaluation (formerly Agricultural Policies in OECD Countries), has also been documenting rice policies since 1997 for Japan and South Korea, and later for other major rice-growing countries such as Indonesia and the Philippines.

Although much is reported about rice policies, only a few works provide documentation of the rice policy instruments that policymakers have at their disposal. As pointed out by Beers et al. (2003), policymakers prefer policy reports and documents among the various types of information sources as background information, basis for negotiation, and for giving direction and setting boundaries. An interesting policy document in this direction is the *Handbook on Rice Policy for Asia* produced by the then Social Sciences Division of the International Rice Research Institute (IRRI) in 2013.
So, why another handbook on rice policies? An obvious reason is that the prior compilation of rice policies is outdated and therefore needs updating. More importantly, the disruption in the world rice market created by India's export restrictions on non-basmati rice on 20 July 2023 has brought about major changes that shape the policy responses made by many countries to this turmoil. For example,

the recent implementation of price caps in the Philippines in response to the global price fluctuations due to India's export restrictions has made that country more vulnerable as private traders become reluctant to import. Not only that, the timing of India's rice export restrictions coincided with concern about climate risks associated with El Niño, which might lead to particularly profound and complex impacts. Thus, the need is even greater to develop an up-to-date source of information on policies that will help guide policymakers to assess risks and opportunities that their country and citizens face from current and future shocks in the world rice market.

The objective of this Handbook is to summarize global coverage of recent information on policy instruments used by governments to realize objectives related to rice production and supply, rice markets, and trade. Unlike previous work that focuses only on Asia, this Handbook attempts to provide a more comprehensive documentation of rice policies for Asia, Africa, the Americas, Europe, and the Middle East.

Rice policies remain quite significant in many countries in these regions. Rice continues to play a significant role in food security in Asia and Africa, where rice production contributes 89% and 5% to global rice production, respectively. The changing role of rice in these two regions dramatically intensifies the need for information among policymakers who attach great weight to national food security imperatives in the crafting of rice programs. Similar to the United States and exporting countries in Asia, Latin America is also highly relevant for the world rice market since it houses some key rice exporters (i.e., Argentina, Brazil, and Uruguay). Likewise, rice is an important traded commodity in the Middle East, accounting for 13% of the world's rice imports based on USDA estimates for 2023. Overall, this Handbook covers 70 countries and regions, which collectively account for 99% of global rice production and 98% of consumption.

Considering that this Handbook aims to provide a condensed and understandable summary of the rice policies in those regions, the approach here is purely descriptive, making use of tables, graphs, and basic statistics for those that need a quick grasp of a country's rice policy. In doing so, we relied on secondary data and compiled information from various sources, including FAO, USDA, and government sources. With this in mind, our approach is intended to be positive rather than normative (Ethridge et al. 2009), which means that we focus on what is rather than what ought to be. Ethridge et al. (2009), writing about the context of subsidies and tariffs for several crops, stated this distinction and goal clearly: "The primary function of research as it relates to policy is to provide reliable information…. Decisions on public policies are the function of policymakers."

This Handbook is designed for two groups to support ongoing policy debates about rice and efforts related to policy modeling. First, policymakers and planners can use this work in designing or reforming programs and addressing challenges in the rice sector. Second, this work provides useful material not only for rice trade modelers at IRRI, University of Arkansas, and University of Missouri, but also for modelers and researchers in other institutions who are active in supporting evidence-based policies in the rice sector. We hope that this Handbook will also be of interest to a broader audience, including multilateral organizations and national governments.

ROADMAP

The Handbook consists of seven sections. The first section provides the rationale for global coverage on rice policies. Sections two to six provide a summary and description of rice policies across six regions. The final section concludes.

II. Asia

SOUTHEAST ASIA
CAMBODIA

A. **Rice market overview:** For the period 2017 to 2021, the average rice production in Cambodia was 5.7 million MT while the average rice consumption was 4.3 million MT. Cambodia accounts for 1% of both global rice production and consumption. The country is a net exporter of rice, with an average export volume of 1.5 million MT from 2017 to 2021, amounting to 3% of global rice exports (USDA 2024).

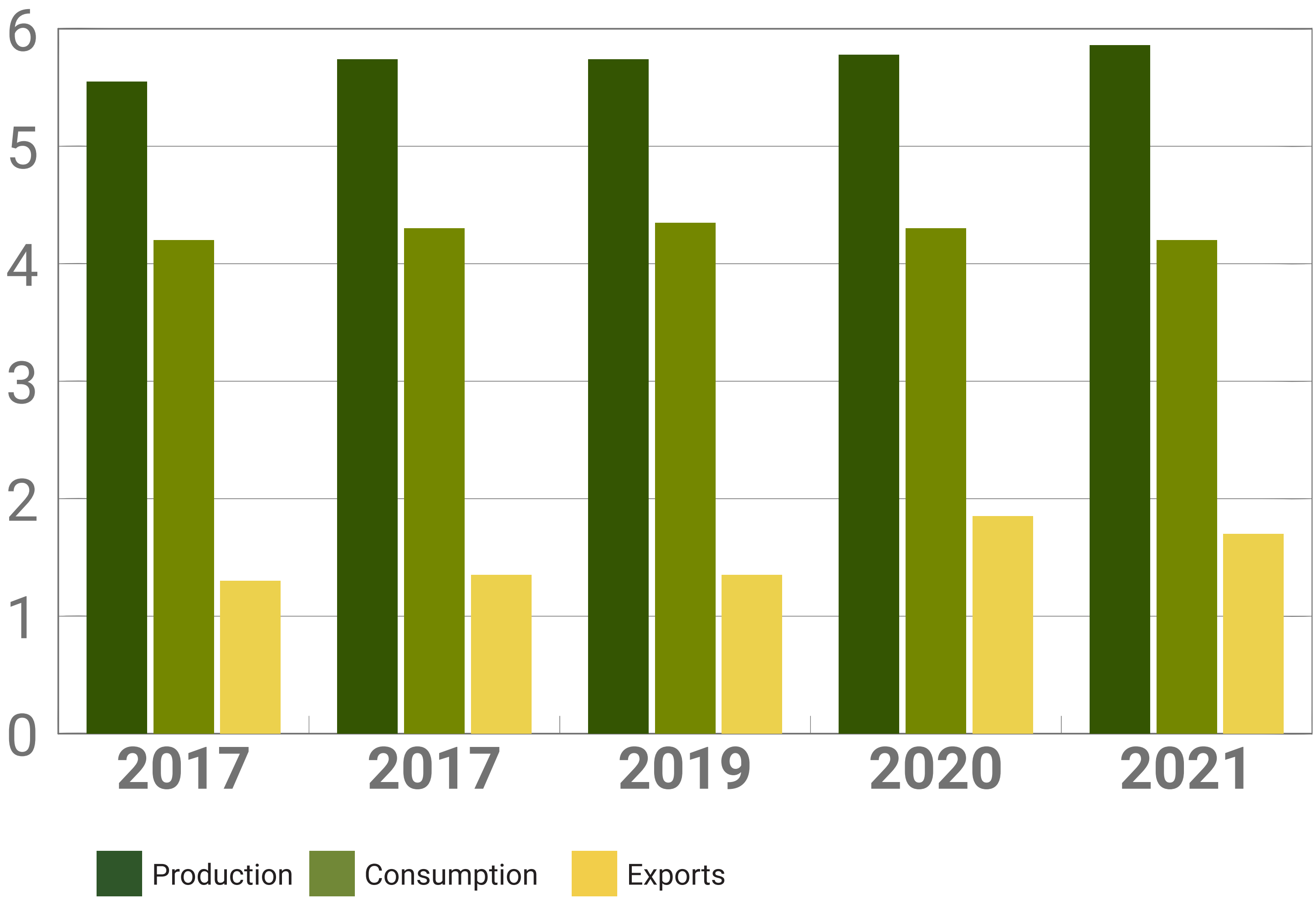


Figure 1. Cambodia rice production, consumption, and exports, 2017–2021.

B. **Key policy issues:** The country implemented an export ban for rough rice and non-fragrant milled rice to secure the domestic rice supply during the height of the COVID-19 outbreak. Cambodia also aimed to secure a larger import quota from China to redirect its imports away from European Union (EU) member countries due to increasing freight costs and container shortages brought about by the COVID-19 pandemic (Hoy 2022).

C. Summary of recent rice sector policies

- ***Export ban:*** An export ban for rough rice and non-fragrant milled rice was implemented from 5 April 2020 to 20 May 2022 (FAO 2020).
- ***Import quota:*** The government requested China to increase its current import quota from 400,000 MT to 500,000 MT in 2021 (Hoy 2022).
- ***Import tariff:*** The safeguard measures imposed by the European Union were set to expire in January 2022. These safeguard measures forced Cambodia to pay import duties on a per ton basis from 2019 to 2021 (Vo and Hoy 2021).
- ***Trade agreement:*** The government aims to secure a memorandum of understanding (MOU) with the Philippine International Trading Corporation to export milled rice to the Philippines. However, apprehension exists since the price is still too high for the Philippines (Hoy 2023).

INDONESIA

A. Rice market overview: For the period 2017 to 2021, the average rice production reached 34.9 million MT, while the average consumption was 36 million MT. Both production and consumption numbers account for 7% of global production and consumption. Indonesia is a rice-importing country, averaging 940,000 MT of rice imports from 2017 to 2021, amounting to 2% of total world rice imports (USDA 2024).

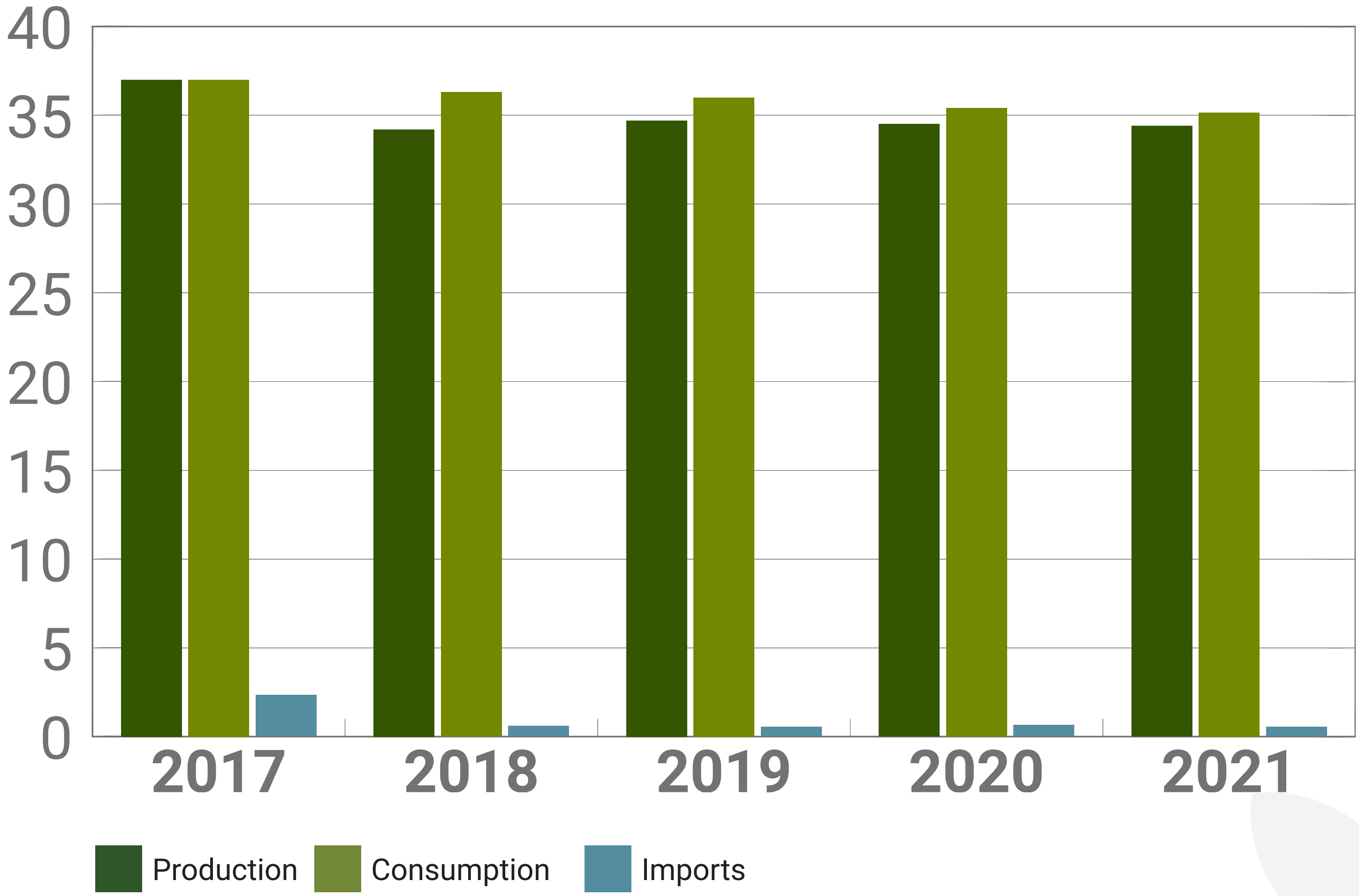


Figure 2. Indonesia rice production, consumption, and imports, 2017–2021.

B. Key policy issues: The country's National Logistics Agency (BULOG) aims to stabilize local prices by procuring and distributing rice at competitive wholesale prices. Aside from lowering prices, BULOG is tasked to distribute rice because of the lower purchasing power of Indonesians brought about by the COVID-19 pandemic and rising inflation.

C. Summary of recent rice sector policies

- ***Government procurement:*** BULOG had a target rice procurement of 1.5 million MT for 2022 to maintain its minimum year-end stock of 1.5 to 2.0 million MT of rice (Meylinah 2022).
- ***Rice distribution:*** BULOG implemented a market intervention in which the agency stabilized local rice prices by procuring and distributing rice to wholesale markets. It distributed 787,000 MT of rice to wholesale markets through this intervention in 2021. The government also provided food aid through staple food cards, which included rice, to 18.8 million households as part of its COVID-19 relief package (Meylinah 2022). From March to May 2023, 21.35 million households were provided with monthly rations of rice as support due to the increasing inflation in the country (FAO 2023a).
- ***Support price:*** The government increased its purchasing price to IDR 5,100 (USD 0.33) per kg for wet paddy and IDR 6,200 (USD 0.40) per kg for dry paddy (FAO 2023b.
- ***Consumer price control:*** The government set its maximum retail price (MRP) for medium-quality rice at IDR 10,900–11,800 (USD 0.70–0.76) per kg, depending on regional location. MRPs were also set for premium-quality rice at IDR 13,900–14,800 (USD 0.90–0.95) per kg (FAO 2023c).
- ***Other government policies:*** The government did not import rice through BULOG from 2021 to 2022 because of stable rice prices in the country. All rice imports came about through the private sector.2 Rice imports will include only specialty rice, which the country does not produce, such as basmati and low-GI rice. In addition, the government established a new agency called Badan Pangan Nasional (National Food Agency) in February 2022. This government agency operates under and is accountable to the President in the implementation of food affairs to create food sovereignty, food security, and food self-reliance for the country. Nine food commodities are the focus of this agency's tasks: rice, corn (maize), soybeans, consumer sugar, onions, poultry eggs, ruminant meat, poultry meat, and chili. In 2023, the government instructed BULOG to implement the Stabilisasi Pasokan dan Harga Pangan (Stabilization of Food Supply and Prices) program, which will allow BULOG to sell at below market prices at its warehouse (Meylinah 2023a).
- ***Import quota:*** In 2023, the government allowed BULOG to import up to 2 million MT of rice to meet domestic demand, of which 500,000 MT would be procured immediately (FAO 2023d). On 26 September 2023, the government authorized the importation of an additional 2 million MT of rice to mitigate the impacts of production losses and rising prices caused by El Niño conditions (Meylinah 2023d).

LAOS

A. Rice market overview: Laos produced and consumed 1.8 million MT of rice on average annually from 2017 to 2021, both of which are less than 1% of global totals. Laos also tries to sustain its rice demand through local production, having only 90,000 MT of rice imports annually (USDA 2024).

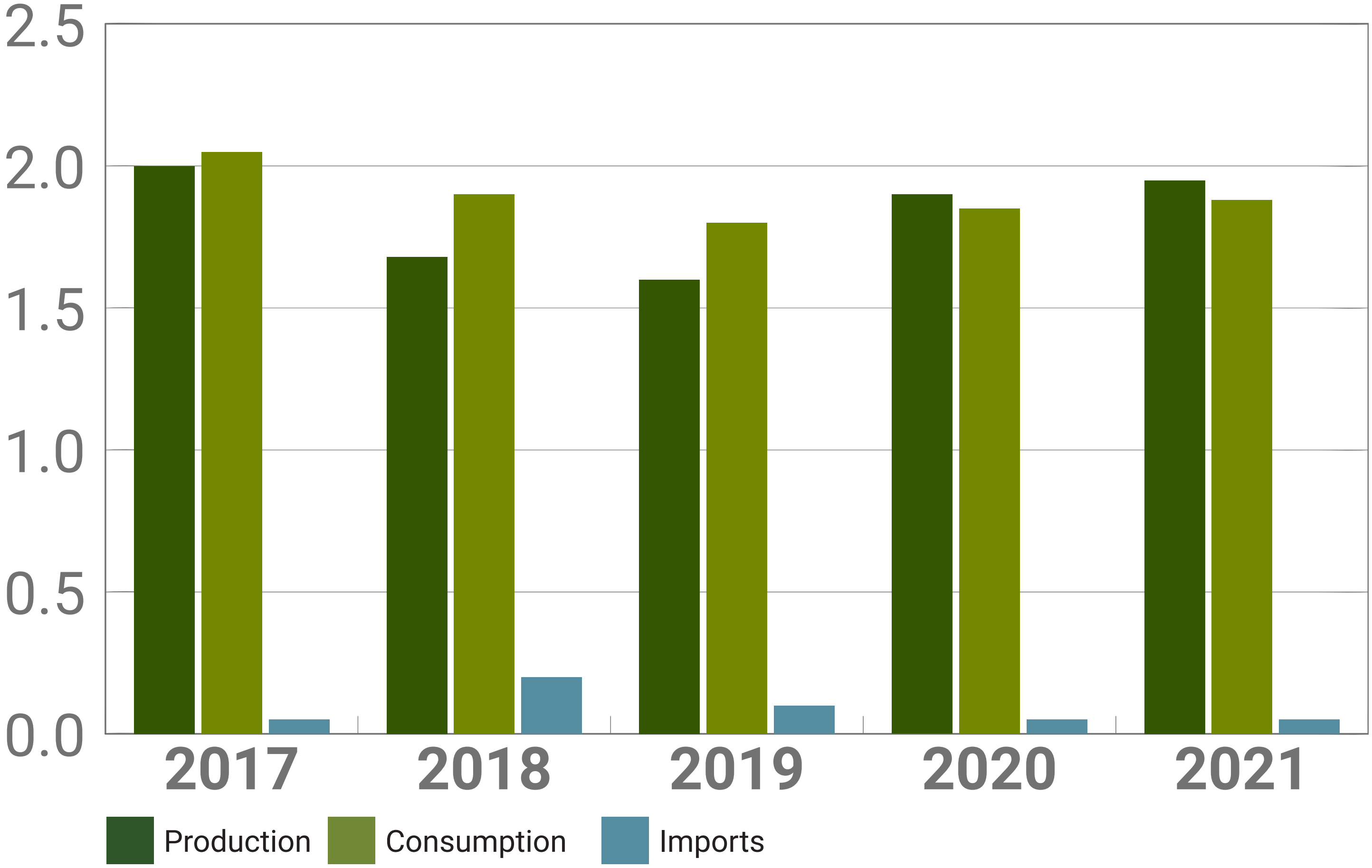


Figure 3. Laos rice production, consumption, and imports, 2017–2021.

B. Key policy issues: Because of the impact of rice farming on rural income and food security, the government intends to focus its programs on small farmers. To increase the productivity of these farmers, the government aims to increase the provision of irrigation as well as the development and dissemination of rice varieties that can combat adverse weather effects and pest infestation (Mullis and Prasertsri 2020).

C. Summary of recent rice sector policies

- ***Research investment:*** The government has prioritized the construction of additional irrigation facilities as well as the improvement of seed varieties to increase the volume of rice production and exports. The government envisioned a 4 million MT increase in rice exports from 2020 to 2025 (Mullis and Prasertsri 2020).
- ***Support price:*** The government imposes a price floor on farm-gate paddy purchases to protect the income of rural households and maintain the level of agricultural production (Mullis and Prasertsri 2020).

MALAYSIA

A. Rice market overview: An average of 1.8 million MT of rice were produced annually in Malaysia from 2017 to 2021, while the average consumption at the same time was 2.9 million MT. Both production and consumption numbers are less than 1% of global numbers. Malaysia is a net importer of rice, averaging approximately 1 million MT of imports annually from 2017 to 2021, which is 2% of total global rice imports (USDA 2024).

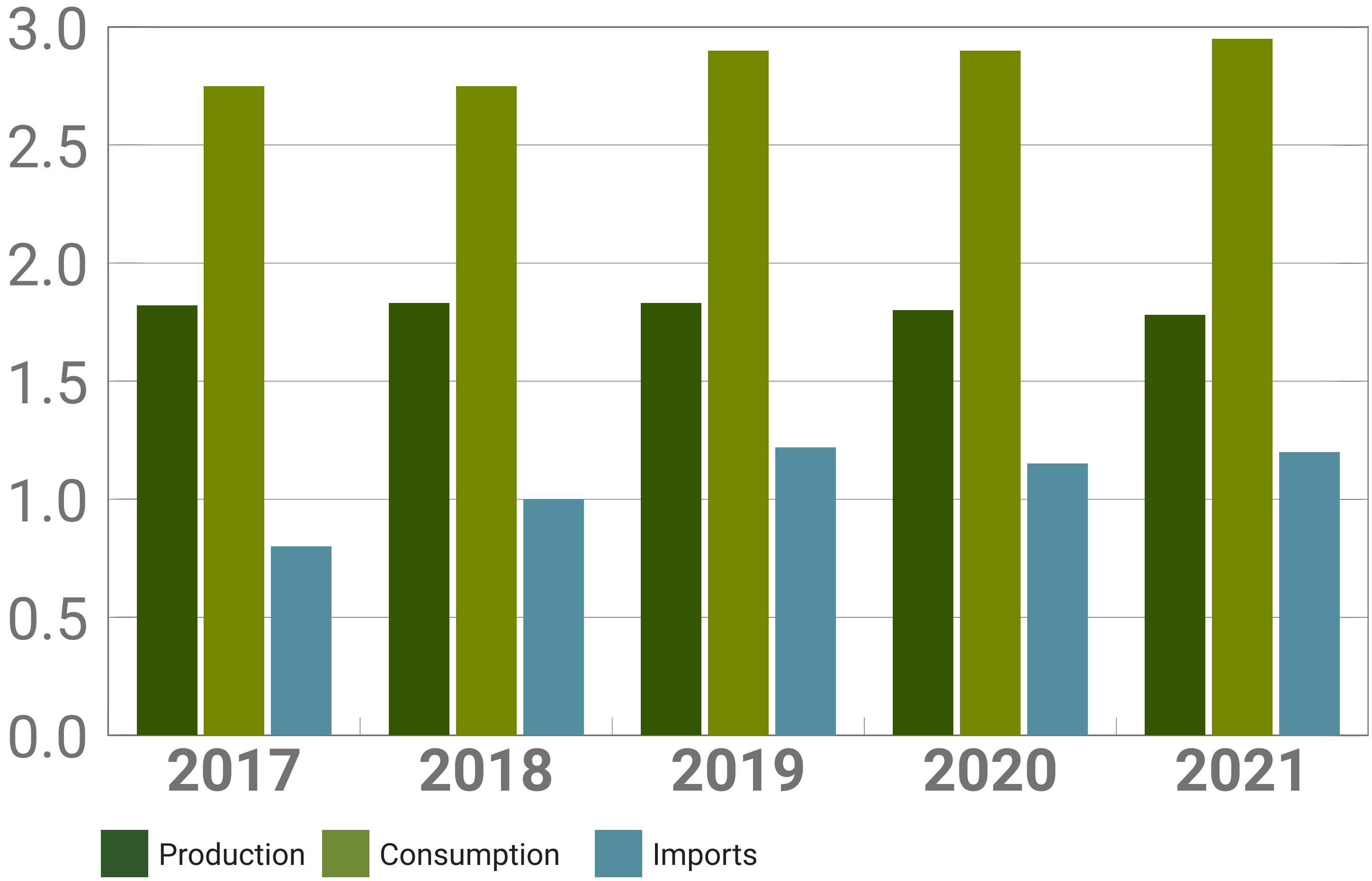


Figure 4. Malaysia rice production, consumption, and imports, 2017–2021.

B. Key policy issues: The main goal of the latest government policies is to increase the rice self-sufficiency of Malaysia to 80% by 2030. To encourage producers, several subsidy and support price programs were implemented to encourage an increase in both production and productivity (Wahab 2022).

C. Summary of recent rice sector policies

- ***Input subsidy:*** The government provides rice farmers with 340 kg of fertilizer and subsidies for plowing per planting season. For 2021, a total of USD 380.9 million was allocated for rice subsidies and incentives (Wahab 2022). The government also provided MYR 262 million (USD 56.48 million) to mitigate the effect of price increases of fertilizer and pesticide from 2021 to 2022(FAO 2021). Cooperatives were also provided with cash incentives for the purchase and use of modern planting and harvesting machines (Wahab 2022). In 2020, the government announced a plan to impose price ceilings and a coupon system for rice seed purchases (FAO

2020a). In August 2023, the government also raised the assistance to rice producers under the Paddy Price Subsidy Scheme from MYR 360 (USD 77.60) to MYR 500 (USD 107.78) per MT (FAO 2023a).

- ***Support price:*** The government imposes a minimum guaranteed price of MYR 1,200 (USD 258.68) per MT of rice (Wahab 2022). For 2024, the minimum guaranteed price has been raised to MYR 1,300 (USD 280.23) to intensify production (FAO 2023b).
- ***Consumer price control:*** A price ceiling is imposed on long-grain variety ST-15, which is the most popular variety in the country. The price ceiling ranges from MYR 1.60 to 1.80 (USD 0.34 to 0.39) per kg depending on the locality (Wahab 2022).
- ***Other government policies:*** The government is aiming for 80% self-sufficiency of rice production by 2030. To achieve this, the government listed five priorities in the National Agrofood Policy 2.0: improve the use of land and water resources, use local rice varieties, restructure the allocation of financial aid, involve the private sector in value chain operations, and encourage the younger generation to participate in the rice and paddy subsectors (Wahab 2022). Padiberas Nasional Berhad (BERNAS), an appointed private company, was to continue to handle all rice imports for another 10 years, starting in 2021 (FAO 2020b).
- ***Import tariff:*** The government imposes a 40% import tax for rice used for human consumption while rice used for animal feed production is assigned a 15% import tax (Wahab 2022).

MYANMAR

A. **Rice market overview:** Myanmar has consistently been among the top 10 producers of rice in the world. From 2017 to 2021, Myanmar averaged 12.8 million MT of rice production, accounting for 3% of total global rice production. Meanwhile, average consumption during the same period was 10.4 million MT, which is 2% of total global rice consumption. Myanmar is also one of the biggest rice exporters in the world, averaging 2.4 million MT of rice exports from 2017 to 2021, which is about 5% of all rice exports globally (USDA 2024).

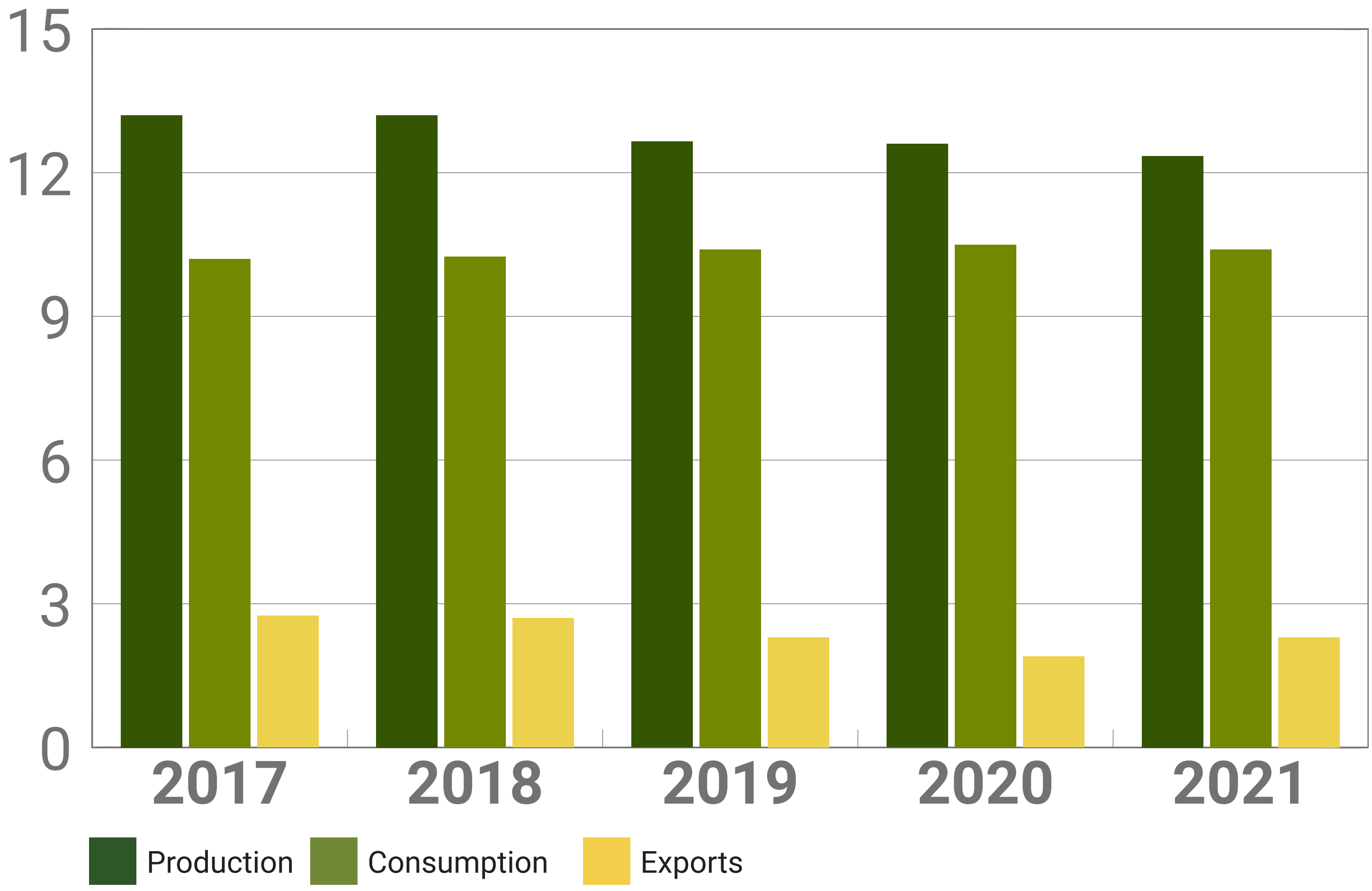


Figure 5. Myanmar rice production, consumption, and exports, 2017–2021.

B. **Key policy issues:** Burmese farmers have experienced higher costs and lower supplies of inputs because of the effects of the COVID-19 pandemic as well as the weakening of the local currency due to political unrest. Private financing has also decreased significantly because of the pandemic. To combat this, the government has implemented programs providing farm loans and cash aid to mitigate the effects of the increasing input costs and lower purchasing power for the country's rice producers (FAS Rangoon 2022).

C. **Summary of recent rice sector policies**

- ***Input subsidy:*** The government provides farm loans based on commodity and season for farmers cultivating rice, oilseeds, pulses, and beans (Rangoon 2022).

- ***Support price:*** The government imposes a floor price for rough rice at MMK 540,000 (USD 257) for every 100 baskets (Wahab 2021). In 2023, the support price for monsoon and summer paddy was raised to MMK 630,000 (USD 300) per MT (FAO 2022a).
- ***Direct payments:*** Because of the priority of exporting rice and rice products in 2022, the government planned to provide MMK 200,000 (USD 95) per acre to support contract farming (FAO 2022b).
- ***Agricultural credit:*** Credit is available from the Myanmar Agricultural Development Bank up to MMK 150,000 (USD 71) at a 5% interest rate (Rangoon 2022).
- ***Other government policies:*** The government provided aid for rice farmers worth MMK 2.7 billion (USD 1.29 million) in 2020, and an additional MMK 479.2 billion (USD 228.18 million) as a special COVID-19 relief fund (Rangoon 2022).
- ***Export ban:*** The government planned to reduce exports from the end of August 2024 for 45 days to diminish price volatility in the local markets (Reuters 2023).
- ***Trade agreement:*** Myanmar agreed with Sri Lanka to export 100,000 MT of white rice and 50,000 MT of parboiled rice in January 2022 (Rangoon 2022).

PHILIPPINES

A. Rice market overview: The Philippines is a major importer of rice, averaging 2.6 million MT per year, which accounts for 6% of total global rice imports (USDA 2024). From 2017 to 2021, annual rice production was 12.2 million MT while annual consumption was 14.3 million MT on average. Both rice production and consumption amounted to 3% of the world's totals.

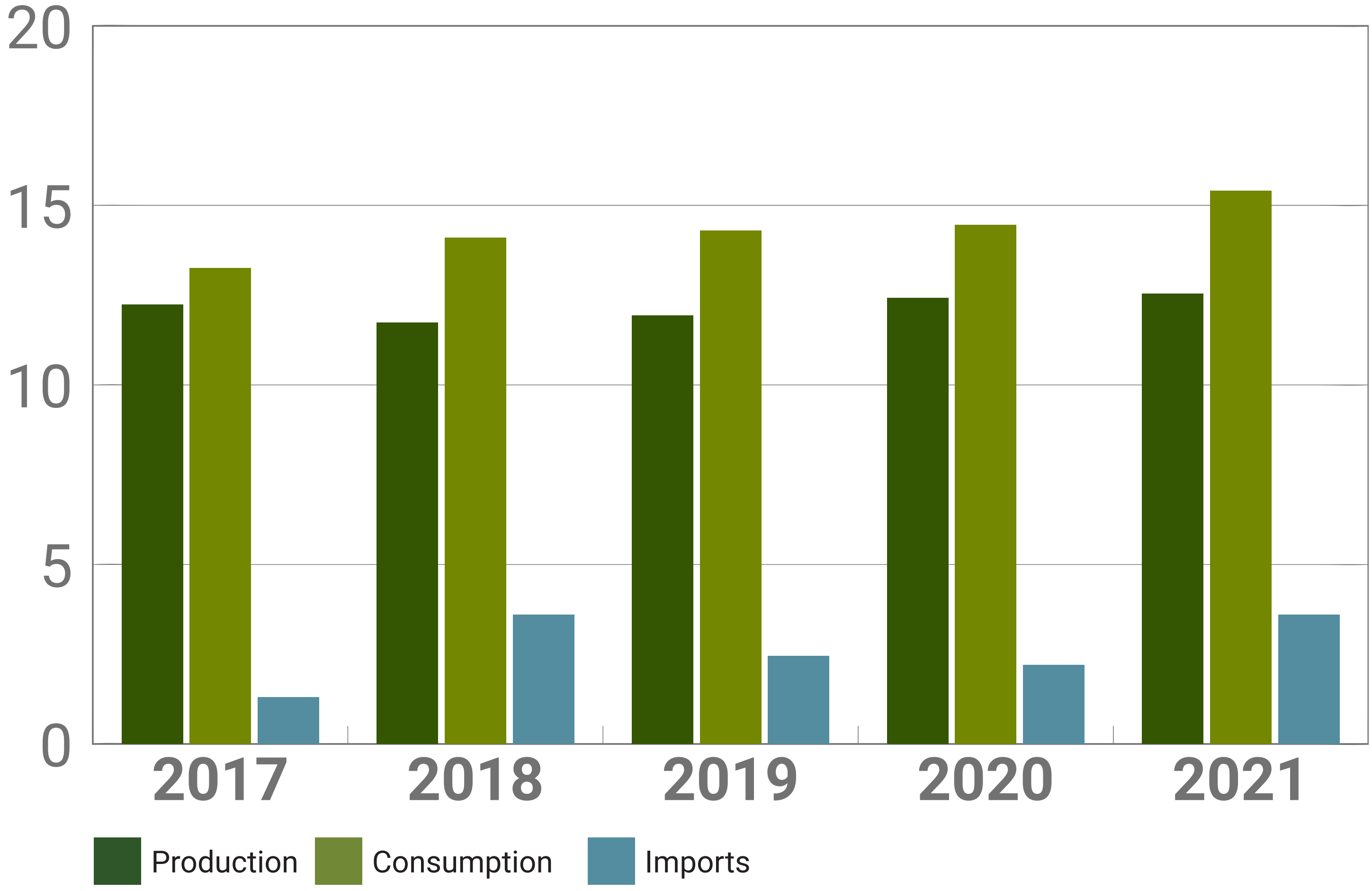


Figure 6. Philippines rice production, consumption, and imports, 2017–2021.

B. Key policy issues: Rice remains the country's most supported agricultural commodity. Increasing rice production is still the top priority of the country and support is given through the provision of significant trade barriers on rice importation, input subsidies and cash assistance, irrigation development and maintenance, public procurement of paddy for buffer stocking, R&D and extension, and the development and dissemination of new rice varieties. With the conflict between Russia and Ukraine affecting the supply and price of inputs, the government provides additional financial assistance and soil ameliorants to decrease the impact of high prices on local farmers. The government also continues to provide support to local farmers mainly through the Rice Competitiveness Enhancement Fund (RCEF) to mitigate the impact of the lower farm-gate prices due to the implementation of the Rice Tariffication Law (Haas 2022).

C. Summary of recent rice sector policies

- ***Government procurement:*** The government allocated PHP 41 billion (USD 737.60 million) to buy rice at PHP 19 (USD 0.34) per kg and sell at lower than market prices to stabilize consumer prices (FAO 2021). Because of the imposition of the price cap on regular and well-milled rice, the National Food Authority raised the effective buying price of dry and wet paddy to PHP 23,000 (USD 413.78) and PHP 19,000 (USD 341.82), respectively (FAO 2023a).

- ***Input subsidy:*** An estimated PHP 63 billion (USD 1.13 billion) is allocated in total for rice subsidies through different government agencies and projects such as the National Irrigation Administration, the Department of Agriculture's Rice Program, the RCEF, and the National Food Authority. The DA also provides subsidies for inbred rice and fertilizer, as well as soil ameliorants to mitigate the effects of the Ukraine conflict on rising input prices (Haas 2022). Since the passing of the Rice Tariffication Law (RTL) in 2019, the RCEF was implemented to make Filipino farmers more competitive against the lower prices of imported rice. A total of PHP 10 billion (USD 179.90 million) is allocated per year to provide farmers with inbred seeds, farm machinery, credit, and training and extension materials (Department of Agriculture 2024). In addition, through the Free Irrigation Services Act (FISA), the collection of irrigation service fees for national and communal irrigation services halted in 2017. All farmers and water users whose landholdings are below 8 hectares are provided with irrigation services free of charge (Republic Act No. 10969 2018).
- ***Consumer price control:*** In September 2023, the administration imposed a price ceiling of PHP 41 (USD 0.74) per kg for regular milled rice and PHP 45 (USD 0.81) per kg for well-milled rice in response to rising world rice prices (DA-AFID 2023). The price ceiling was then lifted in October 2023 (FAO 2023b).
- ***Research investment:*** The government approved the commercial propagation of Golden Rice until 20 July 2026 (FAO 2021).
- ***Agricultural credit:*** Aside from the credit provided by the RCEF, credit is also available for rice farmers through the Sikat Saka financing program. This program mainly provides production credit, but it also provides irrigation services, extension programs, and links to markets for rice and corn (maize) farmers (DA-ACPC 2024).
- ***Other government policies:*** The DA has been implementing a strategy of forming hybrid rice cluster farms, based on the provision of fertilizer subsidies and cash assistance to improve rice production. The Bureau of Plant Industry also intermittently suspends the processing of sanitary and phytosanitary import clearances, such as in January 2022 (Haas 2022). The government also provides aid for rice farmers to combat the adverse impacts of the COVID-19 pandemic (Republic Act No. 10969 2018). Another flagship program of the DA is the National Rice Program (NRP) that integrates the various initiatives of the government to make rice farming more profitable, sustainable, and efficient. It aims at food security and self-sufficiency, sustainable resource management, support services from farm to table, and broad-based local partnerships. Interventions included in the NRP are the provision of fertilizer vouchers, inbred or hybrid seeds, and postharvest machinery; establishment of technological demonstration farms; and implementation of small-scale irrigation projects (BAARM Ministry of Agriculture, Fisheries and Agrarian Reform 2024). The government also announced a one-time financial outlay of up to PHP 15,000 (USD 269.85) for small retailers affected by the imposition of the price cap or price ceiling on regular and well-milled rice (FAO 2023c).
- ***Import tariff:*** The Rice Tariffication Law was passed in February 2019 and implemented to meet its obligation under the WTO to replace quantitative restrictions on rice imports with tariffs (Bedford 2021). The government's Rice Competitive Enhancement Fund was set up as aid for farmers affected by the RTL. The funds of the RCEF come from the tariff collections on rice imports (Bedford 2021). In addition, on 21 May 2022, the government decided that the tariff rate for Most Favored Nation (MFN) countries would be 35% until 31 December 2022 as opposed to the initial plan for lowering tariff rates to 35% from 1 June 2021 to 1 June 2022 and then setting in-quota tariff rates at 40% and out-of-quota tariff rates at 50% (Haas 2022). The measure effectively established a uniform rate for ASEAN- and non-ASEAN-originated imports.

THAILAND

A. **Rice market overview:** Rice growing constitutes a big portion of Thailand's agricultural priorities, wherein approximately half of all agricultural lands are used for rice. Thailand is also the sixth largest producer of rice in the world, with an average of 19.5 million MT of rice production from 2017 to 2021, amounting to 4% of the world's total production. Meanwhile, the country consumed an average of 12.1 million MT of rice annually from 2017 to 2021, which is 2% of total rice consumption. Thailand is also the world's second largest rice exporter, behind only India. In the same period, Thailand averaged about 7.6 million MT of rice exports, accounting for 16% of all rice exports (USDA 2024).

B. **Key policy issues:** To preserve its standing among the top exporters of rice in the world, the government hopes to maintain the interest of farmers in rice farming. One of the main insvtruments used by the government is the price guarantee program to ensure profits for farmers. This program, together with other programs dedicated to rice production, seeks to increase farmer productivity by ensuring income to improve the volume of rice production in the country, which will then ensure the competitiveness of Thai rice prices in the export market compared with those of competitors such as India, Cambodia, and Vietnam (Iemsam-arng 2022a).

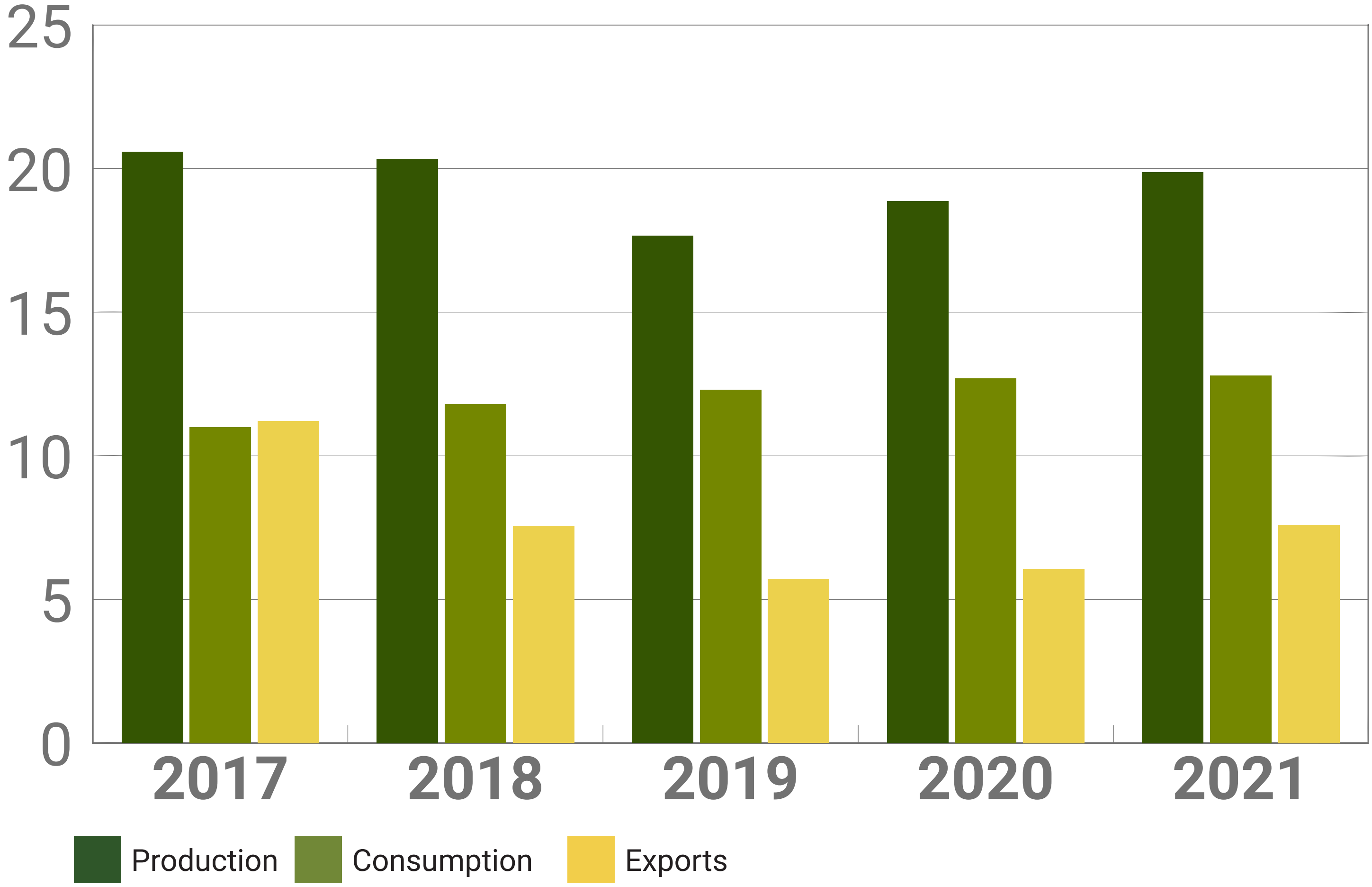


Figure 7. Thailand rice production, consumption, and exports, 2017–2021.

C. Summary of recent rice sector policies

- ***Support price:*** In December 2021, the government's price guarantee program covered white paddy rice, fragrant Hom Mali paddy rice, fragrant Pathum Thani paddy rice, glutinous paddy rice, and provincial fragrant paddy rice with a minimum selling price. To support the program, the government allocated THB 76 billion (USD 2.20 billion) for the 2021 to 2022 fiscal year (Iemsam-arng 2022a). For the fiscal year 2022 to 2023, THB 86 billion (USD 2.49 billion) was allocated (FAO 2022).
- ***Research investment:*** The government supports the development of 12 new rice varieties that are expected to be commercialized in 2024 (Iemsam-arng 2022a).
- ***Agricultural credit:*** The government has approved a memorandum to suspend principal and interest payments of farmers, with the first phase running from 1 October 2023 to 30 September 2024. The program will have an estimated cost of THB 33 billion (USD 0.96 million) (FAO 2023).
- Direct payments: As part of the relief support program, eligible farmers will receive THB 1,000 (USD 28.98) per rai for a maximum of 20 rai (Iemsam-arng 2023).
- ***Other government policies:*** In May 2022, the government approved the 2022 main crop insurance program for farmers who are customers of the Bank of Agriculture and Agricultural Cooperatives (BAAC). The budget for the program is THB 1.925 billion (USD 55.78 million) to cover approximately 5 million hectares of agricultural land. The insurance coverage includes damages due to flooding, drought, storms, cold, hail, fire, and animals. BAAC also announced a debt moratorium for farmers affected by flood combined with a removal of interest payments for the first 12 months of loan repayment (Iemsam-arng 2022b). Emergency loans up to THB 50,000 (USD 1,440) will also be available for farmers affected by flooding, which they can pay back in three years, with the first six months being interest free (Iemsam-arng 2021).
- ***Trade agreement:*** The government agreed on a memorandum with Indonesia that would allow Thailand to export up to 1 million MT of rice annually until 2025 on a government-to-government basis (FAO 2021).

VIETNAM

A. Rice market overview: For the period 2017 to 2021, Vietnam had significant global market shares of rice production and consumption. Its rice production averaged 27.3 million MT, amounting to 5% of total global rice production, while its consumption averaged 21.4 million MT, accounting for 4% of total global rice consumption. Vietnam's substantial rice surplus allows the country to be a rice exporter, averaging 6.5 million MT of rice exports in the same period, which accounts for 13% of total global rice exports. Although Vietnam has always been a net exporter of rice, the country still imports some rice, averaging 920,000 MT from 2017 to 2021, accounting for 2% of total global rice imports (USDA 2024).

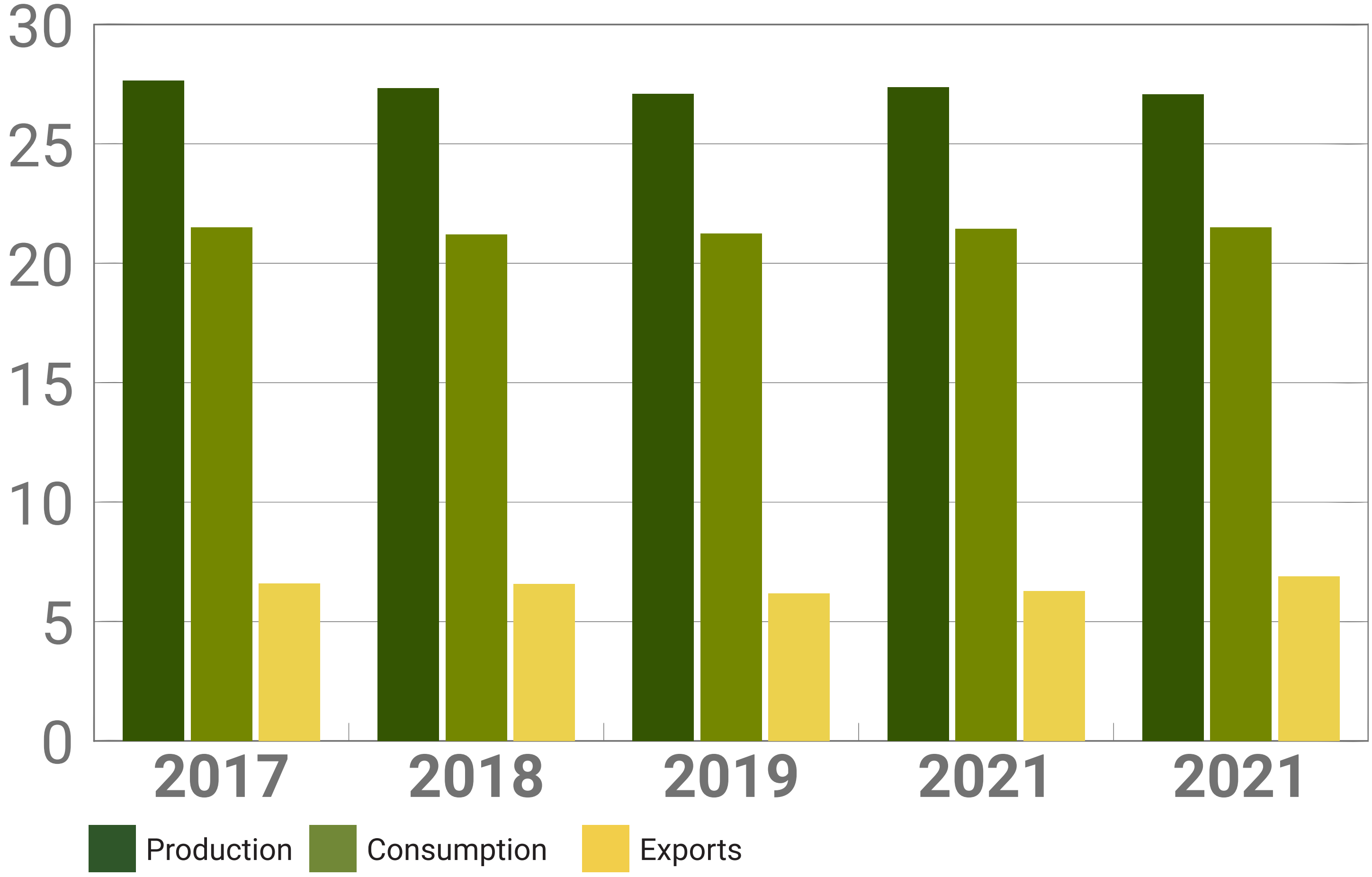


Figure 8. Vietnam rice production, consumption, and exports, 2017–2021.

B. Key policy issues: The government has allocated a significant amount of budget for rice procurement to maintain the stocks that were depleted because of the need to provide rice as food aid for areas heavily affected by COVID-19. The government also anticipates a better export situation in the coming years because of the stabilization of freight and other logistical costs due to the lessened restrictions after COVID-19 (Vo 2022).

C. Summary of recent rice sector policies

- Government procurement: In September 2021, the government allocated VND 2.2 trillion (USD 90.21 million) to procure 172,889 MT of rice to augment national stocks (FAO 2021a).

- Rice distribution: In August 2021, the government distributed 130,000 MT of rice to COVID-19-affected provinces (FAO 2021b).
- Agricultural credit: In 2017, the government amended its decree on agricultural credit, expanding the scope for possible loan items to fall under agriculture-related credit (Vietnam Investment Review 2019).
- Other government policies: In 2015, a decree was enacted to provide rice farmers with VND 500,000 (USD 20.50) per hectare per year, with the aim of improving farmer income, which would then incentivize them to continue producing rice (Menker 2018).
- Trade agreement: On 9 December 2020, South Korea awarded Vietnam a commitment to import 10,124 MT of brown rice and 11,500 MT of white rice to be purchased in April and May 2021. The government announced the renewal of exemptions for Cambodian rice imports, allowing 300,000 MT of rough and husked rice imports without tariffs for 2021 and 2022 (FAO 2021c).

EAST ASIA

CHINA

A. **Rice market overview:** China is the leading producer and consumer of rice in the world. From 2017 to 2021, its average rice production amounted to 148.3 million MT and rice consumption was 147.5 million MT. Both production and consumption account for 29% of global totals. China is a net importer of rice, averaging 4.3 million MT of rice imports from 2017 to 2021, accounting for 9% of total global rice imports. China also exports rice, reaching 2.2 million MT from 2017 to 2021, accounting for 5% of total global rice exports (USDA 2024).

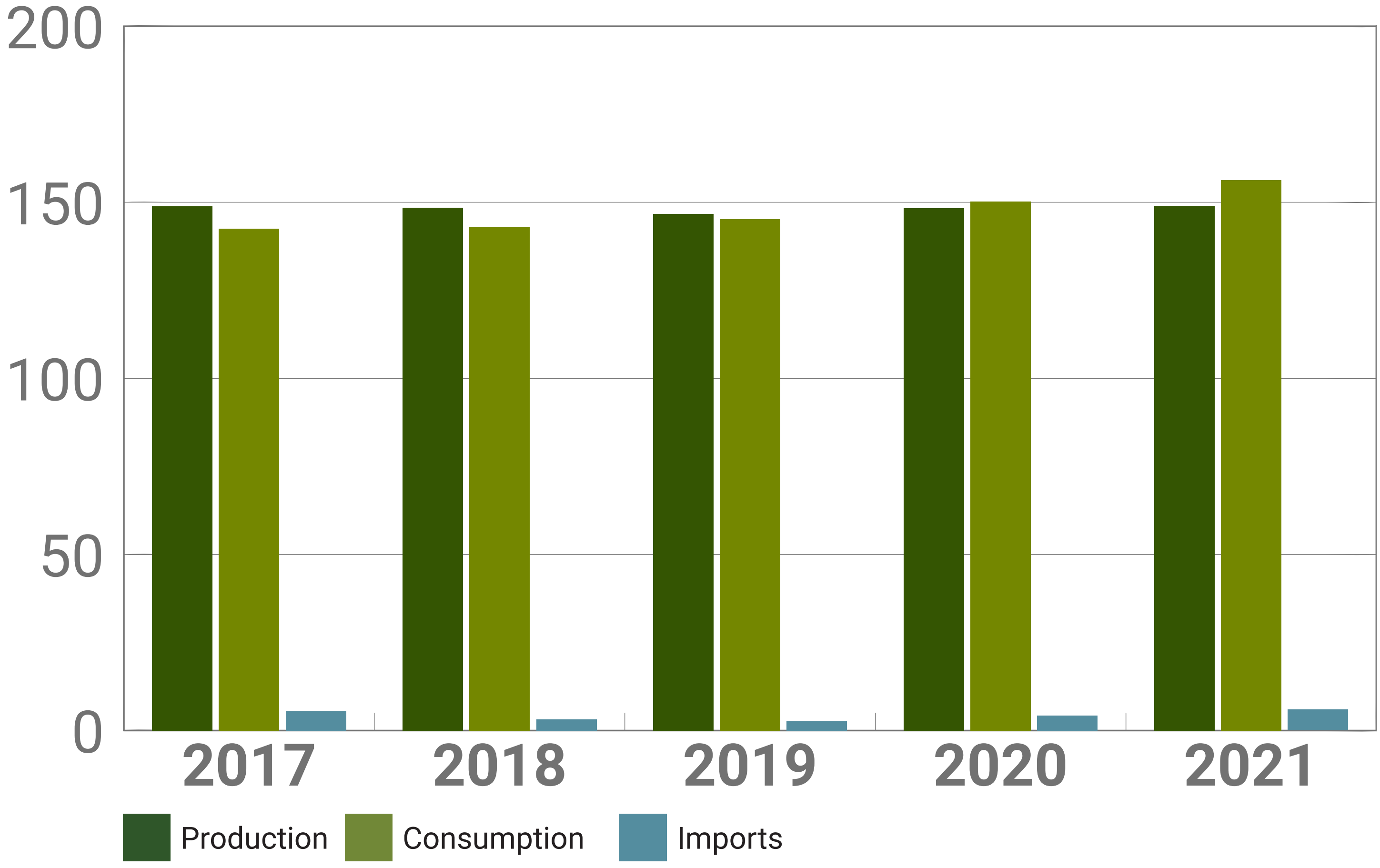


Figure 9. China rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** China's government indicated in its annual policy guidelines on agriculture and rural development the mandate to prioritize the stabilization of planting area and production of grains. The government also reiterated its belief that food security should be its top concern, and a large part of the country's food security lies in meeting each household's rice demand (McGrath 2022).

C. **Summary of recent rice sector policies**

- ***Support price:*** The National Development and Reform Commission implemented increases in minimum support prices (MSPs) for rice graded above 3. The increases include a 40 RMB (USD

5.62) increase per ton for Indica rice and a 20 RMB (USD 2.81) increase per ton for mid-to-late Indica rice and Japonica rice from the previous year's MSPs (for 2022) (McGrath 2022).

- ***Input subsidy:*** The Chinese government allocated CNY 20 billion (USD 2.81 billion) for a one-time subsidy for grain producers to mitigate the effects of increasing input prices (FAO 2022a).
- ***Research investment:*** The government supported the development of 6.7 million hectares of high-standard farmland for grains (FAO 2022b).
- ***Import tariff:*** China imposed a 2.6 million MT import tariff rate quota (TRQ) for both long-grain and combined medium- and short-grain rice. The allocation of the TRQ will be split 50-50 for state-owned enterprises and private companies. A 1% tariff rate will be imposed for in-quota purchases while a 65% tariff rate will be imposed for out-of-quota purchases (McGrath 2022). TRQs remain at 5.32 million MT (FAO 2023).

JAPAN

A. **Rice market overview:** The average rice production in Japan from 2017 to 2021 was 7.7 million MT while average consumption in the same time frame was 8.3 million MT. Japan's production and consumption account for 2% of world totals. Japan is generally a rice importer, averaging 671,000 MT of rice imports from 2017 to 2021, amounting to less than 1% of total global rice imports. Japan also exports rice, usually as part of food aid programs, averaging 76,000 MT of rice exports per year from 2017 to 2021, which is also less than 1% of total global rice exports (USDA 2024).

B. **Key policy issues:** In 2021, the government provided multiple programs to assist farmers in shifting from rice farming to more profitable and high-value crops. These programs aim to shoulder the costs of farmers who will be training to cultivate other crops and/or farmers who will be converting their land (Fujibayashi 2021).

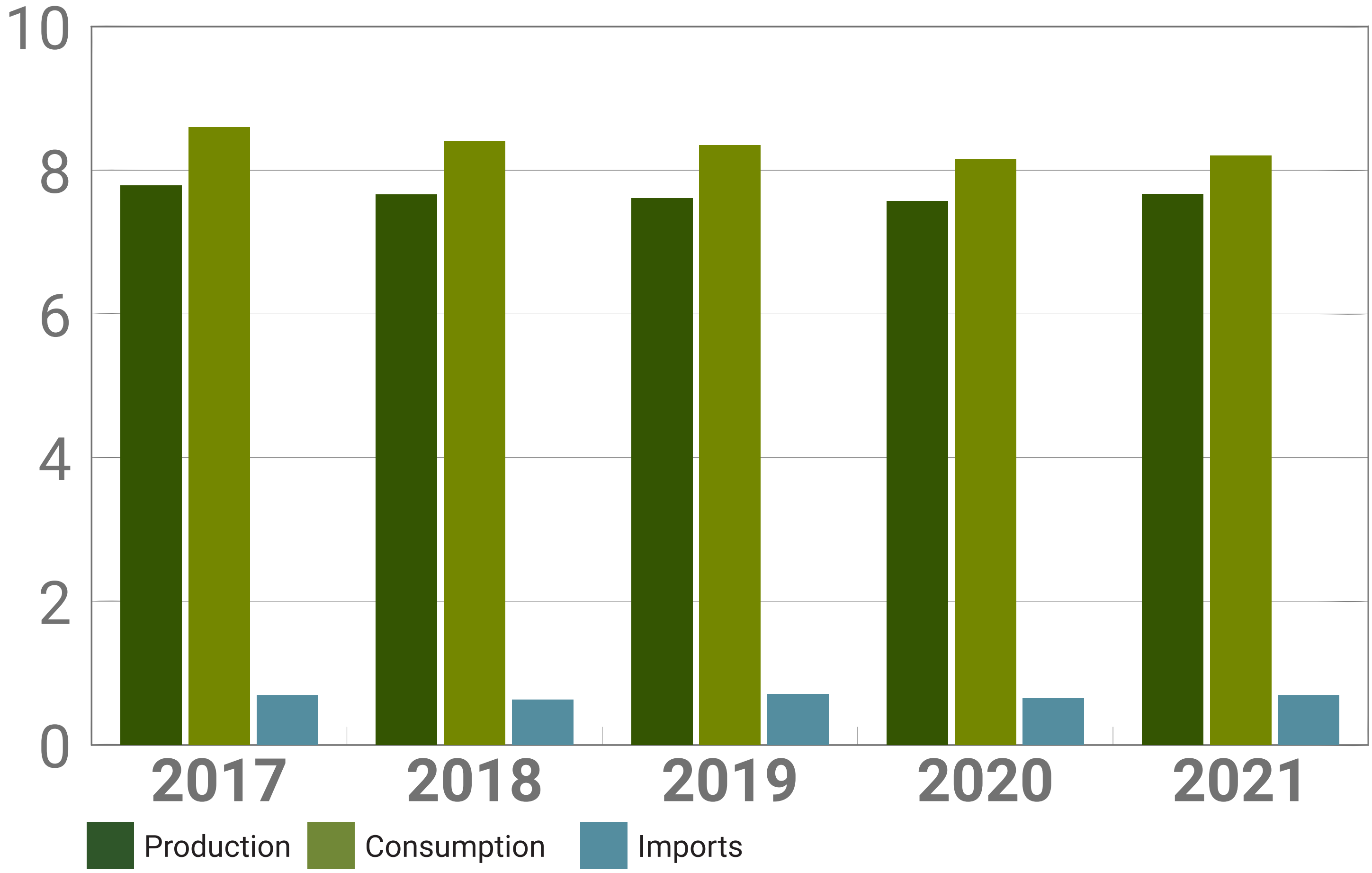


Figure 10. Japan rice production, consumption, and imports, 2017–2021.

C. **Summary of recent rice sector policies**

- ***Other government policies:*** The government intends to decrease the production of table rice by 300,000 MT and is offering various payments to support the shift of farmers from rice to different crops. The programs listed are the following (Fujibayashi 2021):
  - » The "rice paddy renovation for new market development" program aims to provide farmers

with financial support to shift from table rice production to the production of other food crops such as rice for export and/or processing, fruits and vegetables, wheat, barley, and soybeans.

  » The “rice paddy utilization” program aims to provide support payments to farmers for them to produce rice that is appropriate for processing as feed, flour, and whole-crop silage instead of using it as table rice.

  » The “profitable paddy farming promotion project” aims to provide support payments for farmers to convert their land to be appropriate for corn (maize) or fruit tree planting.

- ***Import tariff:*** From 2021 to 2023, Japan aimed to import 682,000 MT annually as part of its tariff rate quota set by the World Trade Organization. The average wholesale purchase price of table rice is JPY 213,916 (USD 1,490) per MT (Fujibayashi 2022).
- ***Trade agreement:*** The Ministry of Agriculture, Forestry and Fisheries (MAFF) has also agreed to a country-specific quota agreement with Australia to import Australian rice for 13 years (Fujibayashi 2022).

SOUTH KOREA

A. **Rice market overview:** From 2017 to 2021, South Korea averaged 3.8 million MT in rice production and 4.3 million MT in consumption, both of which amount to less than 1% of total rice production and consumption. South Korea is a net importer of rice, averaging 402,000 MT of rice imports from 2017 to 2021, which is 1% of total global rice imports. The country also exports rice as part of aid programs. In the same time frame, the country exported 56,000 MT of rice (USDA 2024).

B. **Key policy issues**: The government prioritizes food security and price stabilization for rice. To ensure these, the main program of the government is a rice procurement scheme called the Public Food Grain Stockholding Program (PFSP), in which the government ensures both good farm-gate prices for farmers and reasonable selling prices for consumers during non-harvest seasons (Oh 2022a).

C. **Summary of recent rice sector policies**

- ***Government procurement:*** The government procures rice from farmers through the PFSP, through which the government can secure rice prices by buying during the harvest season (October to December) and selling during the non-harvest season. In 2020, the government purchased 620,000 MT through the PFSP (Oh 2022a).
- ***Other government policies:*** The government implemented a farmer support program to decrease the farm area used for rice planting and transition to other crops or trees. Through this project, the government aimed to diminish rice farm area by 4.4% (32,000 ha) by the end of 2022. In 2023, the government specified wheat, soybean, rice for flour, and feed hay as strategic crops to replace rice. Farmers were to be provided with KRW 500,000 to 4 million (USD 382 to 3,050) as subsidy depending on the type of crop planted (Jeon 2023). The government also supports rice millers, allocating KRW 1.2 trillion (USD 915,940) to be used for various government loan programs to ensure efficient procurement and processing of rice (Oh 2022a).

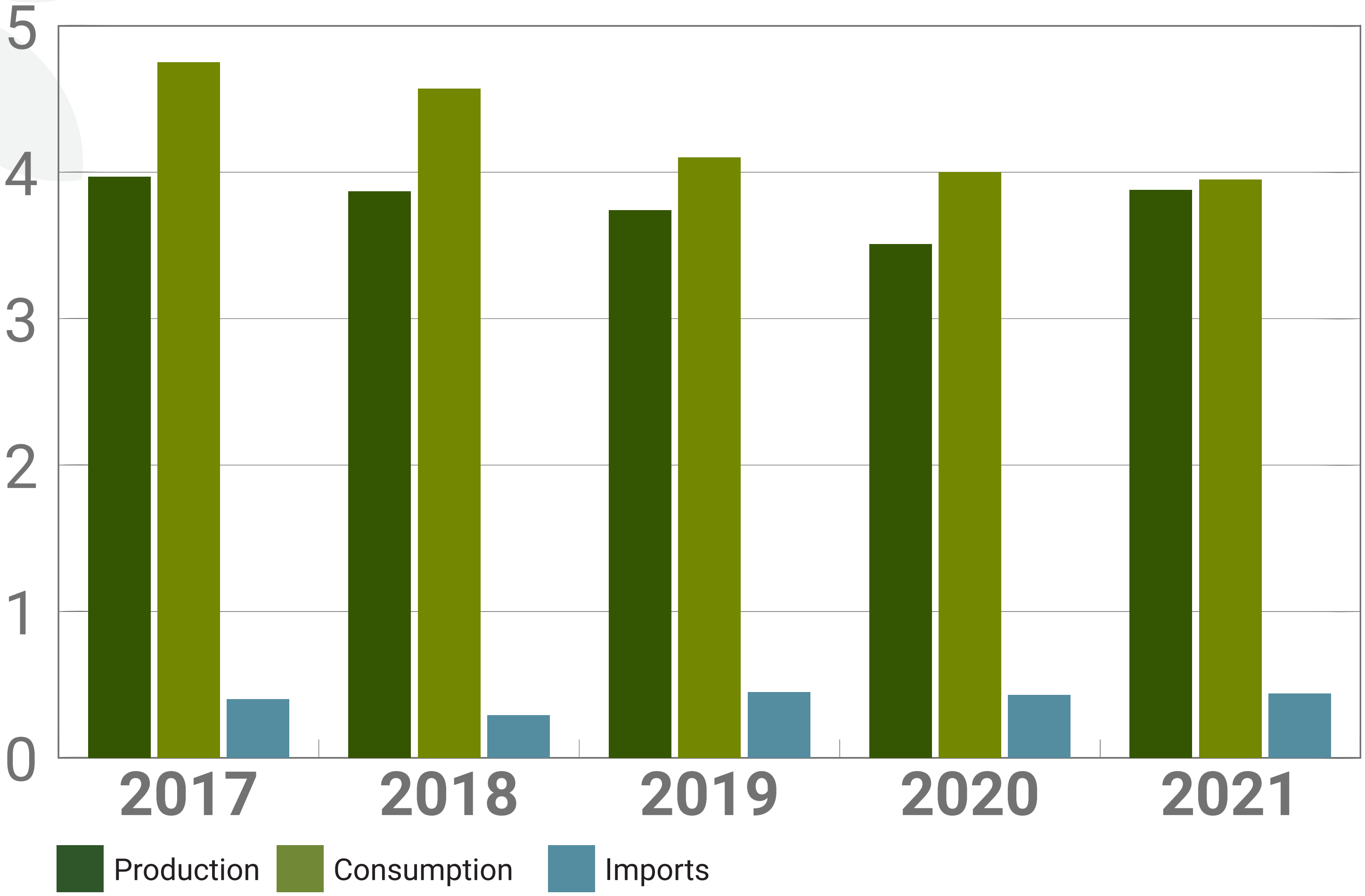


Figure 11. South Korea rice production, consumption, and imports, 2017–2021.

- ***Import quota:*** From 2020 onward, South Korea has also allocated a 388,700 MT import commitment through country-specific quotas (CSQs). The countries exporting rice to South Korea through CSQs are the U.S., China, Vietnam, Thailand, and Australia. All in-quota imports are subject to the same 5% import duty, while out-of-quota imports are subject to a very high 513% import duty (Oh 2022a).
- ***Import tariff:*** Starting in 2015, South Korea implemented a minimum access quota of 408,700 MT of rice annually from MFN countries specified in the country's agreements with the WTO. All imports through this agreement are subject to a 5% import duty. In addition, because of the preference for short-grain rice as table rice, importation of medium- and long-grain table rice is heavily restricted. The TRQ for medium-grain rice is set at 40,000 MT fulfilled by the U.S., while 4,000 MT is the TRQ for long-grain rice supplied by Thailand and Vietnam (Oh 2022b).

TAIWAN

A. **Rice market overview:** From 2017 to 2021, the country averaged 1.3 million MT of rice production and 1.1 million MT of rice consumption, both of which account for less than 1% of the global totals. The country also averaged 102,000 and 143,000 MT of total global rice imports and exports from 2017 to 2021, respectively, which also account for less than 1% of global totals (USDA 2024).

B. **Key policy issues:** The country faces an oversupply problem for rice. Because of this, the government has considered stopping its current direct payment scheme to disincentivize rice farming. Aside from this, the government has taken other measures such as implementing a farming ban, providing fallowing subsidies, and decreasing irrigation funding (Lai and Lin 2022).

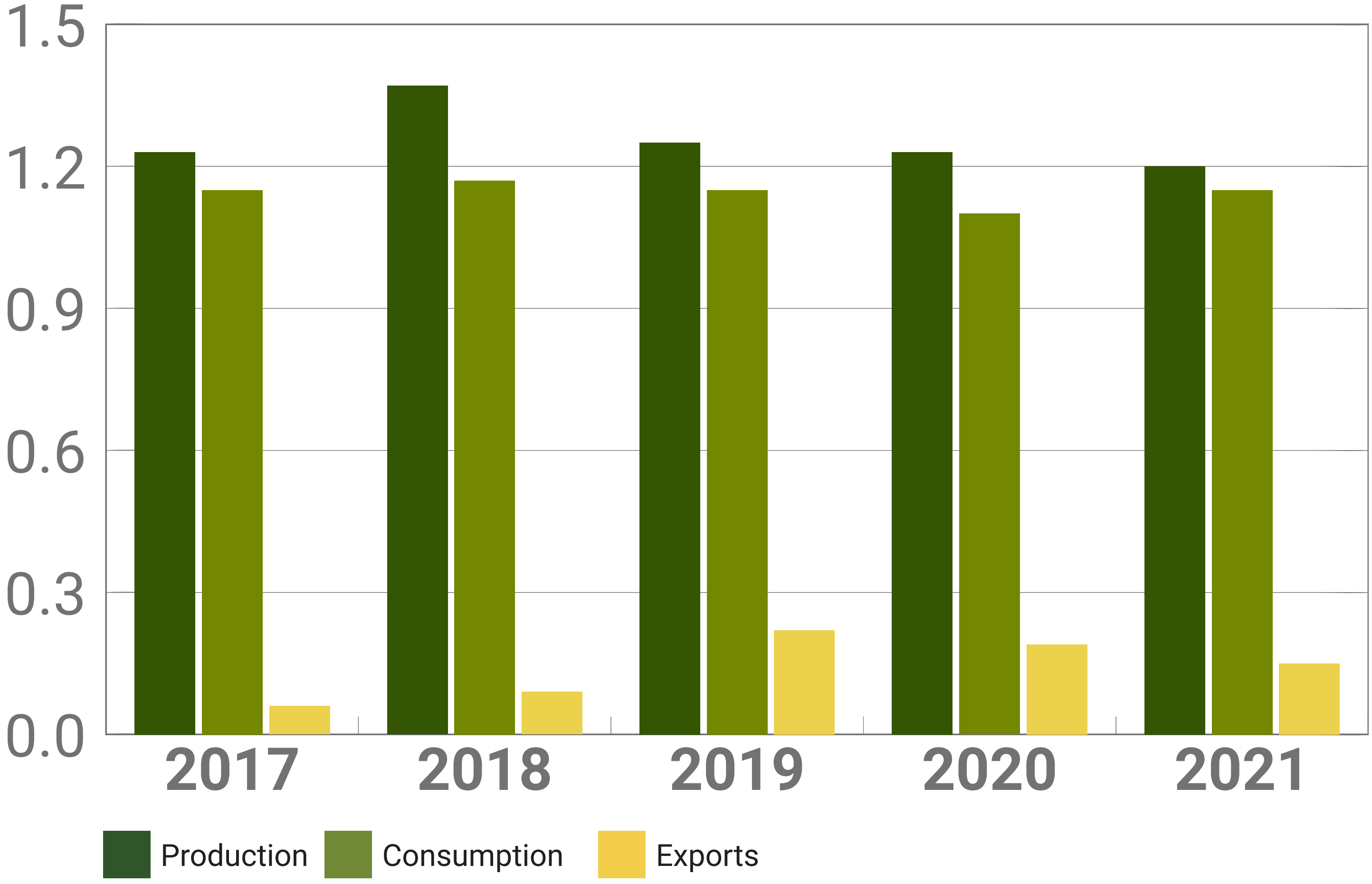


Figure 12. Taiwan rice production, consumption, and exports, 2017–2021.

C. **Summary of recent rice sector policies**

- Direct payments: The government is considering revising the direct payment scheme for rice, which pays farmers an additional amount if they choose to sell commercially, which is meant to increase the earnings of farmers to the minimum amount set by the government. The considerations made by the government are related to the oversupply of rice in the country; however, this was heavily opposed by local rice farmers, and thus put on hold (Lai and Syngle 2021).

- Other government policies: The government has implemented various programs to combat the oversupply of rice in the country such as the implementation of a mandate under which farmers are allowed to plant rice for only three out of four cropping cycles within two years. The government will also provide fallowing subsidies for farmers who will stop cultivating rice. The programs are specifically designed to disincentivize farmers from growing rice, provide farmers with incentives to shift to other crops, expand export markets, distribute more rice as food aid, and promote new uses for rice (Lai and Syngle 2021). Also, in 2020, the government decided to stop funding irrigation in selected agricultural areas due to "unseasonable dryness and suppressed typhoon activity." Affected farmers were to be given TWD 82,000 (USD 2,640) per hectare as compensation (Lai and Lin 2022).
- Import quota: The TRQ for rice negotiated with the WTO for Taiwan is set at 144,720 MT annually. The agreement specifies that the TRQ will be split between the public and private sectors, with private-owned companies getting 35% of the annual TRQ, while the government will have the rest. The out-of-quota tariff rate is set very high to discourage rice importation more than the annual TRQ limit. The out-of-quota tariff rate is TWD 45 (USD 1.45) per kg of brown and milled rice and TWD 49 (USD 1.58) per kg for processed rice products. Taiwan also has an annual CSQ agreement with the U.S., which is set at 64,634 MT of rice imports annually (Lai and Syngle 2021).

SOUTH ASIA

BANGLADESH

A. **Rice market overview:** For the period 2017 to 2021, the average rice production and consumption in Bangladesh reached 34.8 million MT and 35.8 million MT, respectively. These account for 7% of global rice production and consumption. Bangladesh has long been a net importer of rice. On average, Bangladesh imports 1.3 million MT of rice, which accounted for 2.7% of global rice imports from 2017 to 2021 (USDA 2024).

B. **Key policy issues:** Because of the COVID-19 pandemic, the rice supply in the country has been adversely affected. To combat possible supply and price concerns, the country banned the export of aromatic rice and procured rice to replenish national stocks. The country also implemented a high import tariff to discourage importation as protection for local farmers (Ahmed 2022a).

C. **Summary of recent rice sector policies**

- ***Government procurement:*** The Ministry of Food of Bangladesh had a procurement target for rice and paddy for the period 7 November 2021 to 28 February 2022. During the Aman season, the government procurement target was 720,000 MT for rice and 300,000 MT for paddy. Although the government was able to procure the annual rice target, it fell short on the paddy procurement target, with volume reaching only 84,000 MT. For the Boro season, the government had a procurement target of 1.35 million MT for rice and 650,000 MT for paddy. The procurement schedule was 28 April 2022 to 31 August 2022. However, only 655,000 MT of

Boro rice and 147,000 MT of Boro paddy were procured as of 13 July 2022 (Ahmed 2022a). The government purchased another 400,000 MT of rough rice and 1.25 million MT of parboiled rice from the Boro harvest from 7 May 2023 to 31 August 2023 (FAO 2023).

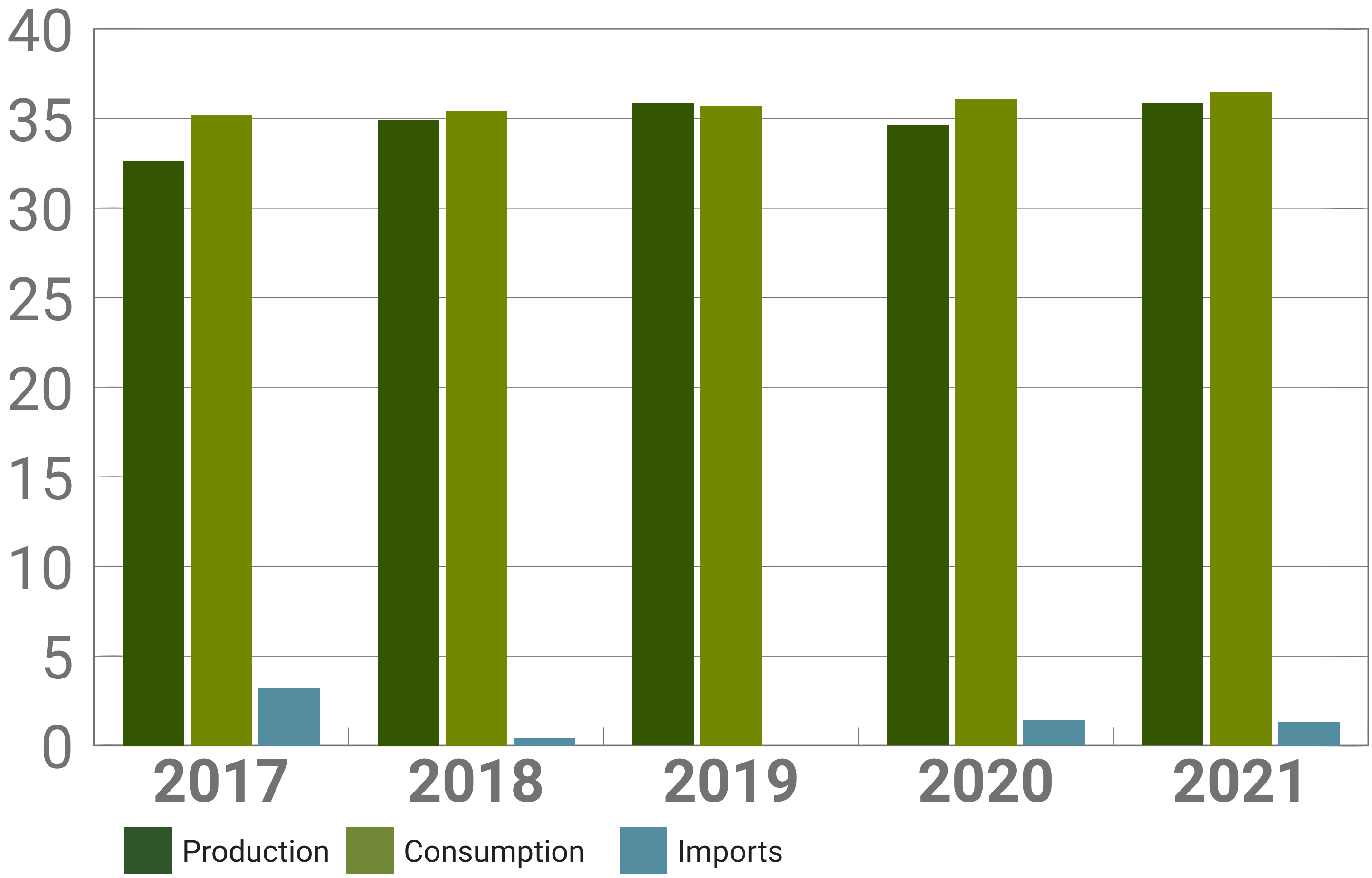


Figure 13. Bangladesh rice production, consumption, and imports, 2017–2021.

- ***Rice distribution:*** The government also implements various food distribution programs, such as Open Market Sale, Fair Price (Food Friendly), Food for Work, Vulnerable Group Feeding, and Vulnerable Group Development. Approximately 2.4 million MT of rice were distributed across the country during the fiscal year 2021 to 2022 (Ahmed 2022a).
- ***Input subsidy:*** The government allocated BDT 1.7 billion (USD 15.49 million) for the Boro season (FAO 2022a) and BDT 572.5 million (USD 5.21 million) for the Aus season (FAO 2023a) of the 2022 to 2023 fiscal year to support smallholder farmers. The support included 5 kg of seed, 10 kg of diammonium phosphate, and 10 kg of muriate of potash.
- ***Support price:*** Rice in the 2023 Boro harvest season was bought at BDT 44 (USD 0.40) per kg for parboiled rice and at BDT 30 (USD 0.27) per kg for rough rice (FAO 2023b).
- Agricultural credit: The government requested commercial banks to issue letters of credit to support rice importers (FAO 2022b). This measure served as a way to control the domestic prices of rice.
- ***Export ban:*** On 1 July 2022, the government imposed a ban on the export of aromatic rice as an attempt to stabilize the local market price. This led to the cancellation of export permits given to 41 private companies (Ahmed 2022a).
- ***Import tariff:*** A 62.5% total tax incidence was imposed by the government in November 2021

to discourage importation and protect local farmers. This reverted to 25% on 23 June 2022 to decrease the price of rice in the local food market. The 25% tariff rate was set to remain until 31 October 2022 (Ahmed 2022b). This import tariff later declined in June 2022 back to 25% ahead of its previous deadline (FAO 2022c) and further declined to 15.25% in August 2022 (FAO 2022d). This tariff rate was set to remain until March 2023 (FAO 2022e).

- ***Trade agreement:*** There are existing government-to-government agreements to import rice. These include agreements for importing 200,000 MT from Myanmar, 100,000 MT from India, and 230,000 MT from Vietnam (FAO 2022f).

INDIA

A. **Rice market overview:** India is the second largest producer and consumer of rice in the world after China. From 2017 to 2021, the average rice production was 120.5 million MT and consumption was 102.3 million MT. These account for 24% of global production and 21% of global consumption. India is also the world's largest rice exporter. From 2017 to 2021, India averaged 15.3 million MT of rice exports, accounting for 31.7% of total global rice exports (USDA 2024).

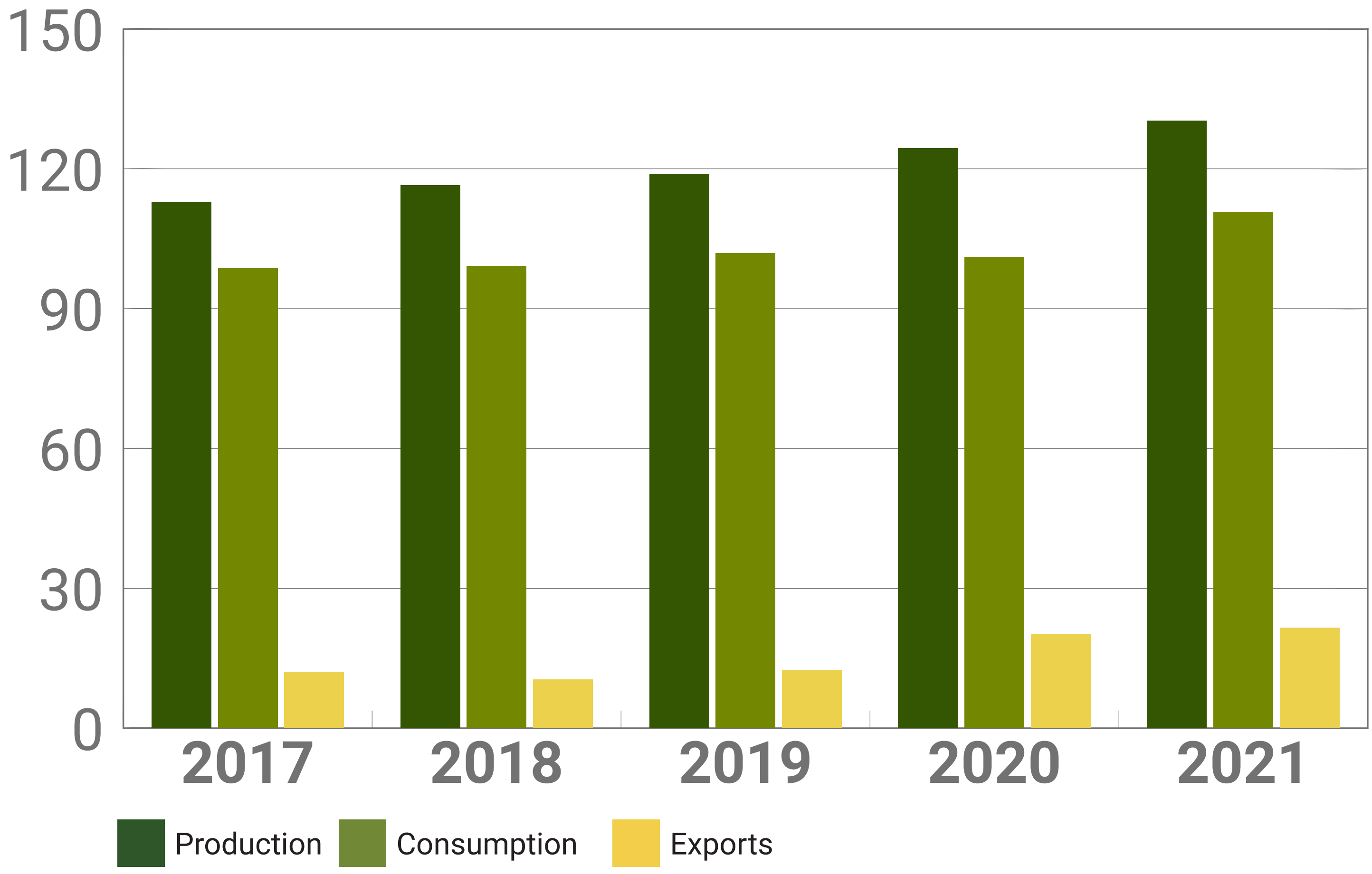


Figure 14. India rice production, consumption, and exports, 2017–2021.

B. **Key policy issues:** Rice is considered the most important food crop in the country. The government has implemented several restrictions on rice trade to protect farmer income and domestic food supply and prices (Singh and Beillard 2022a).

C. Summary of recent rice sector policies

- ***Government procurement:*** The Indian government procured approximately 58 million MT of rice for marketing year 2021 to 2022 through the minimum support price program (Singh and Beillard 2022b).
- ***Rice distribution:*** The government increased the allocation of rice from 2.2 million MT to 3.2 million MT per month for its food security programs from May to September 2022 (Singh and Beillard 2022b). In 2022, the government also extended the Pradhan Mantri Garib Kalyan Anna Yojana program, which would allocate 5 kg of rice or wheat to 800 million people covered by the National Food Security Act (FAO 2022a). This project was then extended further until the end of 2023 (FAO 2022b).
- ***Input subsidy:*** The government allocated INR 609.4 billion (USD 7.31 billion) as part of the Nutrient Based Subsidy scheme for the provision of subsidies for phosphatic and potassic fertilizers to be used specifically in rice planting as a response to rising fertilizer prices (FAO 2022c).
- ***Support price:*** Minimum support prices for summer crops were increased. The MSP for common paddy was set at INR 20,400 (USD 244.86) per MT and INR 20,600 (USD 247.26) per MT for Grade A paddy (FAO 2022d).
- ***Research investment:*** Two million hectares of land were allocated for hybrid rice planting in the marketing year 2021 to 2022. Hybrid rice is grown for the MSP program in the eastern and central parts of the country. The focus of the development of new rice varieties and hybrids will be resistance to various pests and diseases and tolerance of abiotic stress (Singh and Beillard 2022a).
- ***Other government policies:*** The government imposed a 5% goods and services tax on pre-packaged and labeled packs containing 25 kg of rice or less (FAO 2022e).
- ***Export tax:*** The government continues to impose a 20% export tax on white rice (Singh and Beillard 2022a). After the export ban for non-basmati white rice, the government also placed a 20% export tax on parboiled rice (Jadhav 2023) and a USD 1,200 per ton minimum export price on basmati rice (Reidy 2023).
- ***Export ban:*** On 9 September 2022, the government imposed an export ban on fully broken rice (FAO 2022f). By the end of November 2022, organic non-basmati broken rice was exempted from the ban (FAO 2022g). On 20 July 2023, India implemented an export ban on non-basmati white rice amid rising food and input prices, as well as concern about domestic food security (Jadhav, Bhardwaj, and Patel. 2023).
- ***Import tariff:*** The government continues to impose a 70% import tariff on rice (Singh and Beillard 2022a).
- ***Import ban:*** On 21 March 2021, the government implemented a ban on genetically engineered variants of 24 food crops, including rice (Singh and Beillard 2022a).
- ***Trade agreement:*** The 600,000 MT of paddy exported to Nepal were exempted from the 20% duty on paddy exports (FAO 2022h). The government granted several exemptions to the export ban on broken rice. This included 250,000 MT to Senegal, 100,000 MT to The Gambia, and 9,900 MT to Ethiopia (FAO 2023a). Because of an existing agreement, Maldives is also exempted from India's export ban on non-basmati white rice (Atoll Times 2023). Singapore, Bhutan, and Mauritius secured government-to-government trade agreements with India to be able to import non-basmati white rice from India in 50,000 MT, 79,000 MT, and 14,000 MT quantities,

respectively (The Wire Staff 2023). In September 2023, the government permitted the export of 75,000 MT of non-basmati white rice to UAE through National Cooperative Exports Limited (NCEL) (FAO 2023b). In October 2023, the government also approved a total of 1.03 million MT for non-basmati white rice to be exported through NCEL. The distribution of the 1.03 million MT total is as follows: 95,000 MT to Nepal, 190,000 MT to Cameroon, 142,000 MT to Côte d'Ivoire, 142,000 MT to Guinea, 170,000 MT to Malaysia, 295,000 MT to the Philippines, and 800 MT to Seychelles (FAO 2023c).

NEPAL

A. **Rice market overview:** From 2017 to 2021, Nepal's rice production amounted to 3.7 million MT while its consumption averaged 4.5 million MT. Both production and consumption accounted for less than 1% of the world's total. Nepal has also been reliant on rice imports to meet local demand, averaging 872,000 MT of rice imports from 2017 to 2021, which accounted for 2% of total global rice imports (USDA 2024).

B. **Key policy issues:** The government continues to provide support to its local farmers through its minimum support price program (FAO 2020a). To fulfill the local demand for rice, Nepal also prioritizes rice imports from other South Asian rice producers (Department of Customs 2020).

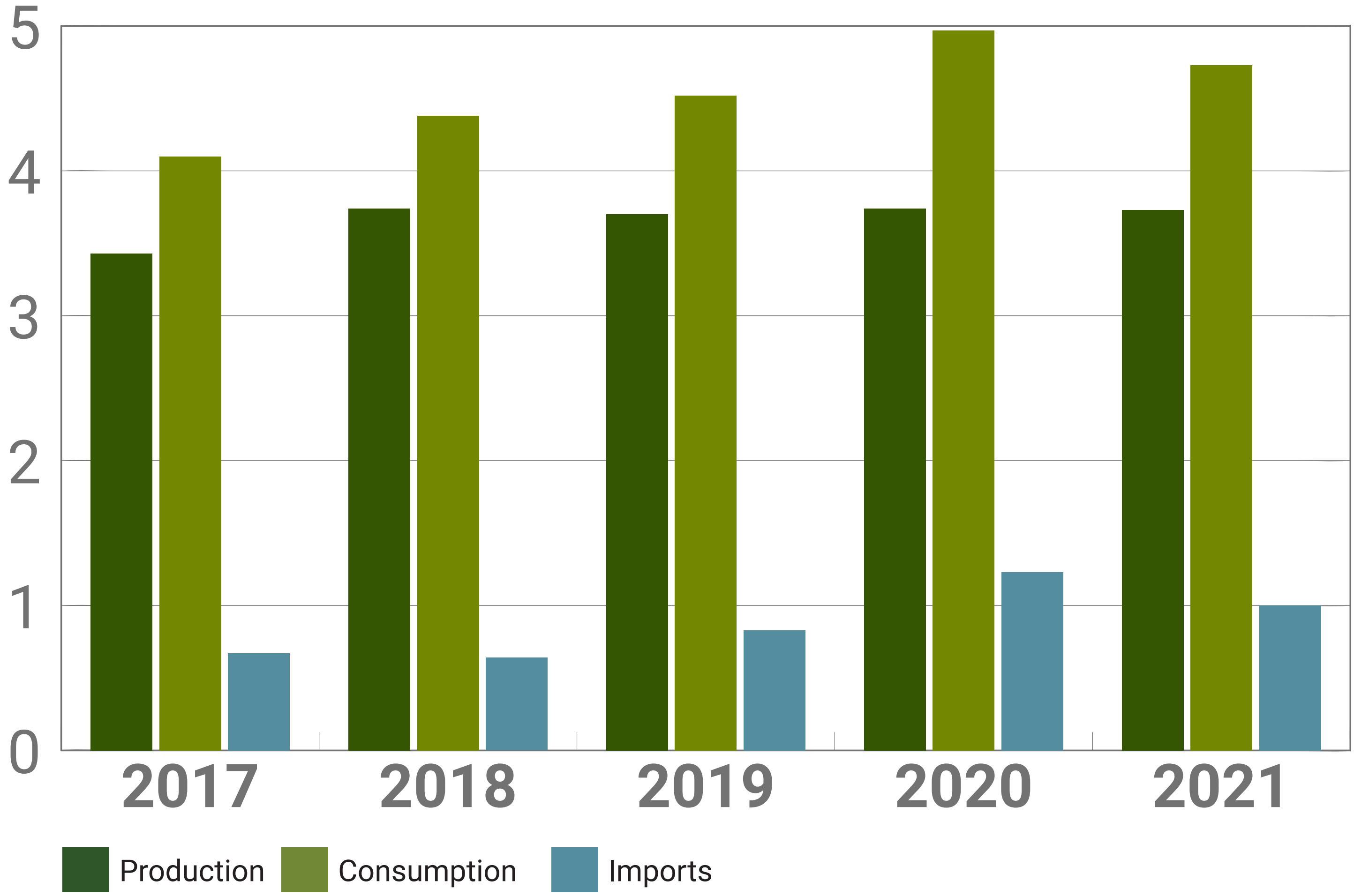


Figure 15. Nepal rice production, consumption, and imports, 2017–2021.

C. Summary of recent rice sector policies

- ***Support price:*** The government raised the 2020 MSP by 8% for both common and Mota Dhan paddy from the previous year's MSP (FAO 2020a). For the fiscal year 2023 to 2024, the government set the MSP at NPR 33,620 (USD 251.41) per MT for common paddy and NPR 31,980 (USD 239.15) per MT of Mota Dhan paddy (FAO 2023).
- ***Research investment:*** The National Seed Board of Nepal has approved the release of seven new varieties that have traits such as high grain production, good grain quality, and resistance to pests and diseases that aim toward increasing production and lowering the higher imports in recent years (IRRI 2022).
- ***Direct payments:*** In 2020, the government of Nepal provided subsidies amounting to NPR 112 (USD 0.84) per quintal to cooperatives that purchased paddy at the MSP (FAO 2020b).
- ***Import tariff:*** Nepal imposes a 9% import tax for all rice products for South Asian Association for Regional Cooperation (SAARC) member countries and a 10% import tax for all other countries based on the customs tariff for fiscal year 2020 to 2021 (Department of Customs 2020).

PAKISTAN

A. **Rice market overview:** On average, Pakistan's rice production was 7.9 million MT from 2017 to 2021, accounting for 2% of global rice production. Meanwhile, the country's rice consumption was consistent from 2017 to 2021, ranging from 3.2 to 3.8 million MT and averaging 3.5 million MT per year. This accounted for less than 1% of total world rice consumption. Pakistan is also a significant rice exporter, averaging 4.2 million MT of rice exports from 2017 to 2021, accounting for 9% of global rice exports (USDA 2024).

B. **Key policy issues:** The government is extending support through investment in new rice varieties as well as credit provision with expectations to become a bigger player in the rice export market in the future (Raza 2022). In line with this, the government has also finalized a barter trade system with Iran (FAO 2022).

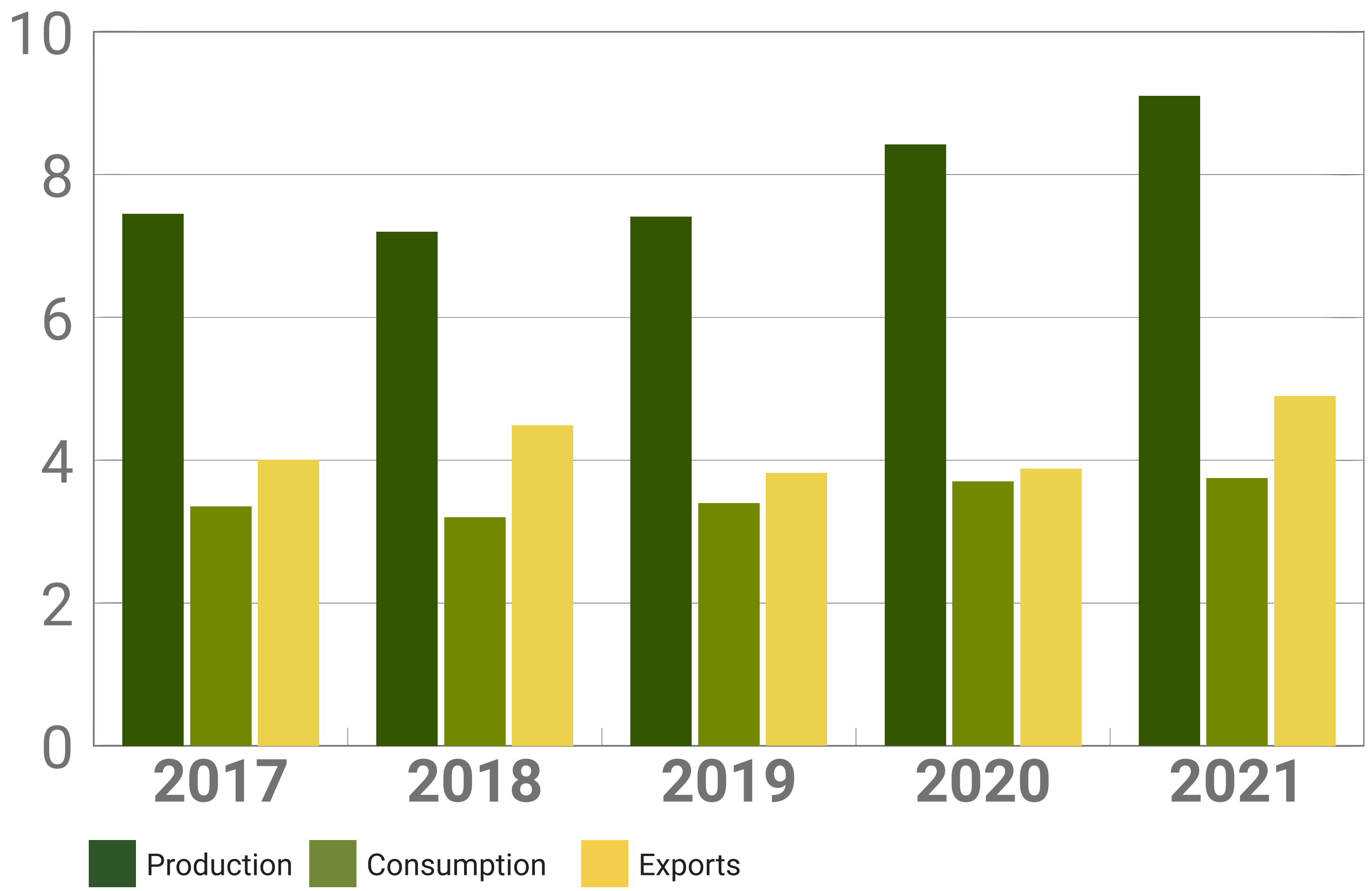


Figure 16. Pakistan rice production, consumption, and exports, 2017-2021.

C. Summary of recent rice sector policies

- ***Research investment:*** The government aimed to allocate PKR 2 billion (USD 7.09 million) as part of its 2021 to 2022 fiscal year for programs aiming to increase productivity for rice and other crops (FAO 2021).
- ***Agricultural credit:*** Loans are provided to traders and middlemen under the export financing scheme of the State Bank of Pakistan. Rice farmers and rice-based small and medium enterprises are also eligible for new government-supported credit programs (Raza 2022).
- ***Import tariff:*** A fixed 10% import duty is implemented on all rice products (Raza 2022).
- ***Trade agreement:*** The government has finalized and implemented guidelines for the operationalization of barter trade with the Islamic Republic of Iran. This trade focuses on the export of rice and other agricultural products from Pakistan to Iran (FAO 2022). Russia repealed the rice import ban that it imposed on Pakistan in May 2019 (Raza 2021).

SRI LANKA

A. Rice market overview: From 2017 to 2021, Sri Lanka has averaged 2.9 million MT in rice production and 3.1 million MT in rice consumption, both of which amount to less than 1% of world totals. With the country's consumption being larger than its production, it relies on imports to meet local demand, averaging 270,000 MT in rice imports from 2017 to 2021, also amounting to less than 1% of global rice imports (USDA 2024).

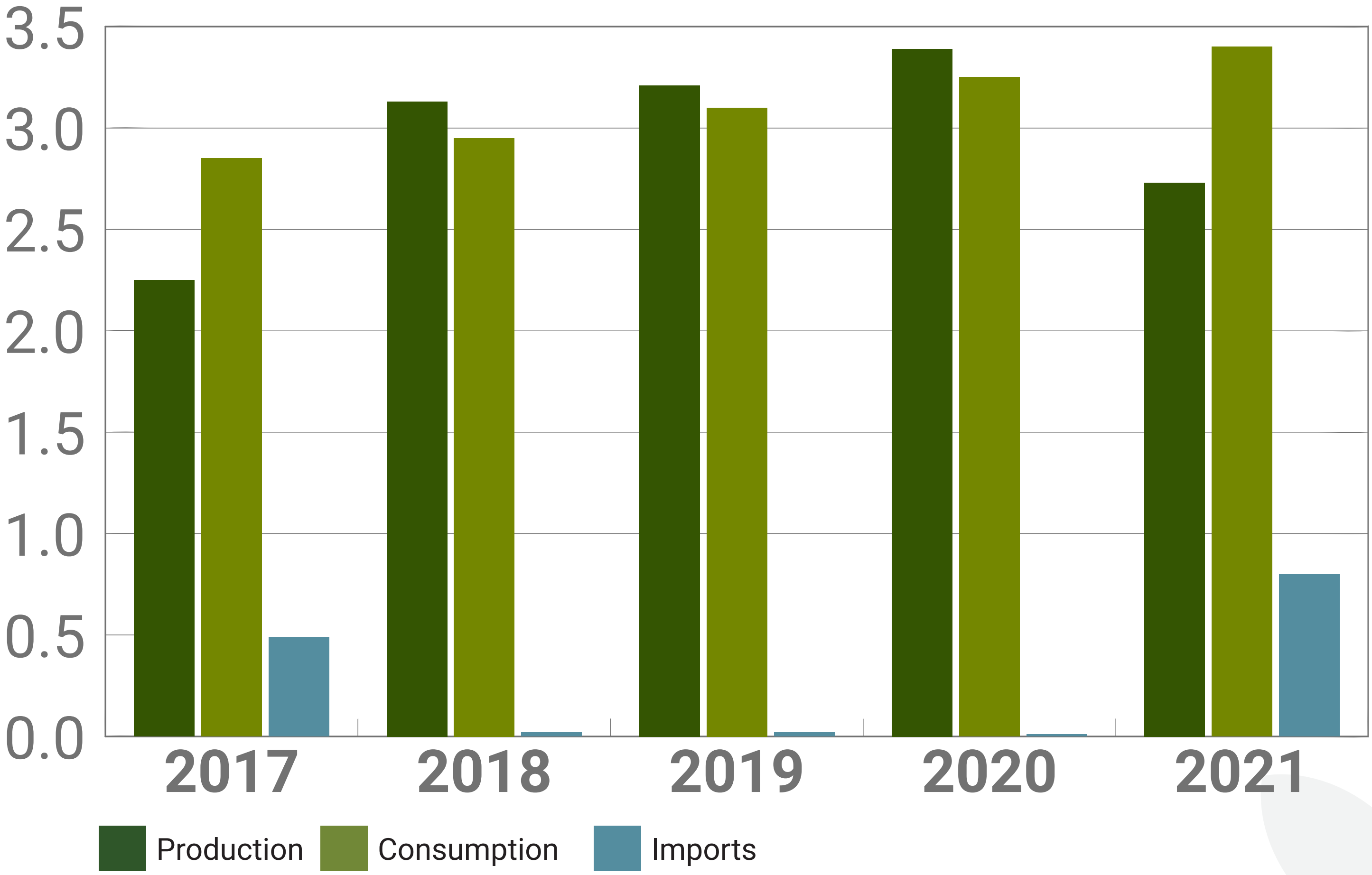


Figure 17. Sri Lanka rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** The government aims to shift into organic agriculture. For this, the government banned the use of chemical fertilizer and has provided subsidies and assistance to import organic fertilizer (Beillard and Kankanamge 2022). The government also aided farmers in the form of guaranteed prices and irrigation as mitigation of the lower production caused by the banning of chemical fertilizer (Beillard and Galappattige 2021).

C. **Summary of recent rice sector policies**

- ***Rice distribution:*** The government approved a plan that would provide low-income households with 10 kg of rice per month for free (FAO 2023a).
- ***Input subsidy:*** The government imported urea as a substitute for chemical fertilizer starting in July 2022. Fifty-kg bags are sold to farmers at a subsidized price of LKR 10,000 (USD 28) per bag (Beillard and Kankanamge 2022). The government also provides free irrigation for farmers cultivating rice varieties that are ready to harvest in 3.5 months and a stimulus of LKR 2 billion (USD 6.19 million) was provided in the span of four years to improve production for 16 commodities, including rice (Beillard and Galappattige 2021). For the Yala season in the 2023 to 2024 fiscal year, LKR 20,000 (USD 61.91) per hectare were provided to farmers to cover increased fertilizer costs (FAO 2023).
- ***Support price:*** A guaranteed price (GP) is set by the government through the Paddy Marketing Board for paddy purchases. The government uses the GP as a fixed price for paddy procurement, giving the farmers a choice on whether to sell to the government or sell to the open market when market prices are higher (Beillard and Galappattige 2021).
- ***Consumer price control:*** Maximum retail prices (MRPs) were set for various local variants of rice: LKR 220 (USD 0.68) per kg for Nadu rice, LKR 230 (USD 0.71) for Samba rice, and LKR 260 (USD 0.80) for Keeri Samba rice (FAO 2022a). In addition, the MRP for locally produced raw rice is set at LKR 210 (USD 0.65) per kg (FAO 2022b).
- ***Agricultural credit:*** The government allocated LKR 668 million (USD 2.07 million) to write off loans of smallholder farmers (FAO 2022c).
- ***Other government policies:*** The government of Sri Lanka implemented a ban on chemical fertilizer on 6 May 2021, causing a decline in Maha and Yala rice production during the 2021 to 2022 fiscal year (Beillard and Kankanamge 2022). An existing ban on the use of raw or milled for animal feed started in July 2020 (FAO 2022d).
- ***Import tariff:*** The government's usual taxes for imported rice products are as follows: a 15% base import tax, a 15% additional CESS tax, a 10% port and airport levy, and an 8% value-added tax. For basmati rice, Sri Lanka provides a tariff rate quota exempting 6,000 MT per year from all import duties. Special commodity levies (SCLs) were also implemented to lower the import duties of semi- and wholly milled Nadu and Samba rice to LKR 0.25 (0.0007 USD) per kg and semi- and wholly milled husked and non-basmati rice to LKR 250 (USD 0.77) per MT (Beillard and Galappattige 2021).
- ***Trade agreement:*** The government made an agreement with Myanmar to purchase 100,000 MT of white rice and 50,000 MT of parboiled rice from 2022 to 2023 (FAO 2022e).

III. The Americas

COLOMBIA

A. **Rice market overview:** From 2017 to 2021, Colombia produced and consumed an average of 1.81 and 1.89 million MT, respectively, making it the fourth largest rice market in the Americas after Brazil, the U.S., and Peru. It was a net importer of rice, importing an average of 148,000 MT per year (USDA 2024). Colombia consumes primarily long-grain rice.

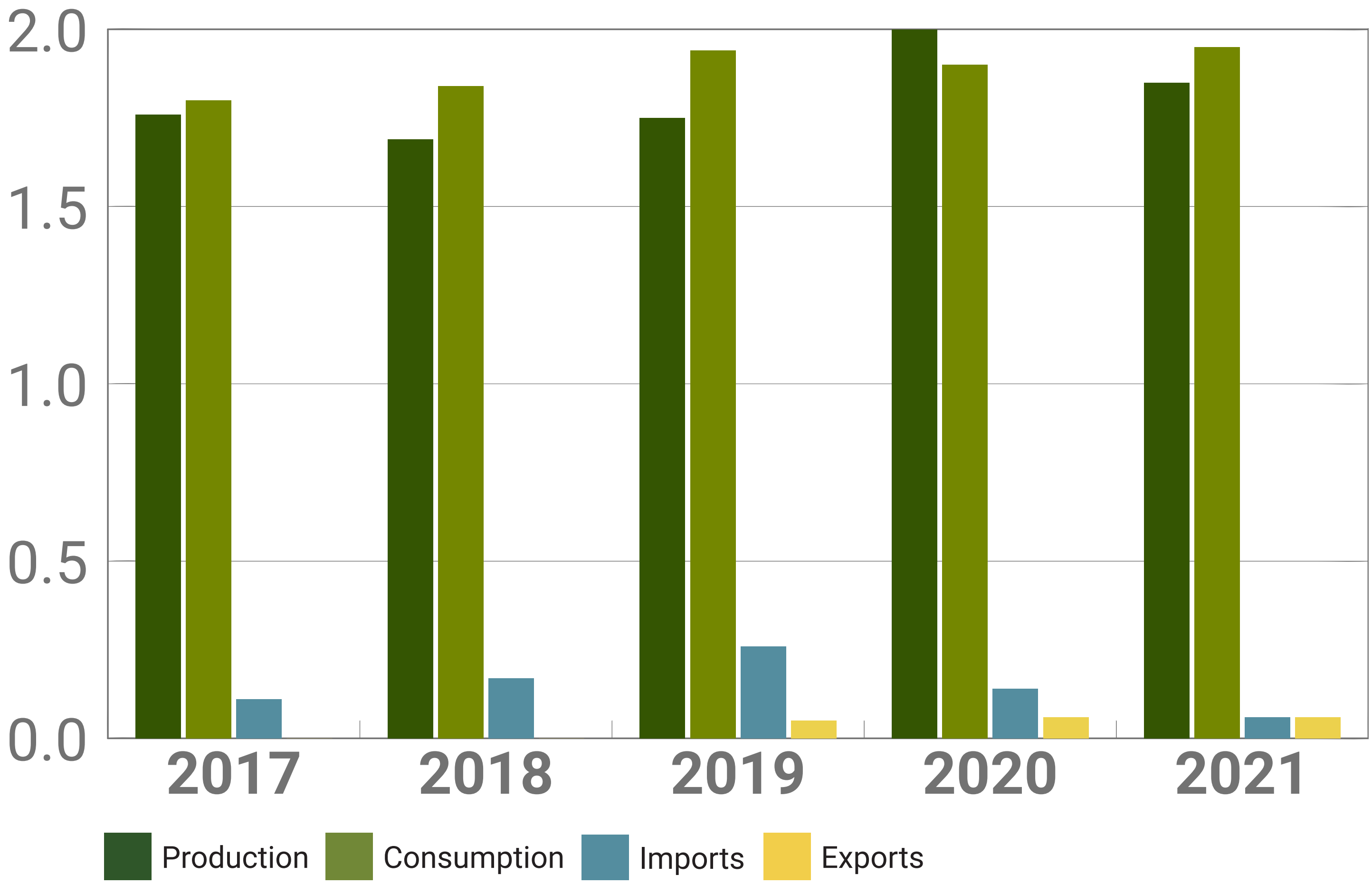


Figure 18. Colombia rice production, consumption, and trade, 2017–2021.

B. **Key policy issues:** Colombia's rice market remains protected, although trade preferences under regional free trade agreements are slowly opening up the market to foreign competition. Most of the budget for research and development comes from contributions by farmers and the industry rather than the government. Since the implementation of the Colombia-United States Trade Promotion Agreement (TPA) in 2012, the budget for rice R&D has expanded (see the next section for more). One of the key challenges is improving the competitiveness of the rice sector and preparing it to compete openly with the U.S. once the TPA is fully implemented in 2030.

C. Summary of recent rice sector policies

- ***Stock management:*** The Colombian government invested COP 70 billion (USD 18.7 million) in 2021 to facilitate the sale of rough rice in the face of unprecedentedly high rice stocks (Federación Nacional de Arroceros 2021a).
- ***Research investment:*** Under the National Rice Fund (Fondo Nacional del Arroz), rice producers pay a duty equivalent to 0.5% of the producer price, which is used to finance rice R&D. The budget in 2021 amounted to COP 27 billion (USD 7.2 million) (Federación Nacional de Arroceros 2021b). AMTEC is a technology transfer program financed with the proceeds from the rice tariff rate quota (TRQ) negotiated in the Colombia-United States Trade Promotion Agreement. The National Federation of Rice Producers (Fedearroz) administers both the National Rice Fund and AMTEC.
- ***Import policies:*** Colombia protects its domestic rice market with an MFN ad-valorem tariff of 80%. Colombia grants preferential access to U.S. rice through a TRQ negotiated as part of the Trade Promotion Agreement. In 2023, the volume of the TRQ amounted to 128,205 MT, with a zero in-quota tariff and an over-quota tariff of 43.1% (SICE 2023). This also grants preferential access to Peru and Ecuador as part of the Andean Community. Duty-free imports of milled rice from Peru are unlimited, while a duty-free quota is still in place for milled rice from Ecuador until 2027, when imports will be unlimited. Over-quota imports are subject to MFN rates. Imports from Peru and Ecuador are allowed only in specific periods (from January to June and in November-December) to avoid competition during the main harvest season (FAS Bogota 2022).

UNITED STATES

A. **Rice market overview:** From 2017 to 2021, the U.S. produced and consumed an average of 6.39 and 4.6 million MT, respectively, making it the second largest rice market in the Americas after Brazil. The U.S. is a net exporter of rice. It exported an average of 2.9 million MT per year, making it the fourth largest exporter of rice in the world. It also imported an average of 1.0 million MT per year. About 70% of the production is long-grain rice, and the remaining is medium- and short-grain rice. Most of the imports are of aromatic (basmati and jasmine) rice (USDA 2024).

B. **Key policy issues:** The U.S. rice market is open, with very low import tariffs in place. One of the main concerns for the U.S. rice industry in the past several years has been the loss of export competitiveness relative to other exporters, primarily from Asia. U.S. rice benefits from preferential market access in key regional markets granted under numerous regional trade agreements (RTAs). Most U.S. rice exports happen along RTA lines, but still exports have stagnated in the past several years. There is a growing focus on the sustainability of rice production and a growing number of conservation policies targeting agriculture in general, including rice.

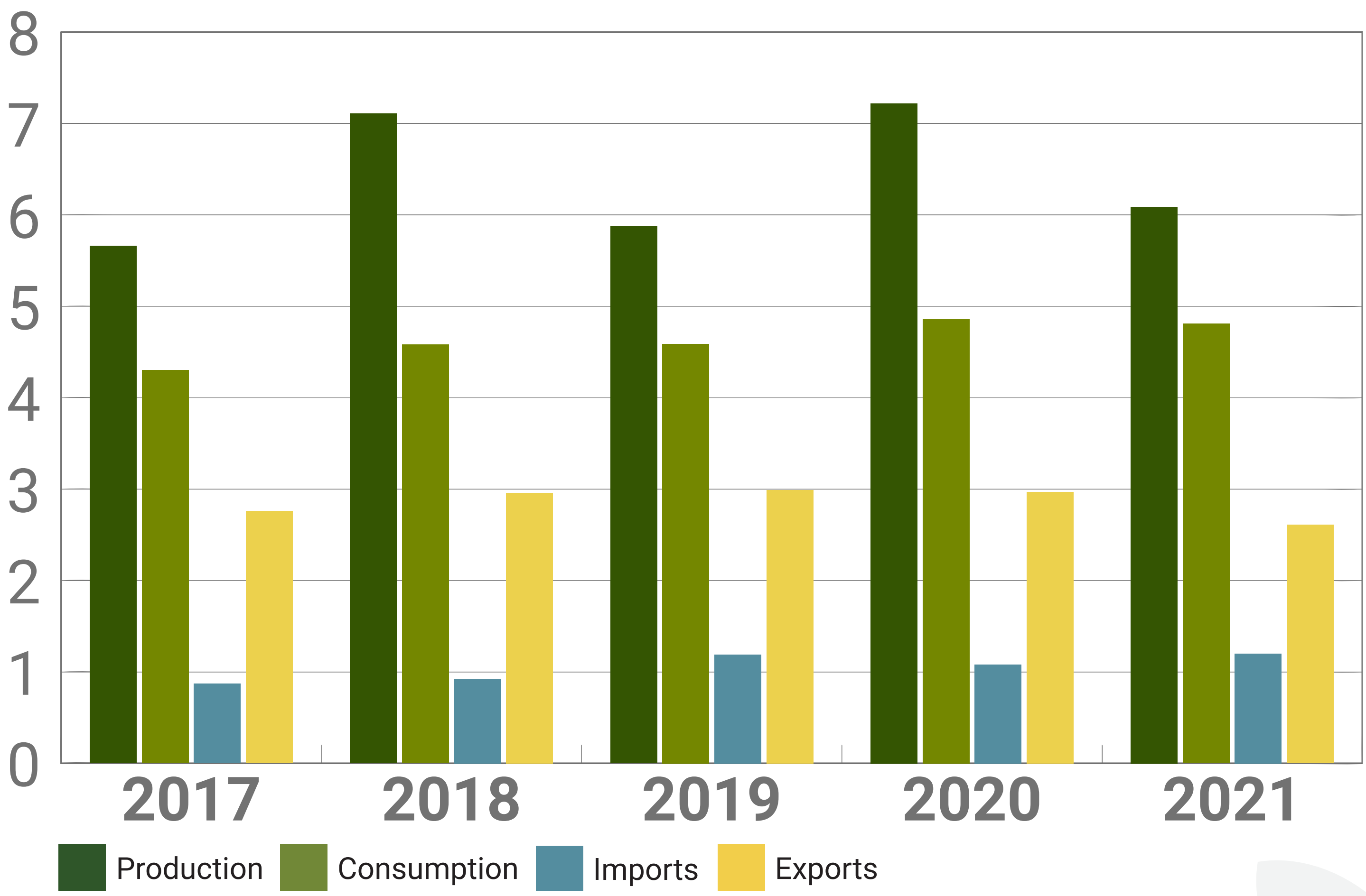


Figure 19. U.S. rice production, consumption, and trade, 2017–2021.

C. Summary of recent rice sector policies

- ***Price support:*** The 2018 Farm Bill authorized two commodity programs: Price Loss Coverage (PLC) and Agricultural Revenue Coverage (ARC). Almost all (99%) rice farmers in the U.S. selected PLC. The PLC payment rate is estimated as the difference between the effective reference price and the farm price (or zero if the farm price is greater than the effective reference price). The effective reference price equals the higher of (1) the reference price set at USD 308 per MT and (2) 85% of the Olympic average marketing year average price (MYAP) of the previous five years as estimated by USDA. The effective reference price is capped at 115% of the reference price, or USD 354 per MT. The farm price is defined as the higher of (1) the loan rate and (2) the MYAP. PLC payments are estimated as the product of the PLC payment rate and 85% of the historical planted area (called base acres). Eligible farms must have base rice acres and could receive PLC rice payments even if they do not currently plant rice. The PLC payment rate for long-grain rice was USD 8.80 per MT for the 2021 crop, USD 30.10 per MT for the 2020 crop, and zero for medium-grain rice (FAS 2024).
- ***Crop insurance:*** This is a growing component of the farm safety net. The government subsidizes on average 60% of the premium. Most rice farmers buy crop insurance coverage, primarily revenue protection.
- ***Import policies:*** The U.S. applies fixed import tariffs on most rice tariff lines, except for milled parboiled rice, on which it applies an 11.2% import tariff. The MFN import tariff per MT is set at USD 18 for rough rice, USD 21 for brown rice, USD 14 for milled rice, and USD 4.40 for broken rice. Duty-free access is granted to many countries under several RTAs (United States International Trade Commission 2024).

MEXICO

A. **Rice market overview:** From 2017 to 2021, Mexico produced and consumed an average of 186,000 and 943,000 MT, respectively, making it the largest net importer of rice in the Americas. Mexico imported an average of 790,000 MT per year, primarily rough rice, which is milled domestically (USDA 2024). Historically, the U.S. was the main supplier of rough rice, in part benefited by preferential trade access. However, lately, Brazil and Uruguay have become the main suppliers. Almost all rice consumed in Mexico is long-grain rice.

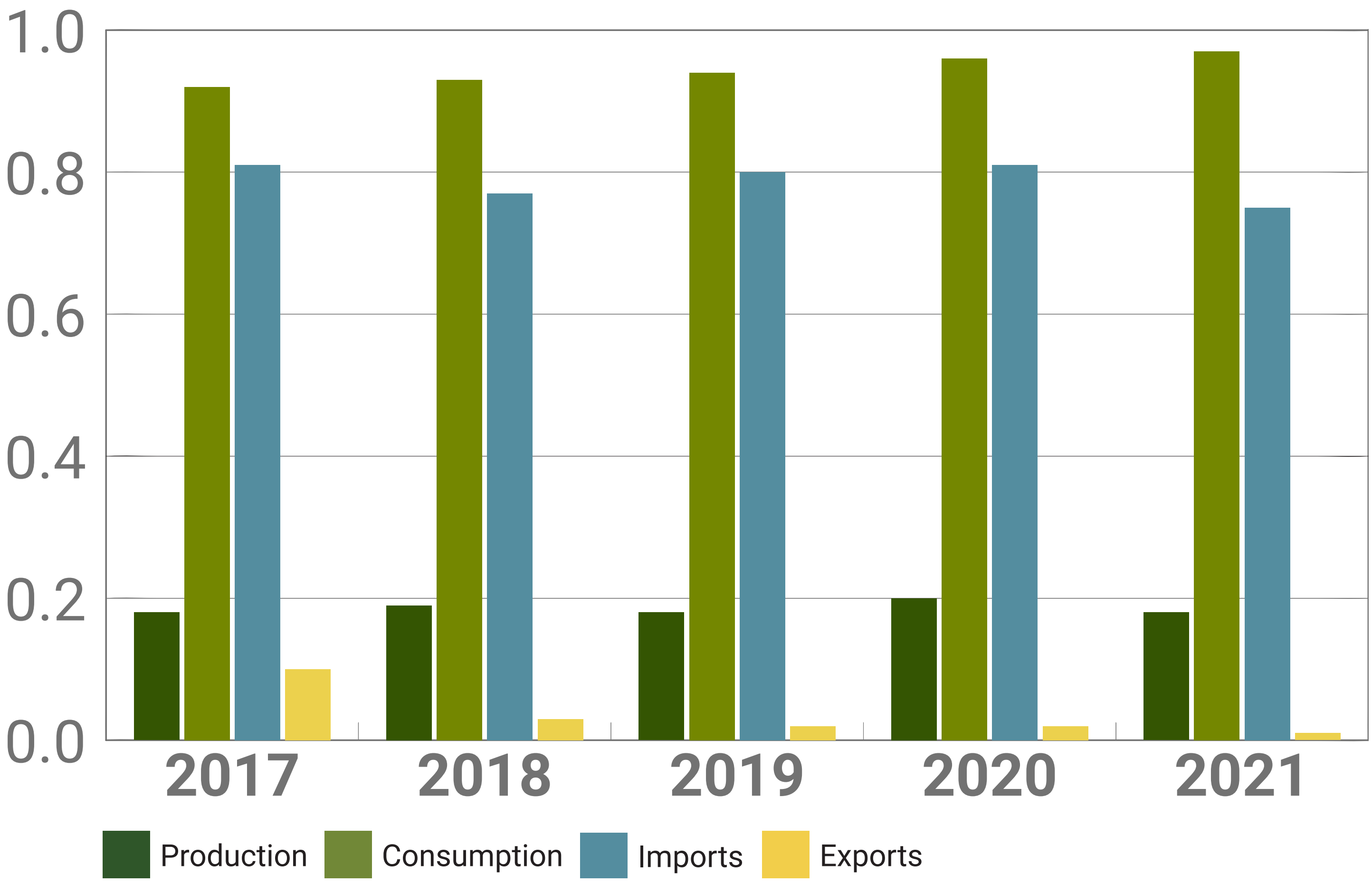


Figure 20. Mexico rice production, consumption, and trade, 2017–2021.

B. **Key policy issues:** Rice is not a staple in Mexico, but it is an important commodity for many small-scale farmers. The government of Mexico has pledged to protect the well-being of small-scale farmers through several initiatives aimed at supporting their income. However, large commercial farms do not receive much support and compete openly in the market. Mexico allows imports of U.S. rice duty free as part of USMCA/NAFTA, and has recurrently granted duty-free access to rice from Mercosur. The domestic rice industry has managed to compete successfully despite the decline in domestic production, which is reflected in the fact that almost all rice imports are of rough rice.

C. Summary of recent rice sector policies

- ***Income support:*** The government supports the income of small and medium-sized farmers through the Production for Well-being Program. In 2021, the benefits amounted to USD 78 per hectare for small farmers (those with 5 ha or less) and USD 49 per hectare for medium-sized farmers (those with 5 to 20 ha).
- ***Guaranteed Price Program:*** This program provides a subsidy to cover the difference between the guaranteed price and the reference price. The guaranteed price for rice is currently set at MXN 7,328 per MT (USD 388 per MT), and MXN 7,913 per MT (USD 419 per MT) for small farmers (with less than 8 ha) (Seguridad Alimentaria Mexicana 2022).
- ***Import policies:*** Mexico maintains a MFN import tariff of 9% for rough rice and 20% for all other rice (Juarez 2022). Imports from the U.S. are duty free under the USMCA RTA. In May 2022, the government waived import tariffs on rice as part of Mexico's Anti-Inflation and Deficit Program, which is still in place (USDA 2024).

PERU

A. Rice market overview: From 2017 to 2021, Peru produced and consumed an average of 2.3 and 2.5 million MT, respectively, making it the third largest rice market in the Americas after Brazil and the U.S. Peru imported an average of 283,000 MT per year, primarily high-quality long-grain milled rice from Brazil and Uruguay (USDA PSD). Peru exports some rice, primarily to Colombia, thanks to the duty-free access to that market granted as part of the Andean Pact.

B. Key policy issues: Rice is a staple in Peru, which records the highest per capita consumption (77 kg/year) in the Americas (Durand-Morat and Bairagi 2022). Peru is almost self-sufficient and records one of the highest average rice yields in the world. Peruvian consumers are regarded as sophisticated when it comes to rice quality, which works as a de facto protection of the domestic market. Many exporters that are price competitive to enter the market cannot afford to based on quality limitations. The Peruvian market is protected via a price-band system, with variable duties that depend on the reference price of rice in the international market.

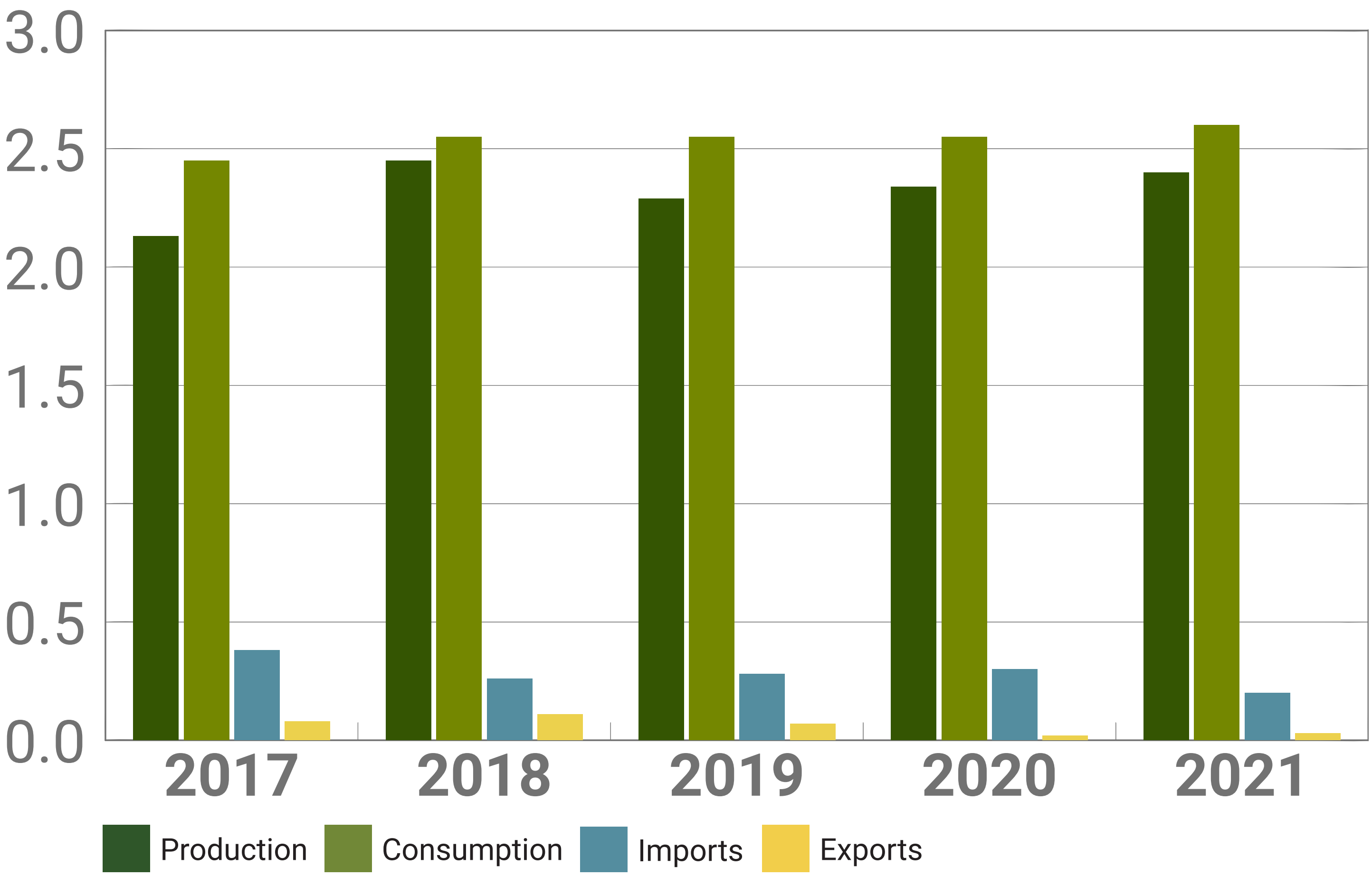


Figure 21. Peru rice production, consumption, and trade, 2017–2021.

C. Summary of recent rice sector policies

- Peruvian rice producers currently receive no domestic support other than the indirect benefit of the import policy.

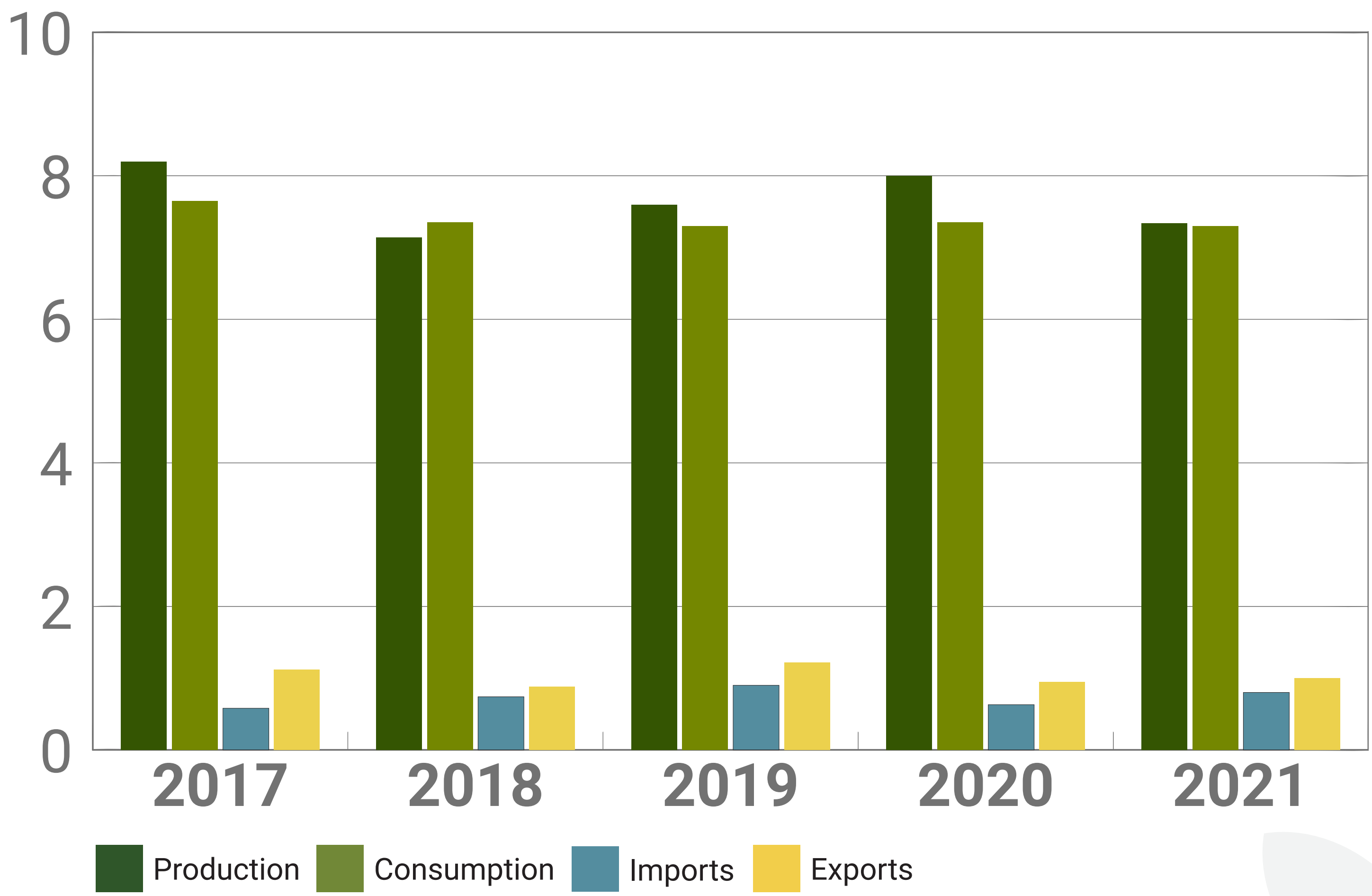
- ***Import policies:*** Peru maintains a price-band system for rice. The floor and ceiling of the band are set at USD 612 and USD 682 per MT of milled rice. When the international reference price, which is defined as the FOB price of long-grain Thai rice, falls below the floor price, a variable import duty equal to the difference between the floor price and the reference price is levied on imports. When the reference price is above the ceiling price, the ad-valorem import tariff is decreased by the difference between the reference price and the ceiling price. When the reference import price falls within the band, no variable import duties are applied.

  The current reference price (equal to the price of Thai long-grain rice) equals USD 548 per MT, which results in a variable import duty of USD 64 per MT of milled rice (Seguridad Alimentaria Mexicana 2022).

BRAZIL

A. **Rice market overview:** From 2017 to 2021, Brazil produced and consumed an average of 7.7 and 7.4 million MT, respectively, making it the largest rice producer outside Asia. Brazil has been a net exporter in the past several years, exporting 1 million MT and importing 0.7 million MT per year, respectively (USDA 2024). Brazil exports primarily rough rice to other markets in the Americas, most notably Venezuela, Mexico, and Central America, and imports milled rice primarily from Paraguay and other Mercosur suppliers.

B. **Key policy issues:** Rice is a staple in Brazil, but per capita consumption has been decreasing in the past several years, pushing total demand down. Thus, Brazil has managed to produce a steady excess supply and grow as a reliable exporter. As a member of Mercosur, Brazil allows duty-free access to other Mercosur members, which makes it a prime market for Argentina, Paraguay, and Uruguay. The significant importation of rice allows Brazil to export beyond its domestic capacity. Most of the rice production is irrigated, as the area of rainfed rice in the north has decreased significantly over the past decades. Rice productivity in Brazil has grown steadily. Rice varieties developed locally have also improved in quality, which, coupled with a modern milling industry, allows Brazil to export high-quality long-grain rice to highly demanding markets (e.g., Peru).



C. **Figure 22.** Brazil rice production, consumption, and trade, 2017–2021.

D. Summary of recent rice sector policies

- Brazilian rice producers currently receive no domestic support.
- ***Import policies:*** As a member of Mercosur, extra-regional imports are subject to a common external tariff (CET), while intra-regional trade is duty free. The CET is currently at 10% for rough rice (HS 100610), brown rice (HS 100620), and broken rice (HS 100640), and at 12% for milled rice (HS 100630) (Latin American Integration Association 2024). Brazil waived import tariffs on rice during the COVID-19 pandemic to help cope with increasing food prices.

URUGUAY

A. Rice market overview: From 2017 to 2021, Uruguay produced and consumed an average of 890,000 and 44,000 MT, respectively. Uruguay exports more than 95% of its production. It exports 844,000 MT per year, making it the 10th largest rice exporter (USDA 2024). Uruguay produces almost exclusively long-grain rice.

B. Key policy issues: Domestic rice consumption is marginal, which means that developing export markets is crucial for the Uruguayan rice industry. Uruguayan rice is regarded as of high quality, in part due to the good quality of the rice varieties produced, but also due to the modern rice milling industry and good management practices, such as identity preservation throughout the supply chain. One of the key issues is the high production cost throughout the supply chain. Despite having one of the highest yields worldwide, the breakeven yield is also very high.

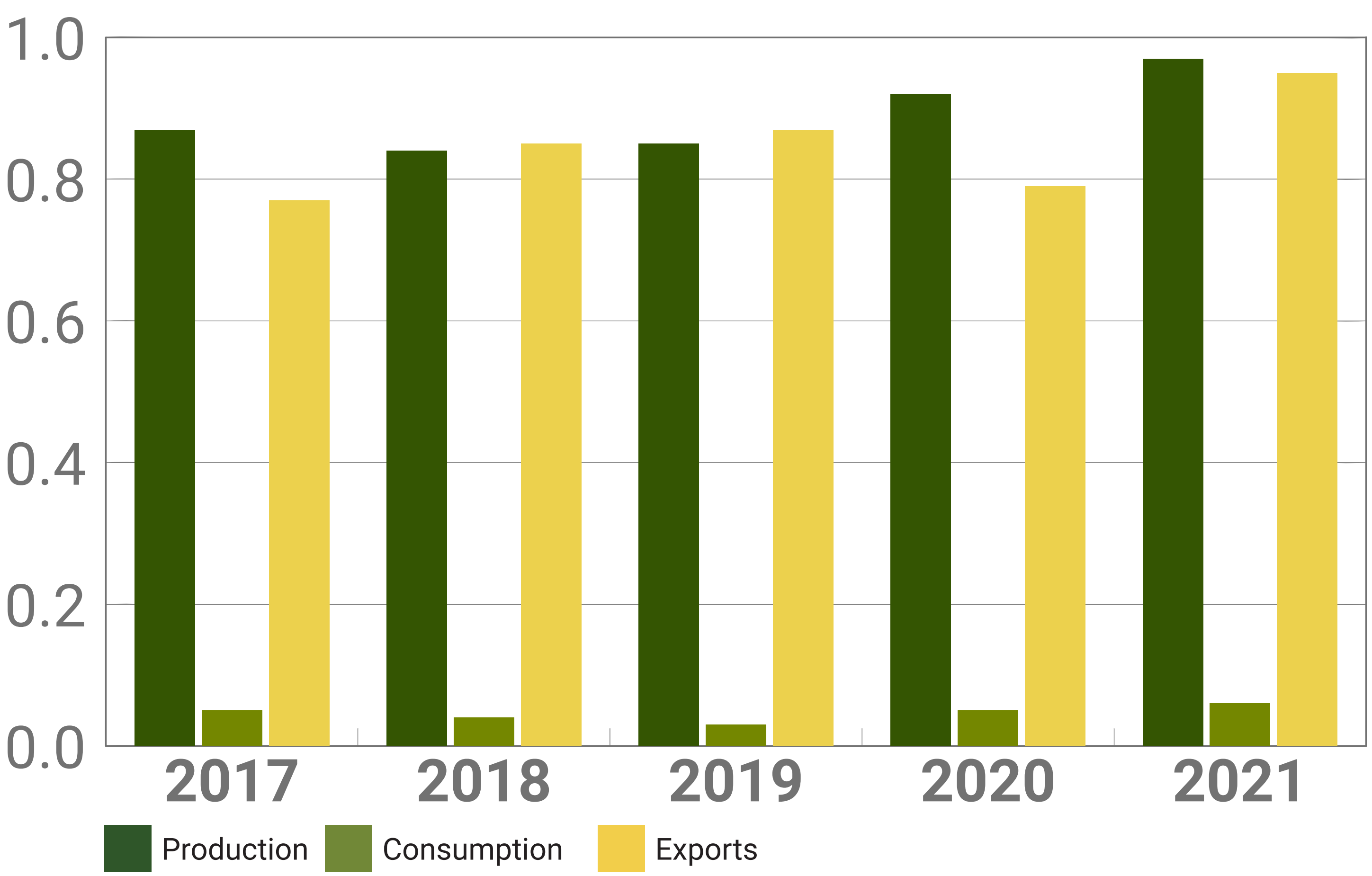


Figure 23. Uruguay rice production, consumption, and exports, 2017–2021.

C. **Summary of recent rice sector policies**

- ***Negotiated producer price:*** Under the auspices of the Ministry of Agriculture, the farm price is negotiated between the milling industry and the farmers, represented by the Uruguayan Association of Rice Farmers (Asociación de Cultivadores de Arroz) (Asociación de Cultivadores de Arroz 2024). The negotiated price is estimated based on the average export price and the estimated milling and transportation cost. Unlike other countries where the negotiated price contemplates a target profitability for farmers, the negotiated farm price in Uruguay is a residual price off the export price.
- ***Import policies:*** As a member of Mercosur, extra-regional imports are subject to a common external tariff, while intra-regional trade is duty free. The CET is currently at 10% for rough rice (HS 100610), brown rice (HS 100620), and broken rice (HS 100640), and at 12% for milled rice (HS 100630) (Latin American Integration Association 2024).

ARGENTINA

A. **Rice market overview:** From 2017 to 2021, Argentina produced and consumed an average of 816,000 and 500,000 MT, respectively. Argentina exported 374,000 MT per year, roughly half of its production (USDA 2024). Argentina produces almost exclusively long-grain rice.

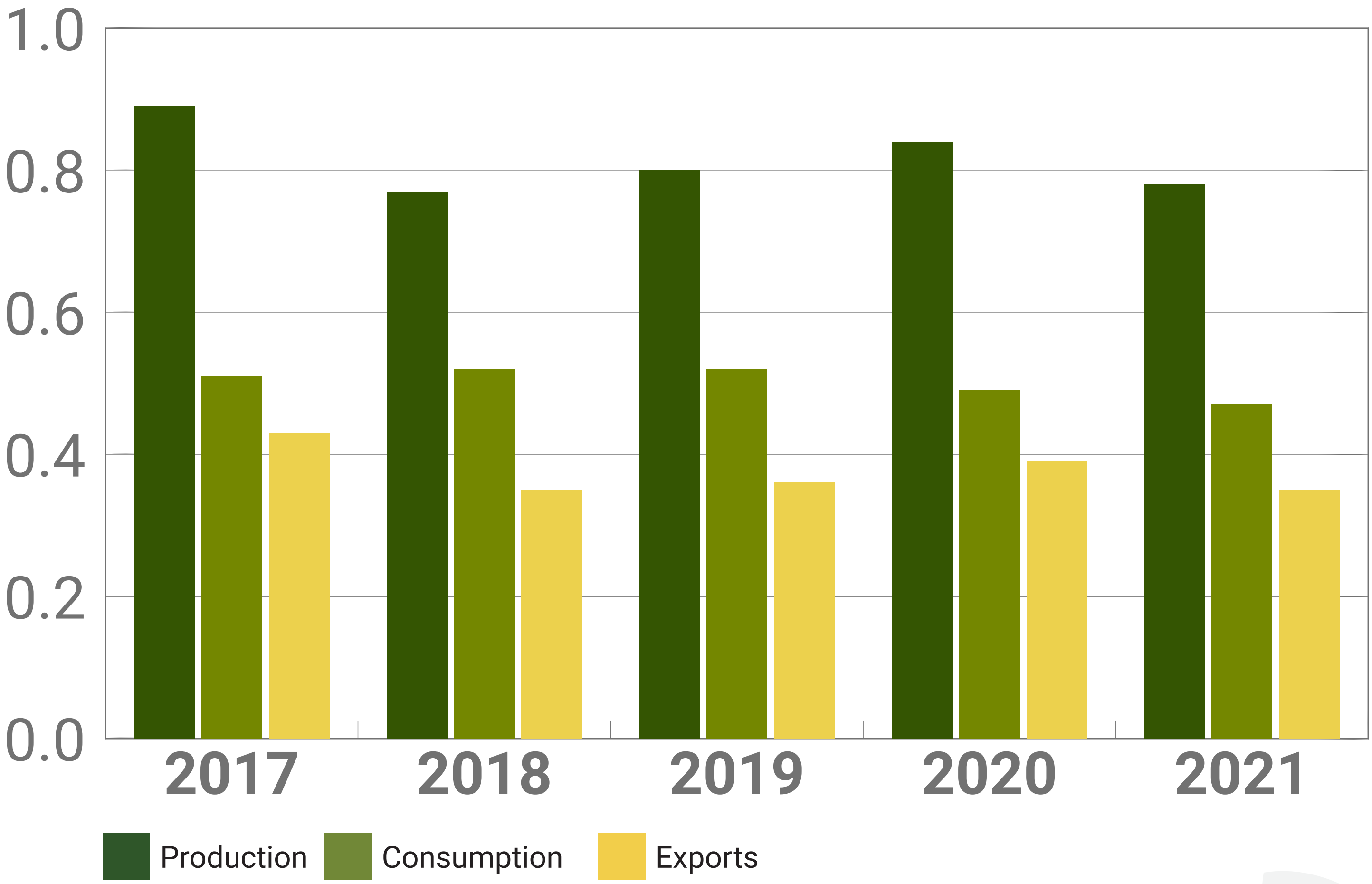


Figure 24. Argentina rice production, consumption, and trade, 2017–2021.

B. **Key policy issues:** The domestic market has grown in the past decade, making the rice sector less dependent on exports. Still, developing markets overseas is crucial for the rice industry, which exports most of its rice to other Mercosur members, primarily Chile and Brazil. The rice supply chain is efficient, with good yield and modern milling and handling facilities. One of the main challenges for the rice industry is the loss of competitiveness due to rampant inflation, along with overall economic instability, which makes medium- and long-term planning extremely difficult. Another growing concern is the decreasing number of rice farmers and their high level of indebtedness.

C. **Summary of recent rice sector policies**

- Rice producers receive no domestic support.
- ***Import policies:*** As a member of Mercosur, extra-regional imports are subject to a common external tariff, while intra-regional trade is duty free. The CET is currently at 10% for rough rice (HS 100610), brown rice (HS 100620), and broken rice (HS 100640), and at 12% for milled rice (HS 100630) (Latin American Integration Association 2024).
- ***Export policies:*** Rice exports are subject to export tariffs, currently set at 5% for rough rice and 7.5% for milled rice.

CENTRAL AMERICA (COSTA RICA, EL SALVADOR, GUATEMALA, HONDURAS, AND NICARAGUA)

A. **Rice market overview:** From 2017 to 2021, Central America produced and consumed an average of 700,000 and 1.36 million MT, respectively. The region was a net importer of rice, importing an average of 661,000 MT per year (USDA 2024). Central America consumes primarily long-grain rice.

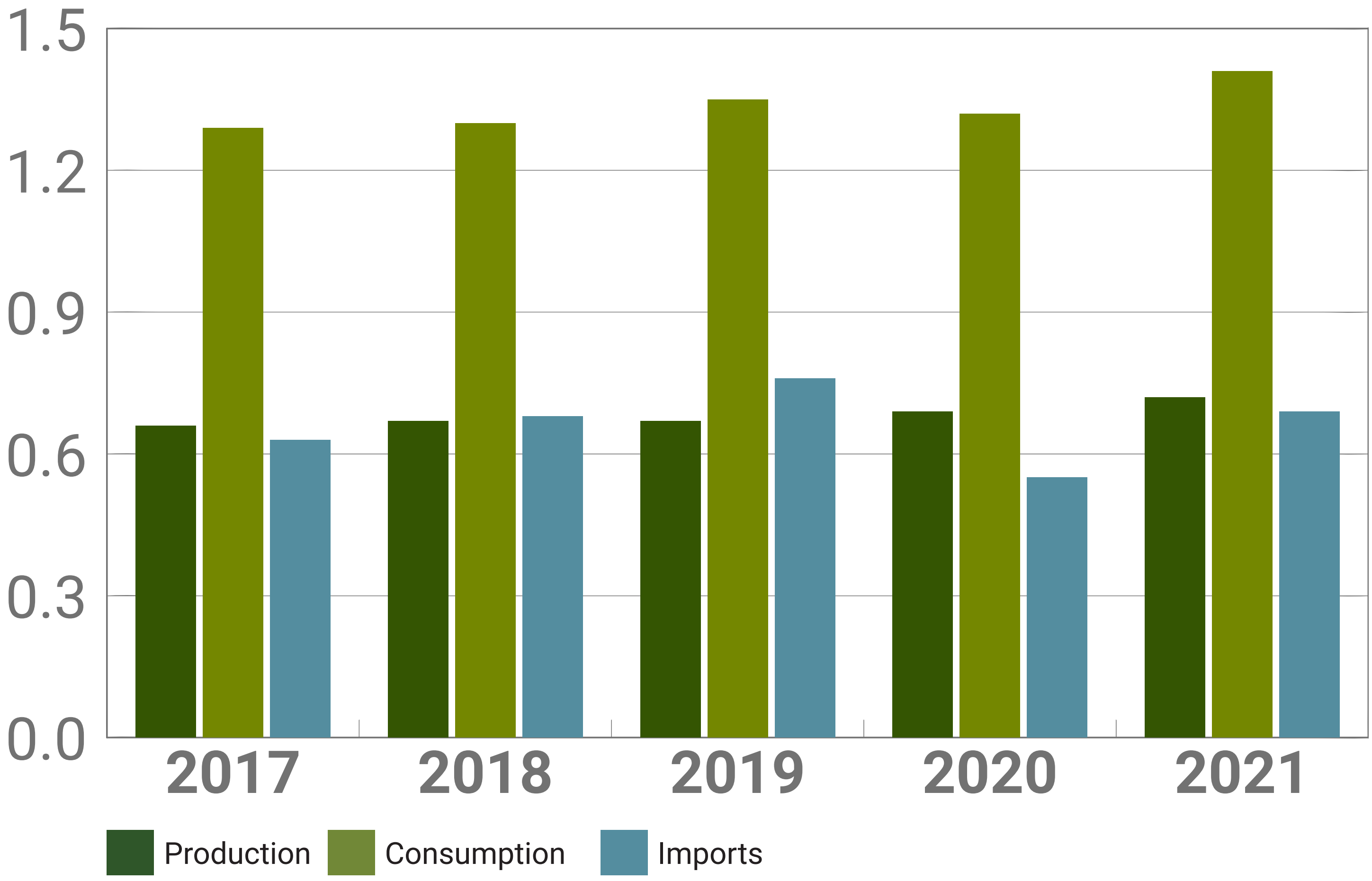


Figure 25. Central American rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** The most prevalent topic in the region is the implementation of the DR-CAFTA agreement. Under DR-CAFTA, U.S. rice will eventually enter the Central American market free of duty, which is seen as a major threat to the Central American rice supply chain. The countries negotiated backloaded trade liberalization schedules (see the next section) with the idea of preparing the rice industry and making it more competitive. Many Central American countries find themselves now approaching the full implementation of the agreement without much progress made.

C. **Summary of recent rice sector policies**

- ***Price support:*** All countries have a producer price support system estimated based on the production cost and an expected profitability. The price support system is expected to be phased out after DR-CAFTA is fully implemented.

Costa Rica: The farm price in 2022 was set at CRC 370,285 (USD 657) per MT of rough rice (Government of Costa Rica 2022a). The consumer price is also regulated and set at CRC 682,220 (USD 1,210) per MT of milled rice (Government of Costa Rica 2022b).
El Salvador: The farm price is set at USD 478 per MT of rough rice.
Guatemala: The farm price is set at USD 488 per MT of rough rice.
Honduras: The farm price is set at HNL 10,295 (USD 417) per MT of wet rough rice.
Nicaragua: The farm price is set at USD 553 per MT of rough rice.

- ***Import licenses:*** Import licenses are granted to importers based on the share of domestic production they purchase. This mechanism, called performance requirement, ensures that domestic production is sold at the guaranteed prices listed above. Also, this mechanism restricts the import rights to rice millers that can buy and thereafter process the domestic production. The import license system based on the performance requirement is expected to be phased out after DR-CAFTA is fully implemented.
- ***Import policies:*** Central American countries protect their domestic industry with relatively high MFN ad-valorem tariffs (see below for specific countries). The region grants preferential access to U.S. rice through DR-CAFTA, in which countries negotiated their own TRQ and phased out periods for import tariffs (OAS n.d.).

Costa Rica has an MFN import tariff of 36% for all rice tariff lines, but in August 2022 it lowered the applied import tariff to 4% and 3.5% for milled and paddy rice, respectively, which currently applies. Costa Rica grants U.S. rice preferential access through a TRQ. The volume of the TRQ in 2023 amounted to 65,000 MT of rough rice and 8,750 MT of processed rice (HS 100620, 100630, and 100640). DR-CAFTA will be fully implemented by 2028.

El Salvador has an MFN import tariff of 40% for all rice tariff lines. It currently applies a preferential rate of 6.7% on U.S. rice imported over the TRQ. The volume of the TRQ in 2023 amounted to 84,740 MT of rough rice and 11,645 MT of processed rice (HS 100620, 100630, and 100640). DR-CAFTA will be fully implemented in 2024.
Guatemala has an MFN import tariff of 29.2% for all rice tariff lines. It currently applies a preferential rate of 4.9% on U.S. rice imported over the TRQ. The volume of the TRQ in 2023 amounted to 96,200 MT of rough rice and 18,500 MT of processed rice (HS 100620, 100630, and 100640). DR-CAFTA will be fully implemented in 2024.
Honduras has an MFN import tariff of 45% for all rice tariff lines. It currently applies a preferential rate of 7.5% on U.S. rice imported over the TRQ. The volume of the TRQ in 2023 amounted to 120,600 MT of rough rice and 15,725 MT of processed rice (HS 100620, 100630, and 100640). DR-CAFTA will be fully implemented in 2024.
Nicaragua has an MFN import tariff of 45% for rough rice (HS 100610) and 62% for all other rice tariff lines. It currently applies a preferential rate of 7.5% and 10.4% on U.S. rough and milled rice imported over the TRQ, respectively. The volume of the TRQ in 2023 amounted to 135,900 MT of rough rice and 24,050 MT of processed rice (HS 100620, 100630, and 100640). DR-CAFTA will be fully implemented in 2024.

IV. Africa

BENIN

A. **Rice market overview:** From 2017 to 2021, Benin's rice consumption amounted to an average of 973,000 MT annually. However, the country's national production reached an average of only 333,000 MT each year, growing at a rate of 17%, which met only 31% of the country's needs. On the other hand, consumption grew by 6% annually. To meet this demand, Benin imported an average of 640,000 MT each year, accounting for 3.93% of sub-Saharan Africa's imports and 1.25% of global imports (USDA 2024). Local parboiled rice has a strong value chain and is vital to the economy. It accounted for 20% of the national paddy production in 2019 and is mainly consumed in the north and central parts of the country, particularly in the Collines Department. This leads to an increase in the income of local actors. In addition, parboiled rice has high export potential because of its popularity in the regional market, particularly in Nigeria.

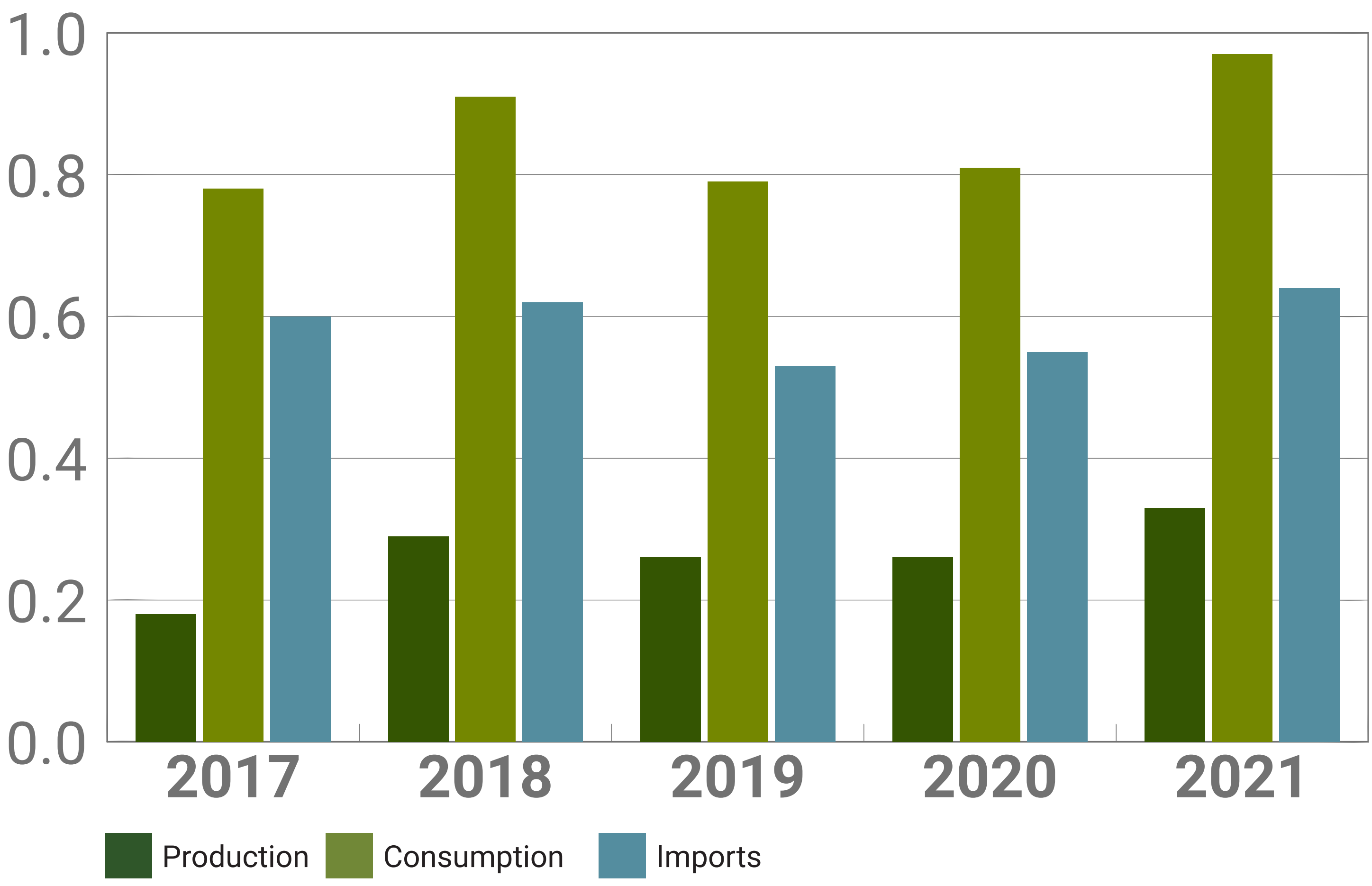


Figure 26. Benin rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** In recent years, the government of Benin has mainly relied on short-term policy measures related to trade policy, including export taxes or restrictions and consumer price support, such as in 2022. In 2019, the country developed and approved its NDRS 2 (National Rice Development Strategy 2) with the goal of producing 1.33 million MT of rough rice (equivalent to 865,000 MT of milled rice) and achieving rice self-sufficiency by 2025 (Coalition for African Rice Development 2024).

C. Summary of recent rice sector policies in Benin

- ***Export tax:*** Benin increased the mark-up on paddy export tax from XOF 40 per kg (equivalent to USD 59.60 per MT) in February 2022 to XOF 50 (equivalent to USD 74.50 per MT) as of July 2022 (FAO 2022a, 2022b).
- ***Consumer prices, value-added taxes:*** In March 2022, Benin decided to exclude imported rice from value-added taxes. The objective was to decrease the cost of a 50-kg bag of rice in Cotonou from XOF 20,500 to XOF 18,450, which translates to a decrease from USD 0.65 to USD 0.59 per kg. This measure was introduced following an earlier initiative that partly exempted imported rice from value-added taxes and suspended local taxes on rice produced domestically. The three-month program is part of a series of actions implemented to manage food inflation. It includes a 50% decrease in the cost of sea freight and a two-thirds reduction in the value of airfreight used for customs duty calculations for all imported products. Also, in July 2022, Benin increased the export tax on rough rice from XOF 40 per kg (USD 59.60 per MT) to XOF 50 per kg (USD 74.50 per MT) with immediate effect (FAO 2022c).
- ***Re-export restrictions:*** In October 2019, Benin issued a circular instructing customs brokers and others to refrain from issuing transit or re-export declarations for parboiled rice intended for Nigeria (FAO 2019).
- ***National Rice Strategy:*** In 2011, Benin established its initial National Rice Development Strategy (NRDS 1) to attain self-sufficiency in rice production as part of the Coalition for African Rice Development (CARD) initiative. In 2019, the targets were expanded to 2025 when NRDS 2 was introduced (Coalition for African Rice Development 2024).

BURKINA FASO

A. Rice market overview: In Burkina Faso, rice ranks fourth among cereals in terms of both area and production (Ministère de l'Agriculture et des Aménagements Hydro-agricoles 2021). The country's average production was 254,000 MT over the period 2017–2021, which covers about 30% of the average annual national rice consumption needs (849,000 MT). When consumption grew by an average annual rate of 6%, domestic production increased by 8% on average annually. Burkina thus imported, on average, 598,000 MT of rice, representing 4% of the imports in sub-Saharan Africa and 1.21% of world imports (USDA 2024).

B. Key policy issues: The Burkina Faso government focuses primarily on supporting the rice sector through the National Rice Development Strategy (NRDS II-2021/2030), which aims to promote private-sector involvement, invest in developing new irrigation schemes to enhance production, and improve access to inputs such as improved seeds and NPK fertilizer. In addition, the government has implemented a 12.5% import tariff on milled rice imported within the ECOWAS common external tariff since January 2015 (Bousso 2024). The COVID-19 pandemic disrupted the supply of inputs, particularly fertilizer. This resulted in a price hike for fertilizer due to increased freight costs and widespread insecurity. As a result, farmers have been forced to abandon their farms, leading to a drop in crop yields (Bousso 2022).

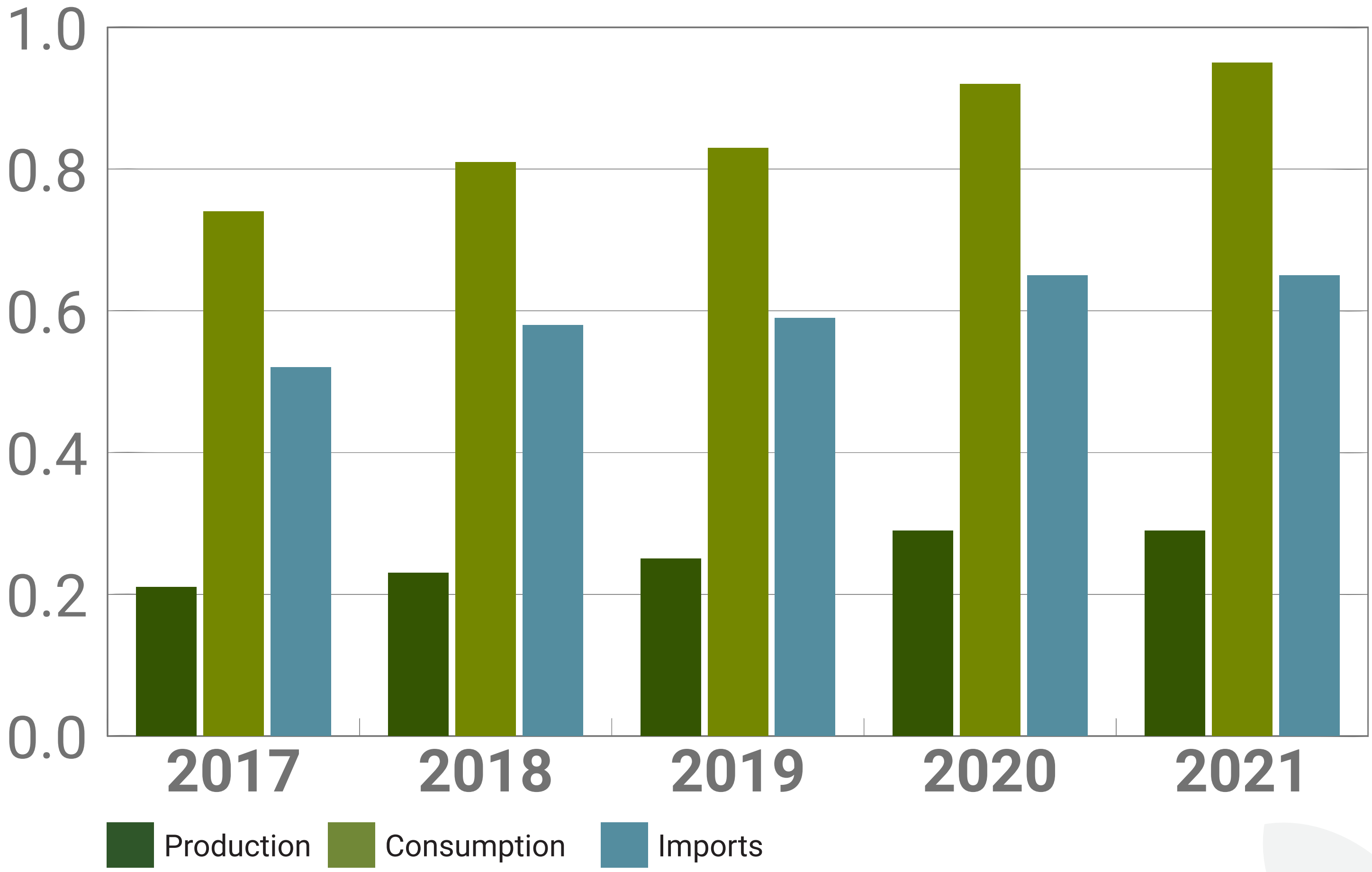


Figure 27. Burkina Faso rice production, consumption, and imports, 2017–2021.

C. Summary of recent rice sector policies in Burkina Faso

- ***Import requirements:*** In October 2021, Burkina Faso implemented a new policy that included rice in the list of products requiring Special Import Authorization (Autorisation Spéciale d'Importation, ASI) and Special Export Authorization (Autorisation Spéciale d'Exportation, ASE) (FAO 2021).
- Burkina Faso validated its new rice development strategy (NRDS 2) on 8 January 2020. The strategy aims to produce 3 million MT of rice by 2030 (Ministère de l'Agriculture et des Aménagements Hydro-agricoles 2021).

CAMEROON

A. **Rice market overview:** From 2017 to 2021, Cameroon's rice self-sufficiency rate varied from 21% to 28%, with an average of 25% per year. The average yearly production during this time was 200,000 MT, with an average growth rate of 8%. On the other hand, yearly consumption was 771,000 MT, with an average growth rate of less than 1%. To bridge the gap, the country imported an average of 575,000 MT yearly. This volume of imports accounts for 3.86% of sub-Saharan Africa's rice and 1.23% of worldwide rice (USDA 2024).

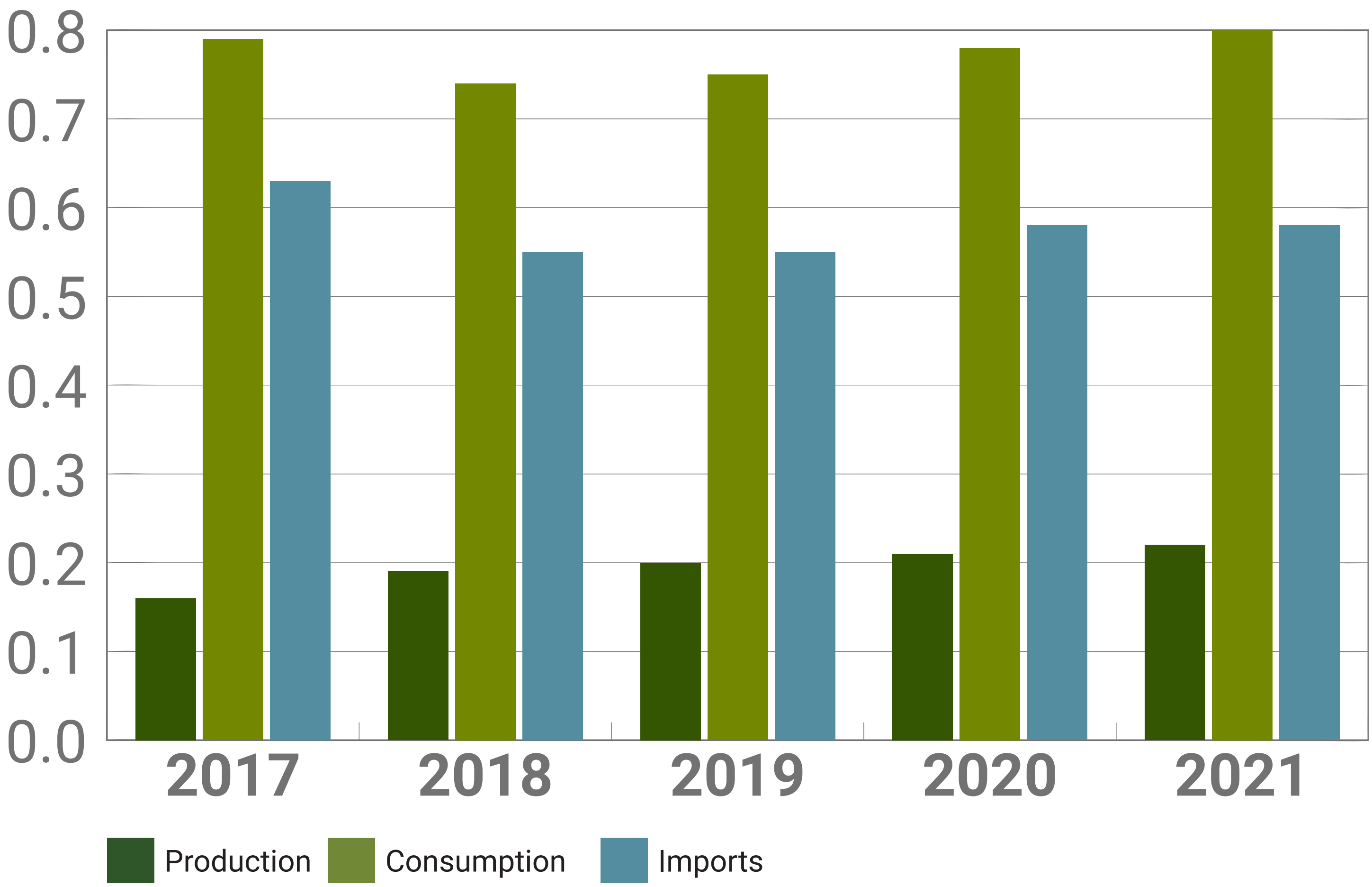


Figure 28. Cameroon rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Cameroon's government is formulating a strategy to enhance domestic rice cultivation. The objective is to produce 450,000 MT by 2025 and 750,000 MT by 2030. This plan entails not just production support, but also the advancement of mechanization from soil preparation to harvesting. Furthermore, the government plans to upgrade storage and milling facilities to augment the country's rice supply (Mbodiam 2022; FAO 2016). Cameroon's rice production faces challenges due to degraded irrigation infrastructure. Investing in modern infrastructure, including dams, canals, and drainage channels, is crucial to boosting production (Epule et al. 2021). Small and medium-sized enterprises (SMEs) in Cameroon, including rice farmers, require access to credit for sustainability (Shillie et al. 2024). The main policy to protect the local market for rice was an export ban on locally produced rice, as summarized below.

C. Summary of recent rice sector policies in Cameroon

- ***Export ban:*** The Ministry of Commerce in Cameroon decided to suspend exports of wheat flour, rice, vegetable oil, and other cereals produced locally from the East Region in April 2022. This decision was made to ensure that there was enough supply in the domestic market. Earlier, in December 2021, the Customs Department had already suspended exports of cereals and vegetable oils produced locally from the Far-North Region (FAO 2022).
- ***Food price control:*** The government decided in March 2019 to regulate the retail prices of essential food items such as fish and rice because of recent price hikes. Specifically, the price of the most commonly consumed 25% broken rice, which was previously sold at about XAF 400 (USD 0.69) per kg, declined to XAF 330 (USD 0.57) per kg and XAF 350 (0.60) per kg in Douala and Yaoundé, respectively. In addition, the prices of higher quality 5% broken rice were also adjusted (FAO 2019).
- ***Tax policy:*** The 19.25% value-added tax (VAT) on rice products, including rough, husked, semi-/wholly milled, and broken rice, was abolished on 1 January 2017 (FAO 2016).
- ***National Rice Strategy:*** In 2008, Cameroon developed its NRDS 1 for the period 2008–2018 under the CARD initiative. The government has now developed a new NRDS to achieve rice self-sufficiency by 2030 (Coalition for African Rice Development 2024).

CHAD

A. **Rice market overview:** From 2017 to 2021, Chad's rice production has been consistently below 200,000 MT, with an average annual production of 160,000 MT. This is less than 1% of the total rice production in sub-Saharan Africa. Unfortunately, this production has experienced an annual average decrease of 2%. In addition, Chad's yearly consumption of rice is also low, with an average of 168,000 MT and a negative average growth rate of -3%. Despite these challenges, Chad has maintained an average self-sufficiency rate of 95% throughout this period, with a maximum rate of 97% in 2020 and 2021 due to very low imports averaging only 8,000 MT annually (USDA 2024).

B. **Key policy issues:** Rice is the fourth most important cereal crop in Chad after wheat, maize, and millet. The new NRDS finalized in 2020 aims to achieve a production of 1.4 million MT of rough rice by 2030 and to constitute a safety stock after meeting domestic demand. Therefore, when local production is insufficient to fill the consumption gap, the country will suspend import tariffs to control consumer prices. Rice cultivation is concentrated in the southwest of the country, mainly in Tandjilé, Mayo Kebbi, and Logone Occidental areas (Climate Technology Centre & Network 2024). To develop the rice sector, especially to improve rice productivity, it is crucial to address the challenges posed by climate change and Lake Chad's shrinkage and to promote sustainable agricultural practices (Riebe and Dressel 2021).

C. **Summary of recent rice sector policies in Chad**

- ***Import tariff:*** About one year (from 11 January until 31 December 2022) of import duty suspension on rice, along with duties levied on other commodities, was observed in Chad (FAO 2022).
- ***Import tariff:*** In April 2020, Chad exempted basic food products, such as maize, rice, millet, sorghum, and wheat, from import customs duties until December 2020 to limit the impact of COVID-19 (FAO 2020).

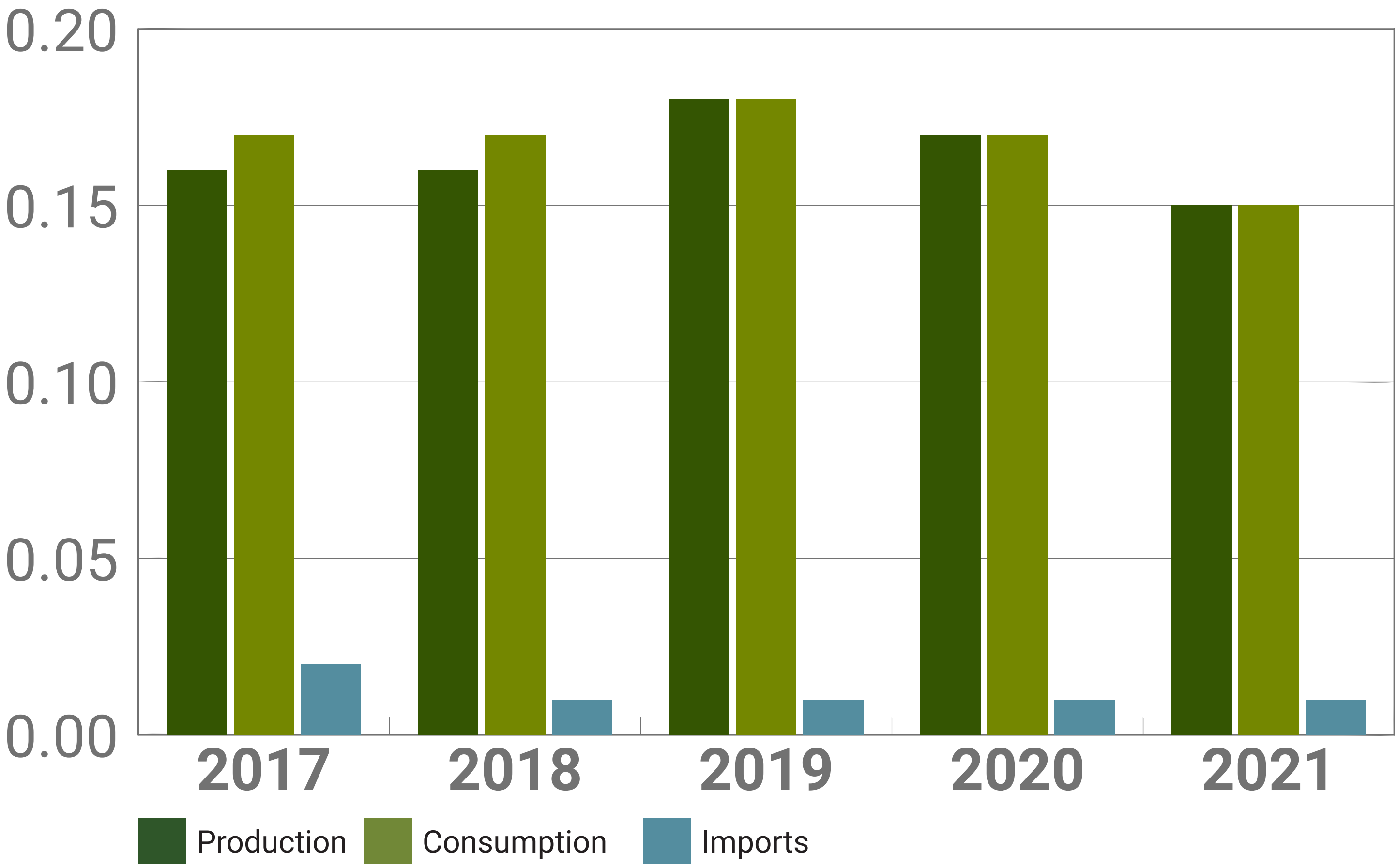


Figure 29. Chad rice production, consumption, and imports, 2017–2021.

- ***Import tariff:*** In May 2019, Chad removed the 5% import tariff on rice and suspended import duties and value-added taxes for other basic foodstuffs to control the prices of essential commodities (FAO 2019).

CONGO (KINSHASA)

A. **Rice market overview:** From 2017 to 2021, Congo (Kinshasa) accounted for an average of 4.2% of rice production in sub-Saharan Africa, with an average of 839,000 MT produced. This local production was able to satisfy 84.2% of the country's annual rice needs, which averaged 1.1 million MT during the same period. Imports averaged 180,000 MT annually, which was equivalent to just 1.4% of sub-Saharan Africa's imports. In addition, both rice consumption and production increased by an average of 4% annually (USDA 2024). The Congo has a unique trait in which a significant portion of rice production is used for beer making, with up to 16% of national production being used for this purpose despite increasing consumption (Secrétariat Général de l'Agriculture, Pêche et Elevage 2013).

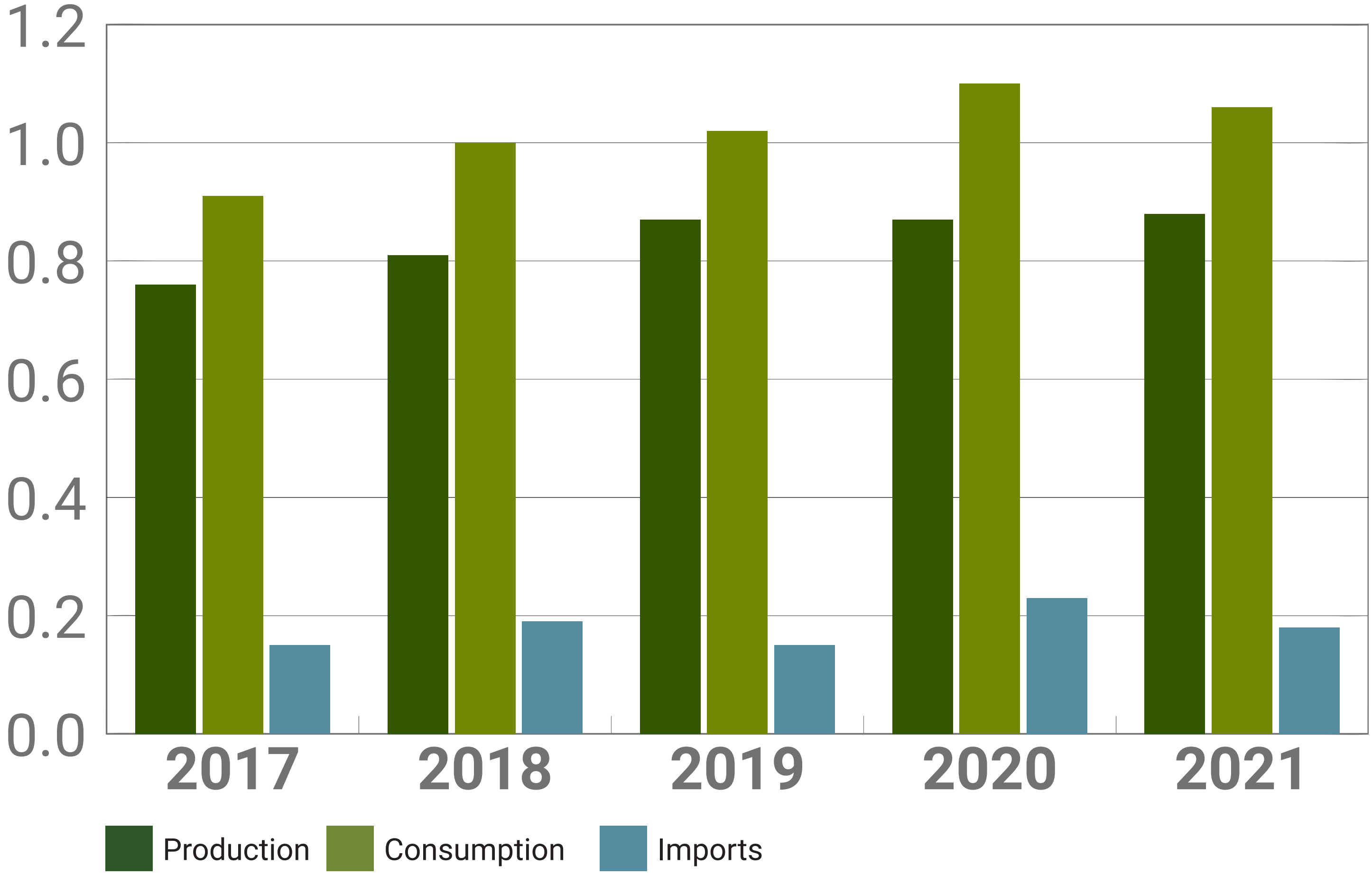


Figure 30. Congo (Kinshasa) rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** By mid-2022, Congo (Kinshasa) had started finalizing NRDS 2 to achieve rice self-sufficiency by 2030, with a goal of producing 1.38 million MT of white rice. The strategy focuses on strengthening the technical and operational capabilities of stakeholders by using a value chain approach. To achieve this goal, the plan includes developing rice production sites with 40,000 ha from 2023 to 2025 and 80,000 ha from 2024 to 2030, with total and partial control of water. The plan also includes mobilizing production factors such as certified seeds, fertilizer, and agricultural equipment. In addition, it aims to improve processing and marketing while supporting the opening up of production areas (Coalition for African Rice Development 2022).

C. **Summary of recent rice sector policies in Congo (Kinshasa)**

- ***Import tariff:*** In September 2022, customs duties, value-added taxes, and computer user fees (redevance informatique) on imported rice and other goods were suspended for one year, with immediate effect (FAO 2022).
- ***National Rice Strategy:*** The Democratic Republic of Congo has developed its NRDS 2 to achieve rice self-sufficiency by 2030. From 2023 to 2025, the strategy aims at accelerating the pace in order to overcome the challenges of productivity and competitiveness of the rice sector in DRC. From 2026 to 2030, the strategy focuses mainly on developing more than 80,000 ha of irrigation schemes, including 10,000 ha under total water control (Coalition for African Rice Development 2022).

CÔTE D'IVOIRE

A. **Rice market overview:** From 2017 to 2020, rice production in Côte d'Ivoire decreased from 1.38 million MT in 2017 to 962,000 MT in 2020, but it bounced back to 1.1 million MT in 2021. During this period, annual production averaged 1.19 million MT, with an average annual decline of 6%. Côte d'Ivoire's rice production comprises 6.07% of sub-Saharan Africa's overall production. Meanwhile, rice consumption in Côte d'Ivoire has remained relatively steady, with an average annual consumption of 2.52 million MT from 2017 to 2021, with a negative annual growth rate of roughly 0.5%. However, the country produces only an average of 53% of its consumption. In terms of imports, Côte d'Ivoire accounts for an average of 9.45% of rice imports in sub-Saharan Africa each year. Côte d'Ivoire is often one of the top 10 rice importers in the world, alongside Nigeria and Senegal (USDA 202). The top exporting countries to Côte d'Ivoire are India, Vietnam, Thailand, and, more recently, China (Yao 2022).

B. **Key policy issues:** The rice industry in Côte d'Ivoire is plagued by fragmentation, inefficiency, and informality, which have resulted in a lack of competitiveness against imported rice. To address this challenge, Côte d'Ivoire has implemented several institutional reforms and policies, including the establishment of a Ministry of Rice Promotion in 2019, which was later incorporated into the Ministry of Agriculture and Rural Development in 2021 (Archibald 2021). The government implemented a policy to decrease the number of rice varieties from 100 to five to seven to ensure consistent quality across factories and sale points (Louis Dreyfus Foundation 2024). The government's plan to enhance rice quality and processing capacity involves the installation of 30 rice mills. Each mill has the capacity to process 5 MT per hour, amounting to 25,000 MT per year. The milling facilities are being transferred to private operators, including domestic companies such as Societé Ivoirienne de Riz (SIRIZ) and Agricultural Management Company–Food and Commerce (AMC-FC), as well as multinational organizations such as Louis Dreyfus (LDC), Gan Logis, RMG Concept, and Singapore Agritec, all of which are active in the country's rice sector. To promote domestic productivity, the government has refrained from implementing trade-restrictive measures on the rice trade, relying on producer and consumer price controls as its main instruments (Archibald 2021).

C. **Summary of recent rice sector policies in Côte d'Ivoire**

- ***Price controls:*** In November 2022, consumer prices on certain food items were capped again.

Rice within a 30-kilometer radius of Abidjan then had a retail price ceiling from XOF 330 to 635 (USD 0.54–1.05) per kg based on product quality and origin. These price caps were to be in effect for three months (FAO 2022a).

- ***Price controls:*** In June 2022, new retail price limits for rice were put in place. The prices ranged from XOF 340 to XOF 585 per kg depending on the quality and where the rice came from. These limits applied to Abidjan and places up to 30 kilometers away. The previous price limits, set in March 2022, no longer applied. These new limits were to be in effect for three months, and could be extended if needed (FAO 2022b).
- ***Consumer prices:*** In July 2021, the government implemented several measures to counter the rise in prices of essential food items. The government held meetings with sector representatives to find solutions to control local prices, regulated the prices of rice and other food products, strengthened market monitoring activities while focusing on the public display of regulated prices, and boosted efforts to combat racketeering (FAO 2021).

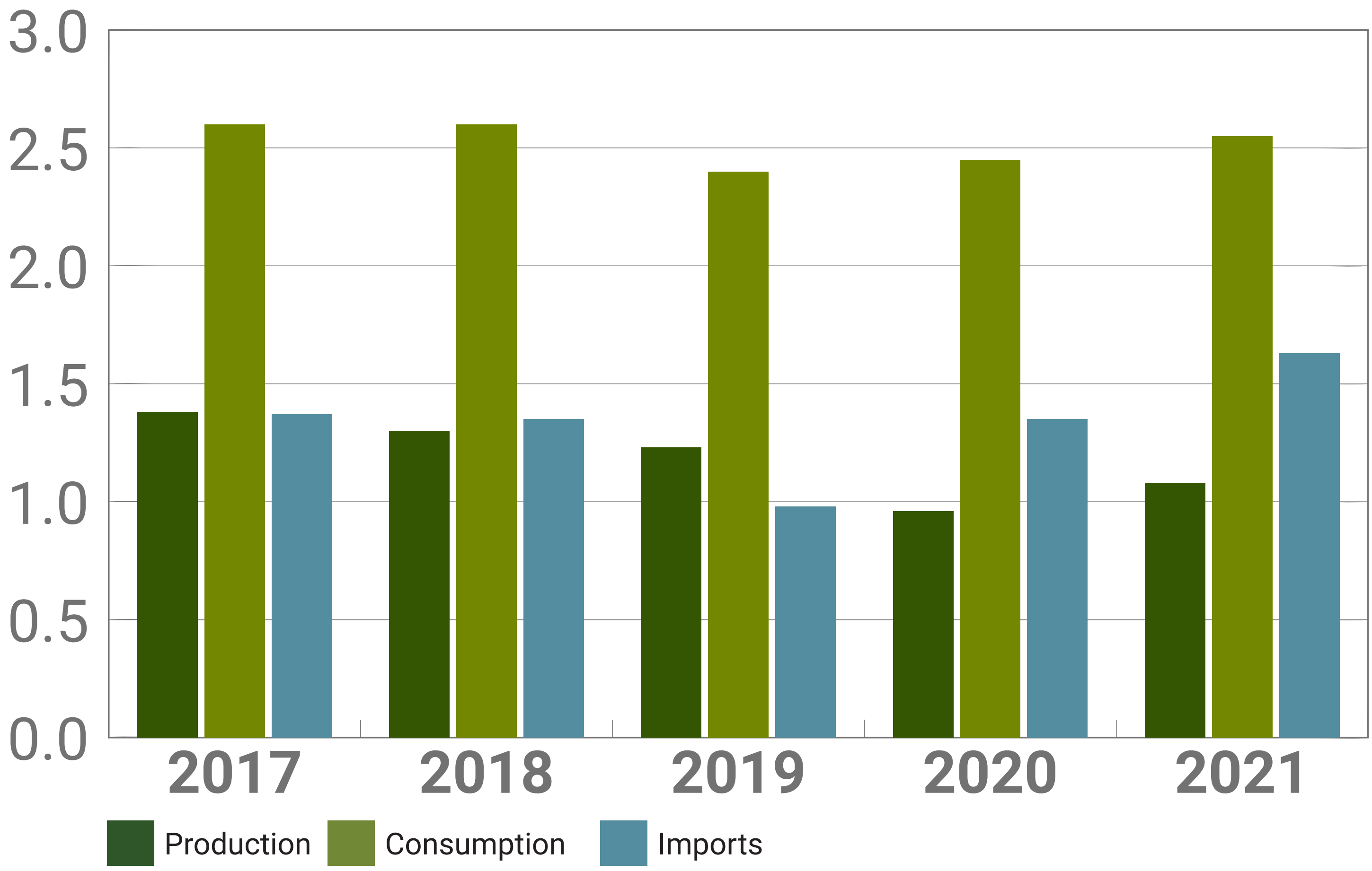


Figure 31. Côte d’Ivoire rice production, consumption, and imports, 2017–2021.

- ***Price controls:*** In September 2020, Côte d’Ivoire extended the retail price caps on various commodities, including rice, for an additional three months (FAO 2020a).
- ***Production support:*** In April 2020, Côte d’Ivoire declared the launch of an Emergency Rice Programme 2020 to address the COVID-19 pandemic. The objective was to increase rice production by 500,000 MT. The program would support farm mechanization and provide farmers with sanitary kits, high-yielding certified seeds, fertilizer, and other agro-chemicals. It would also require rice purchases from leaders of rice development poles to sustain the initiative (FAO 2020b).

- ***Price controls:*** In July 2017, Côte d'Ivoire implemented price limits on several commodities, such as imported rice, for a six-month duration. The maximum retail cost of imported rice in Abidjan ranged from XOF 307 to XOF 397 (USD 0.55–0.71) per kg. However, the price differed based on the source, quality, and location of the supplies and the marketing stage (FAO 2017).
- ***National Rice Strategy:*** The targets to achieve rice self-sufficiency in the CARD initiative were extended to 2025 and 2030, with a national production target of 2 million MT by 2025. Côte d'Ivoire aims to become a regional rice exporter by 2030 through its National Rice Development Strategy, which focuses on improving input quality and domestic milling capacity. Challenges remain in connecting producers with better inputs, financing, and infrastructure (Yao 2022; Coalition for African Rice Development 2019).

EGYPT

A. **Rice market overview**: Egypt experiences fluctuations in rice production, ranging from 2.8 million to 4.3 million MT annually from 2017 to 2021, resulting in an average decrease of 9% per year. However, the production for the entire period averaged 3.66 million MT per year. Despite the recent decline in production, Egypt's average rice production is equivalent to 21% of the total annual rice production in sub-Saharan Africa. The yearly consumption of rice in Egypt has remained steady, ranging from 4.05 million to 4.3 million MT over the period, with a slight average annual decrease of 1%. Egypt has been able to meet 87% of its national rice needs annually over this period, with full coverage in 2017 and 2019. The lowest self-sufficiency rates were noted in 2018 with 67% and in 2021 with 72%. On average, the country imported 413,500 MT of rice annually over this period, with peaks of 806,000 MT in 2018 and 650,000 MT in 2021 (USDA 2024).

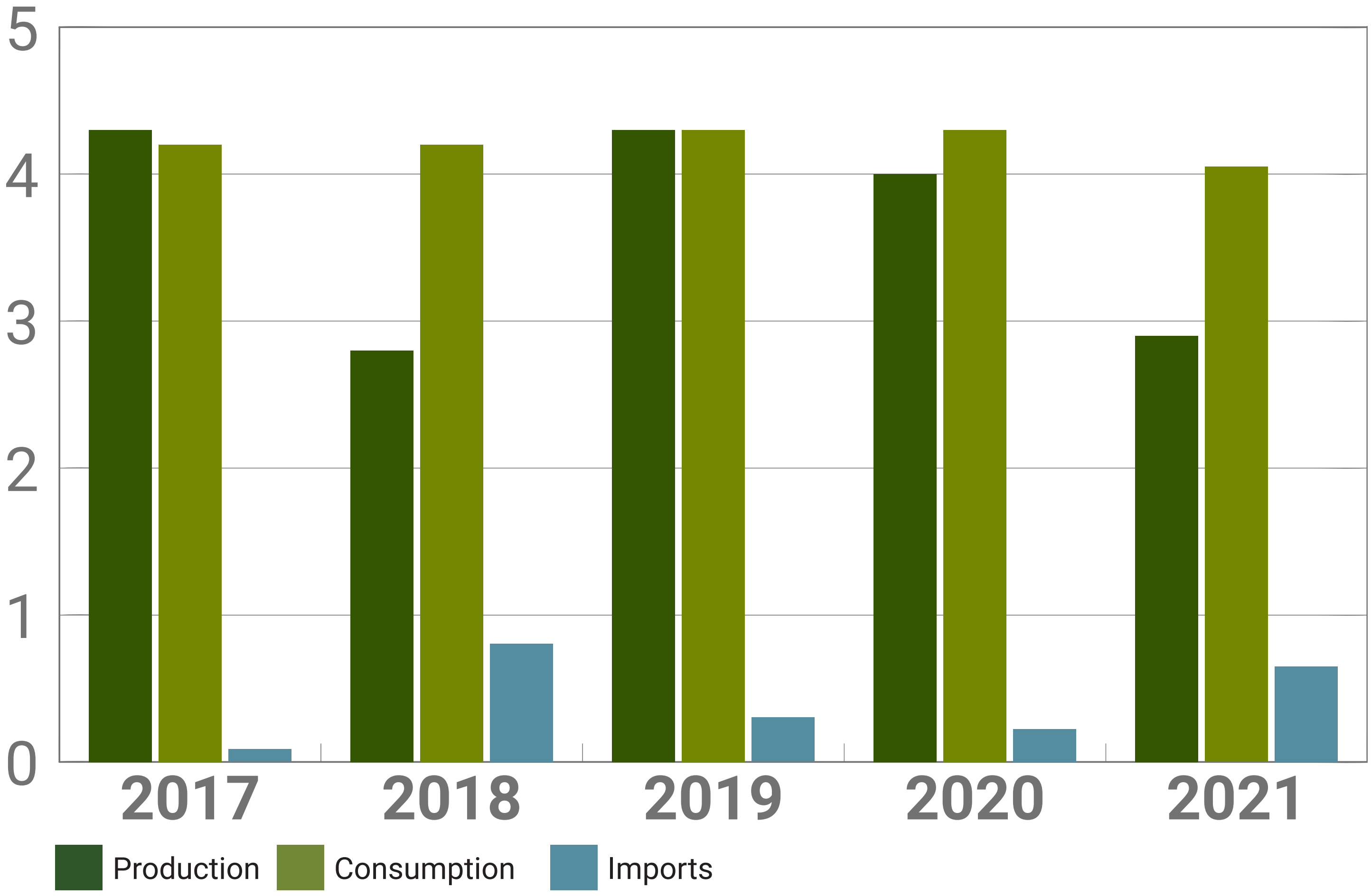


Figure 32. Egypt rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Egypt is a major producer of rice in both the Middle East and Africa, and it plays a crucial role in their export market. Rice is a significant crop that generates hard currency earnings, which are necessary to fund sustainable economic and social development (Eliw, Alim, and Soliman 2022). In order to regulate irrigation water usage from the Nile River, the government used to inform farmers about the permitted areas for rice cultivation during the cropping seasons. Those who planted rice outside the assigned area would be fined, and the announcement of these fines would be made before the next planting campaign. In addition, the government permits rice importation in cases of domestic production shortage, such as in 2018 when the General Authority for Supply Commodities sought to procure short- and medium-grain rice from China, Vietnam, and India (Wally and Akingbe 2021). The government of Egypt heavily intervenes in the rice sector, primarily through price control, public procurement to regulate rice stock, export bans, and facilitating access to finance.

C. Summary of recent rice sector policies in Egypt

- ***Price controls:*** Egypt has extended the maximum selling prices for rice for an additional three months. Packaged rice cannot be sold for more than EGP 15 (equivalent to USD 0.50) per kg, while loose rice is limited to EGP 12 (equivalent to USD 0.40) per kg. In addition, 3% broken rice has a limit of EGP 18 (equivalent to USD 0.60) per kg. These prices were set in December 2022 and will remain in effect until the extension period ends (FAO 2022a).
- ***Price controls:*** Egypt set a maximum selling price of EGP 18 (USD 0.60) per kg for 3% broken rice, effective 18 November 2022 (FAO 2022b).
- ***Price controls:*** In August 2022, the government set maximum selling prices for packaged and loose rice at EGP 15 (USD 0.76) and EGP 12 (USD 0.61) per kg, respectively (FAO 2022c).
- ***Stockholding policy:*** Effective from 2 September 2022, a measure prohibited the storage of rough rice from the 2022 harvest in unapproved sites (FAO 2022d).
- ***Government procurement, stock-holding policy, input support:*** The Egyptian government set a goal to buy 1.5 million MT of rough rice from the 2022 harvest from 25 August to 15 December 2022. To achieve this, it offered local farmers from EGP 6,600 to EGP 6,850 per MT. The farmers needed to sell 1 MT of rough rice per 0.42 ha they cultivated, or 25% of their harvest, to state-designated entities. If they failed to sell these quantities, they might have lost their cultivation permits for the 2023 season and had their government subsidies on fertilizers and pesticides suspended for a year (FAO 2022e).
- ***Finance and credit facilities:*** Egypt decided to postpone the reintroduction of upfront cash payment requirements for rice, lentils, and fava beans until 15 March 2023 (FAO 2022f).
- ***Cultivation limits:*** In March 2021, Egypt announced a reduction in fines for farmers who exceeded the limits of rice cultivation. If the fine payments were completed before 30 June 2021, the reduction was to be 60%. If completed between July and September 2021, the reduction was to be 40%. If completed between October and December 2021, the reduction was to be 30% (FAO 2021).
- ***Stock exchange:*** The Egyptian Commodities Exchange Company was launched in September 2020 with a total capital of EGP 91 million (equivalent to USD 5.8 million). This exchange focuses on spot commodities and was set to commence trading during the first half of 2021. Its initial offerings included rice, wheat, oil, and sugar (FAO 2020).
- ***Finance and credit facilities:*** In March 2019, the government made it possible for traders to obtain letters of credit for rice, lentils, and fava beans without having to deposit the full import value in foreign currency up front. This decision rescinded previous orders that required such upfront cash payments. The new policy was effective from 6 May 2019 until 15 March 2020 (FAO 2019).
- ***Government procurement:*** In September 2018, the government announced that it would purchase local paddy from the 2018 harvest at a price range of EGP 4,400 to EGP 4,700 (USD 245–262) per MT (FAO 2020a).

- ***Import agreement:*** The government signed a memorandum of understanding with Vietnam in August 2018, with the option to import up to 1.0 million MT of Vietnamese rice (FAO 2018b).
- ***Import plan:*** In June 2018, the government announced that it would import an unspecified amount of rice to meet domestic consumption needs as local production was expected to decrease because of efforts to preserve scarce water resources (FAO 2018c).
- ***Cultivation limits:*** During the 2018 season, the government decided to permit a maximum of 724,200 feddans (304,100 ha) to be used for rice cultivation. This marked a 33% decrease from the 1.1 million feddan (452,000 ha) limit that was approved for the previous year in 2017 FAO 2018d).
- ***Government procurement:*** In November 2017, the government made a deal with traders and processors to supply rice at a rate of EGP 6.10 per kg (USD 344 per MT) to ensure that rice could still be sold to consumers through government outlets at a price of EGP 6.50 per kg (USD 367 per MT) (FAO 2017a).
- ***Export ban:*** In July 2017, Egypt announced that the ban on rice exports would continue, to maintain consumer prices at EGP 6.50 (USD 0.40) per kg for the 2017 season. This decision was made to ensure adequate local supply and establish strategic reserves (FAO 2017b).
- ***Government procurement:*** In March 2017, Egypt agreed to purchase rice from private processors at a rate of EGP 6.30 per kg (equivalent to USD 347 per MT). The purpose of this purchase was to provide subsidized rice to the public at a rate of EGP 6.50 per kg (equivalent to USD 358 per MT) through government outlets. As part of the agreement, the processors agreed to supply a minimum of 200 MT per month to the government for a period of four months (FAO 2017 c).

ETHIOPIA

A. **Rice market overview:** Over the years, Ethiopia's rice production has witnessed an average annual increase of 7%, leading to a total production of 115,000 MT per year. Despite this growth, the country's self-sufficiency rate plummeted from 18% in 2017 to 13% in 2021, indicating a dire need for improvement in this area. It is evident that demand for rice in Ethiopia has been steadily climbing, with an average annual rate of 17% and an average annual consumption of 781,000 MT. Unfortunately, most of the demand is met through importation, which accounts for 85% of the total consumption and records an average annual growth rate of 19%. Ethiopia's rice imports make up 4.48% of total imports in sub-Saharan Africa and 1.42% worldwide. Therefore, there is clearly a significant opportunity for Ethiopia to boost its rice production and decrease its reliance on imports. By doing so, the country can enhance its self-sufficiency and diminish its vulnerability to price fluctuations in the international market (USDA 2024).

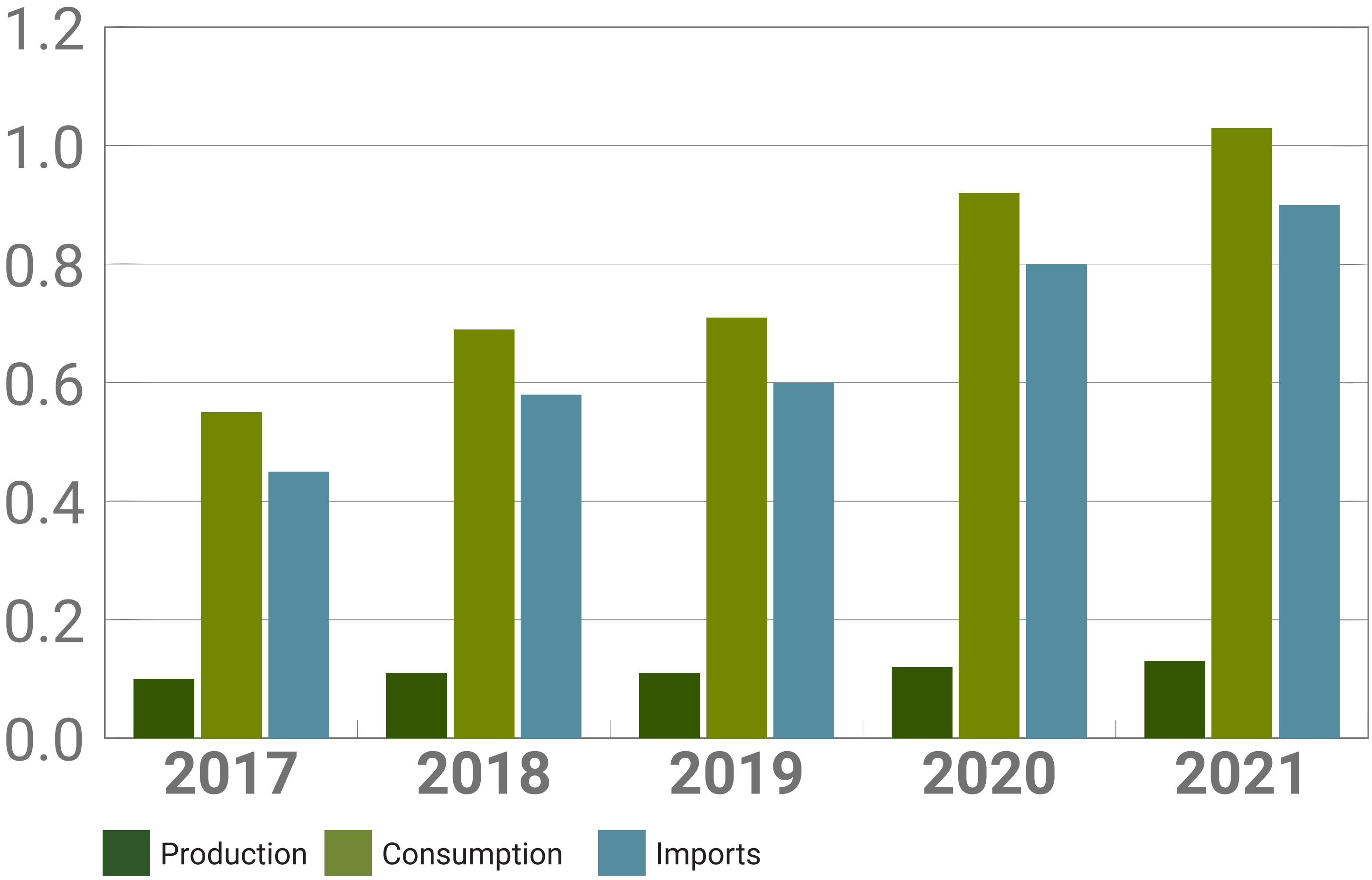


Figure 33. Ethiopia rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Rice plays a crucial role in addressing food security and is consumed in various traditional dishes. The Ethiopian government has called rice the "millennium crop" because of its significance as a food security crop, as well as a source of revenue and job opportunities despite its foreign origin. Ethiopia has nearly 6 million hectares of land for rainfed rice production and 3.7 million ha for irrigated rice production. However, there are challenges associated with rice production, such as environmental threats, constraints on the adoption of improved technologies, and limitations in meeting growing demand. It is clear that concerted efforts and initiatives are necessary to enhance rice production and achieve self-sufficiency in Ethiopia (Desta et al. 2022).

The National Rice Strategy includes liberal policies, land consolidation, contract farming, effective use of inputs, encouragement of private-sector investments, higher adoption of best farming practices, mechanization, efficient water use, improved access to finance and markets, and increased support from agriculture ministries and regional bureaus, as well as other stakeholders (Ministry of Agriculture 2020).

C. Summary of recent rice sector policies in Ethiopia

- ***Finance and credit facilities:*** In April 2022, Ethiopia announced that imports of rice, among other foodstuffs, would be allowed on a franco-valuta basis, no longer requiring foreign exchange permits, for at least six months (FAO 2022).
- ***National Rice Strategy:*** In 2019–2020, Ethiopia developed its NRDS to achieve rice self-sufficiency by 2030. The goal was to produce 1,925,000 MT of rough rice using 385,000 ha of land, with an average productivity of 5 MT per ha.

D. Links to references

THE GAMBIA

A. **Rice market overview:** In The Gambia, annual rice production averaged 22,000 MT, with an average annual growth rate of 8%, from 2017 to 2021. The current production volume and growth rate are insufficient to meet the country's demand. Yearly rice consumption averaged 231,000 MT, with an average growth rate of 4%. This resulted in an average rice self-sufficiency rate of 9.64% for the period, with a minimum of 9% and a maximum of 11%. As a result, the country imported an average of 213,000 MT yearly, which is 1.43% of sub-Saharan Africa's imports (USDA 2024).

B. **Key policy issues:** The rice market outlook in The Gambia is influenced by a combination of factors, including nutritional deficiencies, climate change, policy reforms, consumer preferences, and environmental considerations. Many rice value chain programs have been implemented to improve rice production in the country (Gomez, Akpen-Ageh, and Kwaghngu 2022). In The Gambia, like in many African countries, consumer preferences for rice are influenced by cultural and colonial heritage, and the market competitiveness of new rice varieties is crucial for decreasing rice imports (Britwum and Demont 2021).

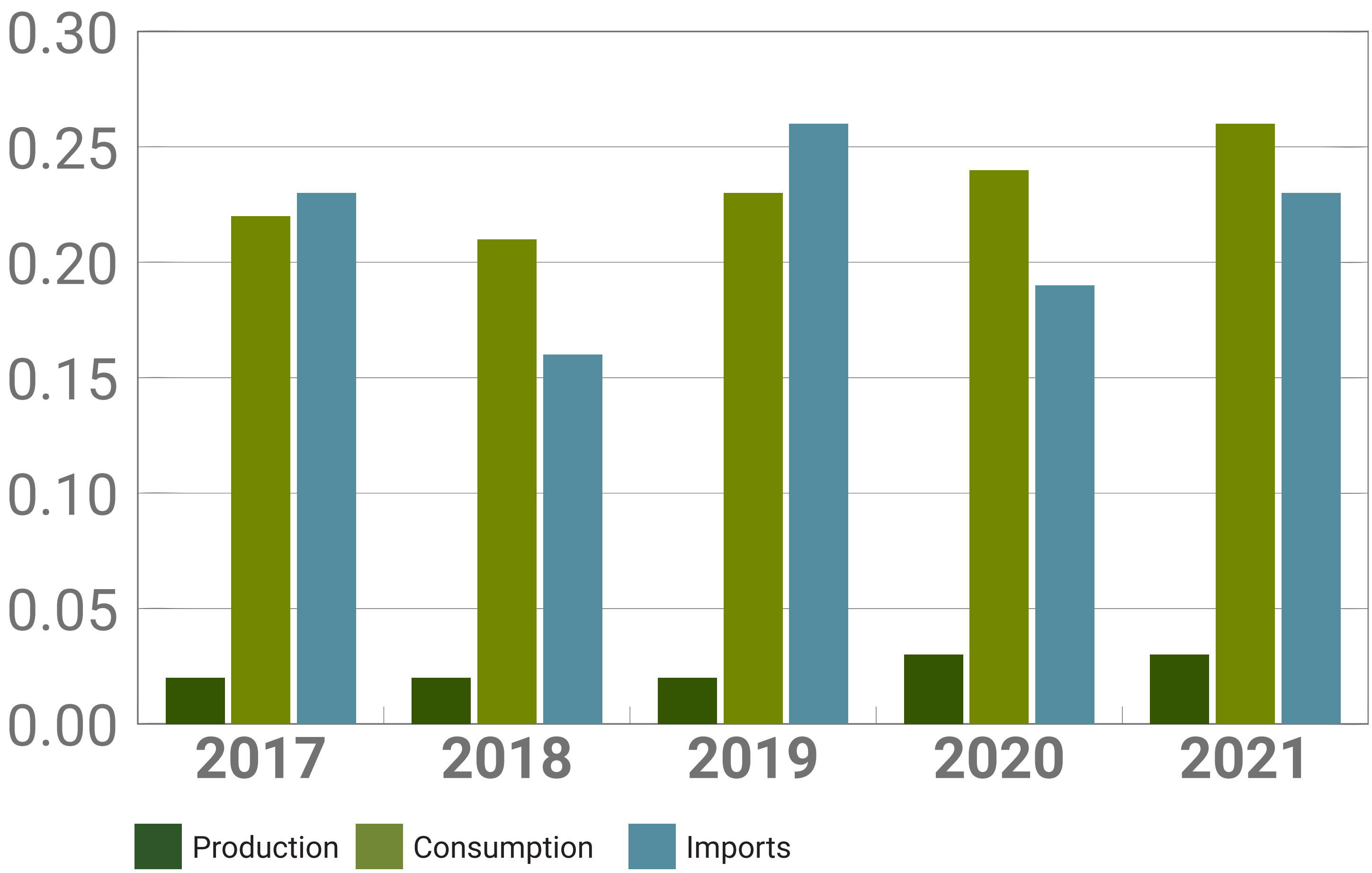


Figure 34. The Gambia rice production, consumption, and imports, 2017–2021.

C. Summary of recent rice sector policies in The Gambia

- ***Import licenses:*** In March 2021, The Gambia announced that importers of necessary goods, such as rice, would need to obtain import licenses from the Ministry of Trade, Industry, Regional Integration, and Employment starting from 1 May 2021 (FAO 2021).
- ***Price controls, commercial practices, re-export ban:*** The Gambia implemented the Essential Commodities Emergency Powers Regulations in March 2020. Under these regulations, the prices of essential goods (such as rice) were frozen at their 18 March 2020 levels. Anyone who violated these provisions would face fines and penalties. Furthermore, hoarding, exporting, and making the sale of essential commodities conditional on the purchase of other products were strictly forbidden. These measures will be enforced as long as there is a state of public emergency in the country (FAO 2020).
- ***Import tariff:*** In December 2017, The Gambia declared that it was lifting the 15% import duty on rice until 2020. This decision took effect from 1 January 2018 (FAO 2017).
- ***National Rice Strategy:*** In 2014, The Gambia created its NRDS 1 plan with the goal of achieving rice self-sufficiency by 2024 through the CARD initiative. In addition, the Vision 2016 program was implemented with the objective of achieving self-sufficiency by 2016 by producing 525,000 MT of rough rice. The NRDS 2 developed in 2022 aims at producing 359,147 MT (milled rice equivalent), based on projected population figures and current per capita consumption of 117 kg annually, to attain rice self-sufficiency by 2030 (The Republic of the Gambia Ministry of Agriculture 2022).

GHANA

A. Rice market overview: Rice production in Ghana has increased steadily over the years, with an average yearly growth rate of about 10%. During this time, Ghana has been able to produce an average of 618,000 MT of rice annually. However, consumption has also risen significantly, with an average growth rate of 8% and reaching 1.46 million MT on average. Unfortunately, production has not been able to keep up with the increase in consumption, resulting in an average importation of 898,000 MT each year, with an average growth rate of 4% per annum. Despite this, Ghana has maintained an average self-sufficiency rate of 46% during the same period. Ghana's rice production and imports make up 3.08% and 5.9%, respectively, of sub-Saharan Africa's total production and imports (USDA 2024).

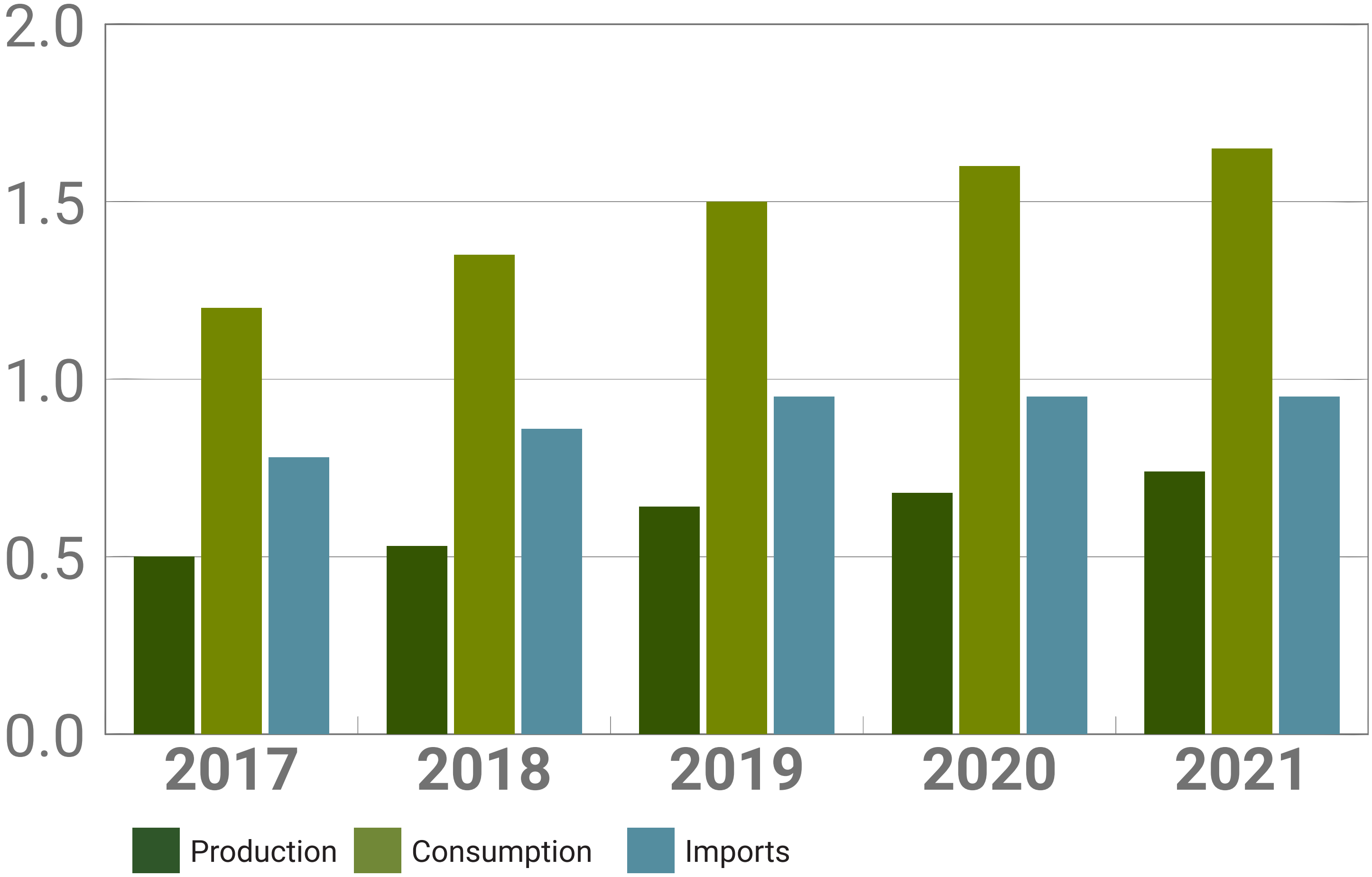


Figure 35. Ghana rice production, consumption, and imports, 2017–2021.

B. Key policy issues: Rice plays a crucial role in Ghana in terms of food security, agricultural productivity, and the economy. Increasing domestic rice production, improving the adoption of improved agricultural technologies, enhancing efficiency in rice farming, and understanding preferences for rice varieties are key factors in ensuring the importance of rice in Ghana. In addition, addressing environmental sustainability and decreasing reliance on rice imports are important considerations for the future of the rice sector in Ghana (Donkor, Matthews, and Ogundeji 2018; Anang 2018; Asravor et al. 2019).

C. Summary of recent rice sector policies in Ghana

- ***Customs valuation, import tariffs:*** Ghana announced in November 2022 that it would eliminate the 30% discount rate that was applied to the benchmark import values of 43 commodities, including rice, starting from 1 January 2023 (FAO 2022a).
- ***Import restrictions:*** In accordance with the directives of the Ghanaian president in October 2022, the Bank of Ghana suspended foreign exchange support for the importation of several non-essential commodities, including rice. This move aimed at reviewing the management of the country's foreign exchange reserves and decreasing reliance on imports. The suspension was to be in effect until May 2023, after which it would be subject to review (FAO 2022b).
- ***Export ban:*** In March 2022, Ghana banned exports of rice, effective from 1 April 2022 and for six months (FAO 2022c).
- ***Production support:*** In March 2017, Ghana introduced the Planting for Food and Jobs campaign as part of its annual budget. This campaign has two main objectives: to create 750,000 jobs in the agricultural sector and to boost the production of rice, maize, soybeans, sorghum, and vegetables. To achieve these goals, the campaign focuses on increasing rice production by 49% by distributing seed, fertilizer, and extension services to farmers, as well as implementing improved marketing strategies. Another key aspect of the campaign is the rehabilitation of small- and medium-scale irrigation schemes through the One Village, One Dam initiative, which will enhance irrigation capacity. In addition, the Agriculture Mechanization Service Enterprise Centres will continue to promote farm mechanization, and subsidies for fertilizer will be made available (FAO 2017).
- ***National Rice Strategy:*** The CARD initiative led to the development of NRDS 2 in the country, which is based on NRDS 1 and has set targets for 2030. These targets include a 100% increase in production, a 37% increase in area, and a 46% increase in yield. In April 2014, Ghana announced its aim to achieve complete self-sufficiency in rice by 2018, with a targeted rough rice production of 1.2 million MT. This required an annual production growth rate of 20% over the coming years. The strategy also included ongoing support programs as well as efforts to boost the production and distribution of improved seeds, expand irrigation systems, and develop water-harvesting structures, among other measures (Coalition for African Rice Development 2024).

GUINEA

A. **Rice market overview:** From 2017 to 2021, Guinea's rice production saw a rise from 1.45 million MT to 1.92 million MT, with an annual growth rate of 7%. The country's average annual production was 1.71 million MT. However, the consumption rate also increased by 7% annually, with an average of 2.32 million MT per year. This ranged from 2.05 million MT in 2017 to 2.70 million MT in 2021. Despite this, Guinea has maintained an impressive average self-sufficiency rate of 74%, which is among the highest in West Africa. The country's production contributes to about 8% of sub-Saharan Africa's production. The average volume of imports was 754,000 MT, which accounts for roughly 5% of imports in sub-Saharan Africa and 1.2% worldwide (USDA 2024).

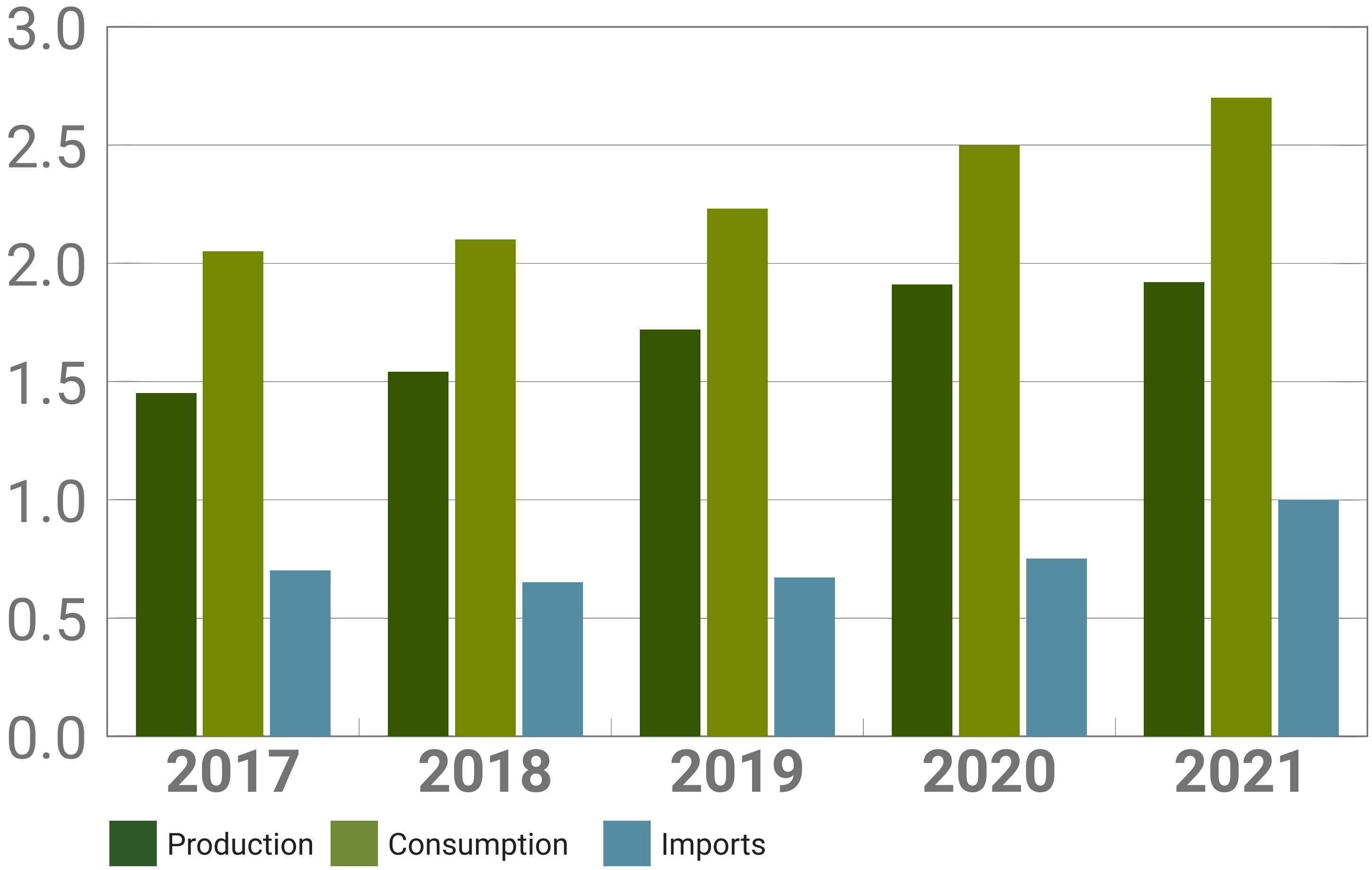


Figure 36. Guinea rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** In Guinea, rice is incredibly vital. It is a staple food that is consumed every day, provides food security, and is a significant contributor to the country's economy. Rice farming has social, cultural, and environmental implications, thus emphasizing the importance of sustainable production practices (Ministry of Agriculture and Livestock 2009). Rice policies should make efforts to improve rice production efficiency, encourage sustainable farming practices, and ensure equal access to opportunities for better livelihoods from rice production. These measures are essential for the development and well-being of Guinea's population.

C. Summary of recent rice sector policies in Guinea

- ***Price controls:*** Starting in January 2023, Guinea implemented price limits on certain food items in the Grand-Conakry region until 30 June 2023. The maximum retail price for 25% broken white rice was set at GNF 5,300 (equivalent to USD 0.58) per kg, whereas 25% broken aromatic rice was priced at GNF 6,000 (USD 0.66) per kg. Similarly, the price ceiling for 5% broken parboiled rice was also set at GNF 6,000 (USD 0.66) per kg (FAO 2022a).
- ***Import plan:*** Official statements made to the press indicated plans to import 60,000 MT of rice in November 2022 to control rising domestic prices (FAO 2022b).
- ***Price controls:*** In April 2022, a retail price ceiling of GNF 265,000 (USD 0.58 per kg) was set for a 50-kg bag of 25% broken rice and GNF 300,000 (USD 0.66 per kg) for a 50-kg bag of 5% broken rice (FAO 2022a).
- ***Export restrictions:*** In April 2022, Guinea required prior authorization from the Ministry of Trade, Industry and Small- and Middle-Sized Businesses for foodstuff exports, including rice (FAO 2022c).
- ***Customs valuation, import tariffs:*** Guinea announced that it would impose customs duties on all imported rice for six months, with a value of USD 100 per MT, in order to stabilize consumer prices. This went into effect in March 2022 (FAO 2022d).
- ***Import requirements, fees:*** In June 2020, Guinea announced its second phase of economic response to the COVID-19 pandemic. As part of this plan, the country decided to waive the Descriptive Import Application fees for 25% broken rice and other food staples from 1 June to 31 December 2020. Guinea also aimed to create a strategic food reserve to handle emergencies, particularly during the lean season (FAO 2020).
- ***Price controls:*** In August 2017, Guinea established a maximum retail price for fully broken rice at XOF 16,500 per 50 kg in Bissau (equivalent to USD 0.59 per kg) and XOF 17,000 per 50 kg (equivalent to USD 0.61 per kg) in other areas of the country. The government reportedly implemented additional measures to curb the rise in domestic rice prices, such as offering temporary tax relief (FAO 2017).
- ***National Rice Strategy:*** From 1 to 5 July 2019, Guinea finalized its NRDS II planned for the period 2020–2030. The NRDS II aimed to produce almost 5 million MT of rough rice by 2030 by cultivating rice on an estimated area of 1,442,858 hectares. Out of this area, 200,000 ha were to be used for irrigated rice cultivation, 220,000 ha for lowland and mangrove rice cultivation, and 1,014,286 ha for rainfed rice cultivation (CARD 2019).
- ***ECOWAS common external tariffs:*** Since December 2019, the government has been enforcing ECOWAS'S common external tariff, which imposes a 10% customs duty on milled rice. Moreover, additional taxes are levied on milled rice, including a 1% statistical fee and a 1.5% solidarity community levy. Previously, imported rice was exempt from customs duties and taxes were only 2.75%, which encouraged importers and kept import prices lower than those of local rice (Bousso 2022).

GUINEA-BISSAU

A. **Rice market overview:** From 2017 to 2021, Guinea-Bissau witnessed a steady increase in rice production, with an annual growth rate of 7%. The country's average annual production of rice stood at 113,000 MT, which is equivalent to approximately 50% of the country's yearly requirements during the period under review. Despite the average yearly consumption of 235,000 MT of rice, there was a decrease of almost 2% annually. Only 80,000 MT of imports were recorded in 2021 compared with 130,000 MT in 2017. This decline in consumption, coupled with a sustained increase in rice production, was instrumental in boosting the country's self-sufficiency rate. From a modest 43% in 2017, the self-sufficiency rate rose significantly to 60% in 2021. It is worth noting that, although this increase is significant, Guinea-Bissau still remains one of the smallest rice producers in sub-Saharan Africa, contributing less than 1% of the total production. Nonetheless, the consistent growth in rice production is a positive development for the country and bodes well for the future (USDA 2024).

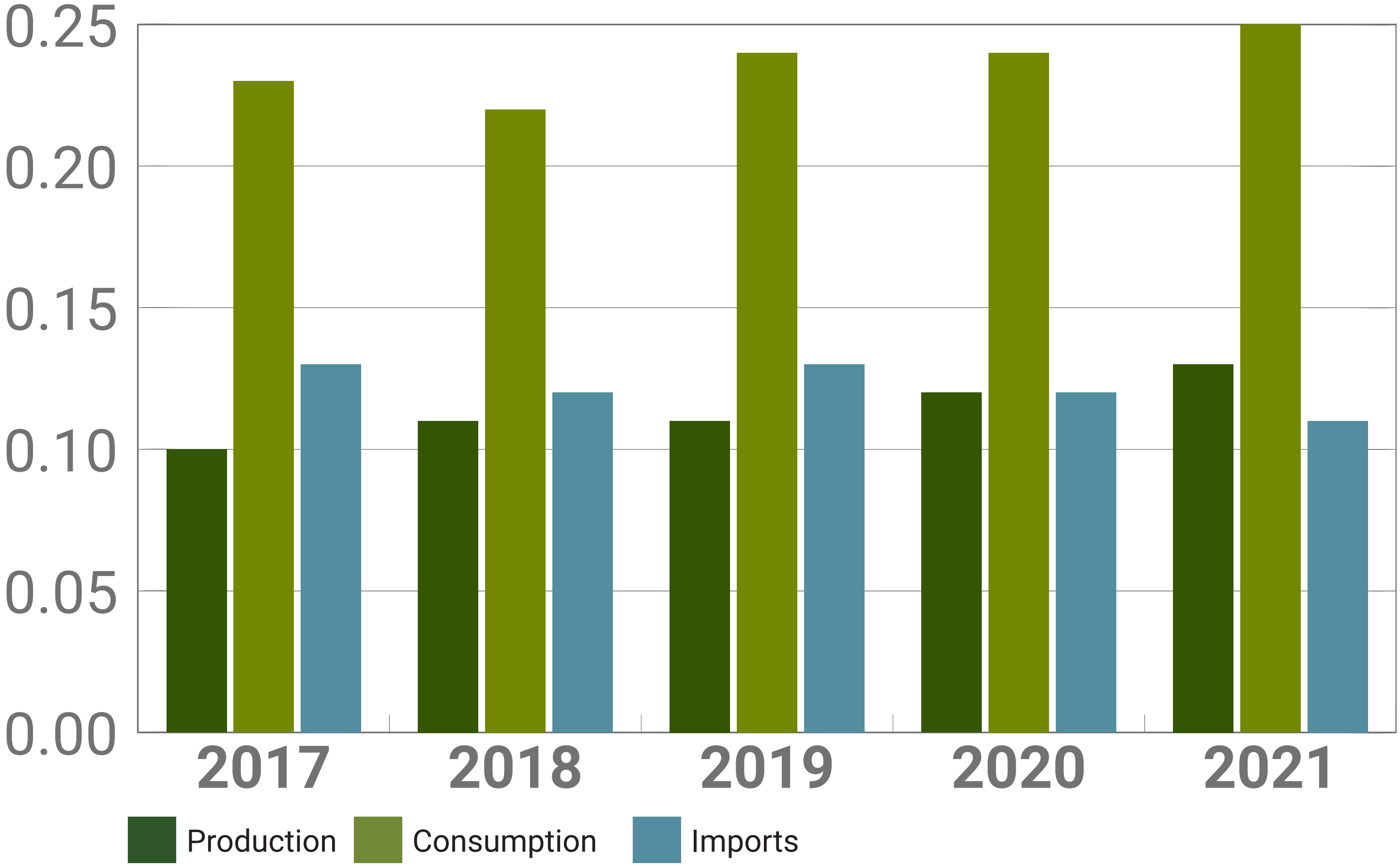


Figure 37. Guinea-Bissau rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Rice occupies a prominent place in the dietary habits of Bissau-Guineans. In fact, the share of rice in food intake is 75%. With a population of 1,500,000 and per capita consumption of 130 kg annually, Guinea-Bissau is one of the largest rice consumers in the West African sub-region (Ministère de l'Agriculture et de Développement Rural 2015). Rice provides essential nutrients and energy, and its availability and affordability are crucial for ensuring food security in the country. Although other agricultural products such as cashew nuts also contribute to the economy, rice production needs to keep its increasing trend to respond to the potential growing government needs.

C. Summary of recent rice sector policies in Guinea-Bissau

- ***Price controls:*** Guinea-Bissau decreased the cost of a 50-kg bag of 100% broken rice from XOF 22,500 (USD 0.72 per kg) to XOF 17,500 (USD 0.56 per kg) in August 2023 (FAO 2023).
- ***Price controls:*** In September 2022, Guinea-Bissau set a new maximum price for 100% broken rice sold at retail at XOF 19,000 per 50 kg (USD 0.57 per kg) (FAO 2022).
- ***Price controls:*** In August 2017, Guinea-Bissau set a maximum retail price of XOF 16,500 for every 50 kg of fully broken rice in Bissau, which is equivalent to USD 0.59 per kg. For other regions of the country, the price was established at XOF 17,000 per 50 kg, which is equivalent to USD 0.61 per kg. To prevent an increase in local rice prices, the government also implemented additional measures, such as offering temporary tax relief (FAO 2017).
- Guinea-Bissau created its NRDS 1 in 2015, as part of the CARD initiative to achieve rice self-sufficiency. The plan covers the period from 2015 to 2025, with a goal of producing 500,000 MT of rough rice by 2030 to meet the increasing demand. Achieving this objective for NRDS 2 will require strong political commitment and the collective efforts of all stakeholders, including donors, farmer organizations, NGOs, and the Ministry of Agriculture (CARD 2019).

KENYA

A. Rice market overview: In sub-Saharan Africa, Kenya's annual rice production is 74,000 MT, which amounts to less than 1% of the total production (milled equivalent). Kenya fulfills approximately 15% of its consumption needs, which are 696,000 MT annually. Consumption has increased by 1% on average each year, resulting in a slight improvement in the self-sufficiency rate, which increased from 8% in 2017 to 12% in 2021. Because of this, Kenya's imports are relatively significant, with an average of 605,000 MT per year, which represents approximately 4% of sub-Saharan Africa's imports. Rice is the third most important crop in Kenya after maize and wheat (Namu et al. 2018). Rice is mainly grown in Central (Mwea) and Nyanza (Ahero, West Kano, Migori, and Kuria) regions of Kenya. Improving domestic rice production is crucial for national food security (Watanabe et al. 2021).

B. Key policy issues: Kenya has a notable disparity between the demand for and production of rice, resulting in a reliance on imports and government support to reduce tariffs. Improving domestic rice production is vital for enhancing food security in the country. Nonetheless, smallholder farmers encounter obstacles such as insufficient access to resources and low productivity. Despite these challenges, prospects exist to meet the demand for rice in Kenya through government support and the implementation of upgraded technology (Atera, Onyancha, and Majiwa 2018).

C. Summary of recent rice sector policies in Kenya

- ***Import quota:*** Kenya granted permission for the importation of 600,000 MT of Grade 1 milled rice without import duties in December 2022. These volumes of rice were scheduled to enter the country from 1 February to 6 August 2023 (Atera, Onyancha, and Majiwa 2018).
- ***Import tariff:*** In June 2017, Kenya decided to extend the exemption on the import duty for rice,

which was set at 75% under the common external tariff of the East African Community. The import tariffs for various types of rice, including rough, husked, milled, and broken rice, would remain at 35% (or USD 200 per MT, whichever is higher) for one year starting from 1 July 2017 (FAO 2017a).

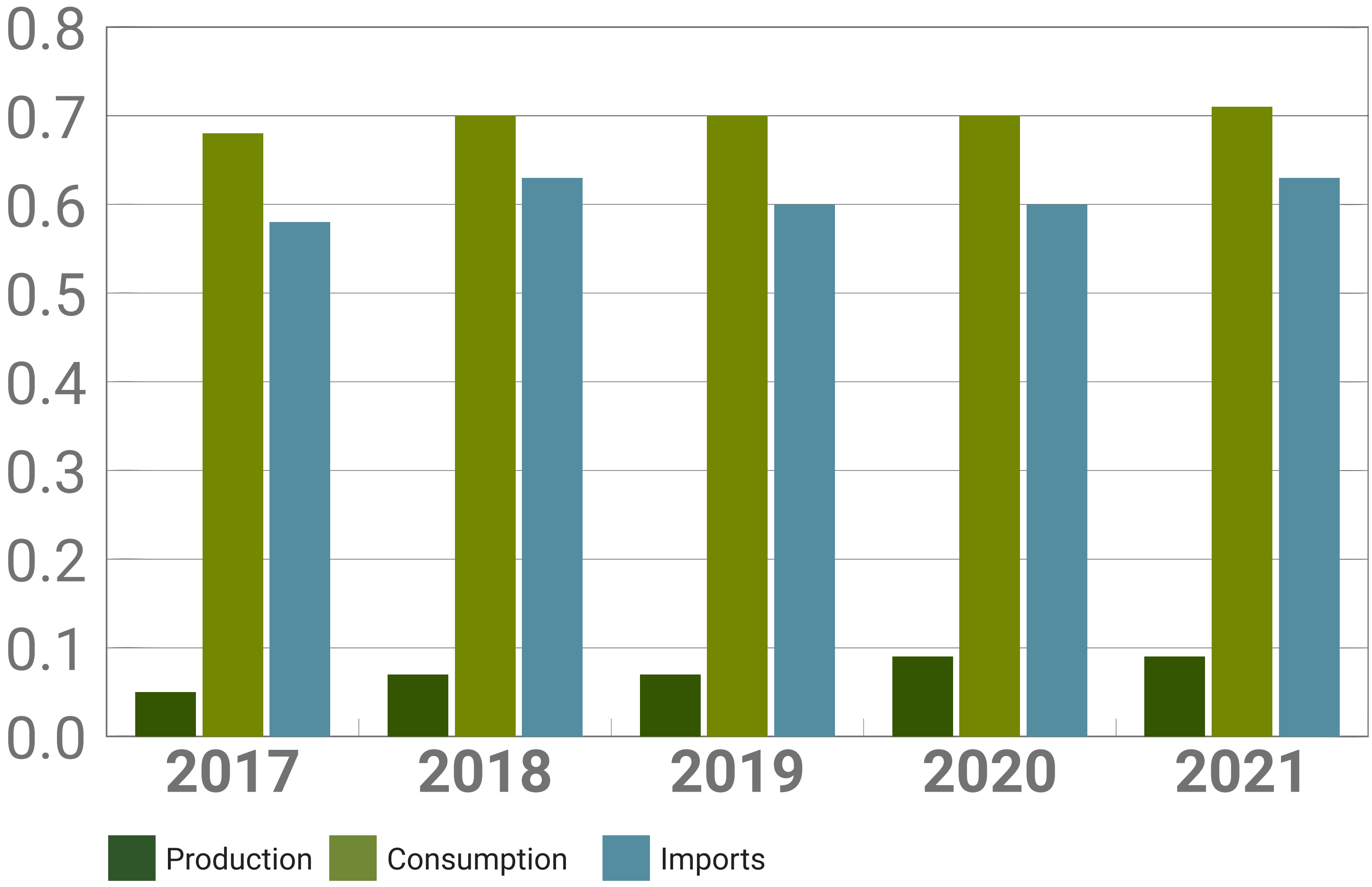


Figure 38. Kenya rice production, consumption, and imports, 2017–2021.

- ***Import tariff:*** An exemption to the 75% import duty on rice was extended under the CET of the East African Community. This meant that rough, husked, semi-/wholly milled rice, and broken rice would still be subject to a 35% tariff (or USD 200 per MT, whichever is higher) for one year starting on 1 July 2018 (FAO 2018a).
- ***Import tariff:*** Kenya extended the exemption of the CET of the East African Community on rice imports until 30 June 2020. This meant that imports of rough, husked, semi-/wholly milled rice, and broken rice would still be charged a 35% import tariff (or USD 200 per MT, whichever is higher) instead of the 75% (or USD 345 per MT) that would be charged under the CET (FAO 2019).
- ***Import tariff:*** In June 2020, Kenya extended the exemption of the CET on rice imports for another year within the East African Community. As a result, imports of rough, husked, semi-/wholly milled rice, and broken rice would still have a 35% import tariff (or USD 200 per MT, whichever is higher) instead of the 75% tariff (or USD 345 per MT) under the CET (FAO 2020).
- ***Import tariff:*** In June 2021, Kenya decided to extend the exemption on duty for rice for one more year. This meant that imports of various rice types, including rough, husked, semi-/wholly milled rice, and broken rice, would continue to be charged a 35% import tariff (or USD 200 per

MT, whichever is greater), instead of the 75% tariff (or USD 345 per MT) that would apply under the CET of the East African Community. This exemption was in place until 30 June 2022 (FAO 2021).

- ***Import tariff:*** In June 2022, Kenya extended the suspension of duty remissions on rice for an extra year. This meant that the import tax on rough, husked, semi-/wholly milled rice, and broken rice would continue to be 35% (or USD 200 per MT, whichever is higher) until 30 June 2023. This was in contrast to the 75% tariff (or USD 345 per MT) that would normally be imposed under the CET of the East African Community (FAO 2022).
- Budgetary allocations, production support: Kenya set a goal to achieve self-sufficiency in rice, maize, and potatoes, along with other products, as part of its Big Four economic agenda. Specifically, the aim was to increase local rice output to 400,000 MT by 2022. To achieve this, the government planned to use public-private partnerships to cultivate 700,000 acres of currently unused land for maize, rice, potatoes, cotton, and other crops. It also planned to expand irrigation coverage, diminish postharvest losses, and provide smallholders with access to basic inputs and credit through warehouse receipts and the commodity fund. In addition, the government aimed to enhance the Strategic Food Reserve and upscale crop insurance against natural disasters through public-private partnerships (FAO 2018b).
- ***Production support:*** In June 2017, Kenya announced that it would be waiving KES 100 million (USD 0.9 million) worth of service charges for rice farmers in the Mwea Irrigation Scheme. This decision was made to help them cope with the losses they experienced in 2016 due to a severe drought (FAO 2017b).
- ***National Rice Strategy:*** In 2020, Kenya put into action its NRDS 2 plan with the goal of increasing rough rice production from 156,000 MT in 2018 to 1.3 million MT by 2030. The plan focused on prioritizing key tasks such as commercializing rice production, processing, adding value to it, and using market-driven approaches. To achieve these objectives, all stakeholders, including public-/private-sector partnerships, will work together (CARD 2024).

LIBERIA

A. **Rice market overview:** Liberia produced an average of 167,000 MT of milled rice equivalent per year. However, this amount satisfies only 34% of the country's annual consumption needs. The consumption rate itself averages 490,000 MT per year. This means that a significant gap exists between production and consumption, which has grown at an annual average rate of only 1% over the years. To meet this shortfall, Liberia imports an average of 316,000 MT of rice per year. This makes up approximately 2% of sub-Saharan Africa's total rice imports (USDA 2024).

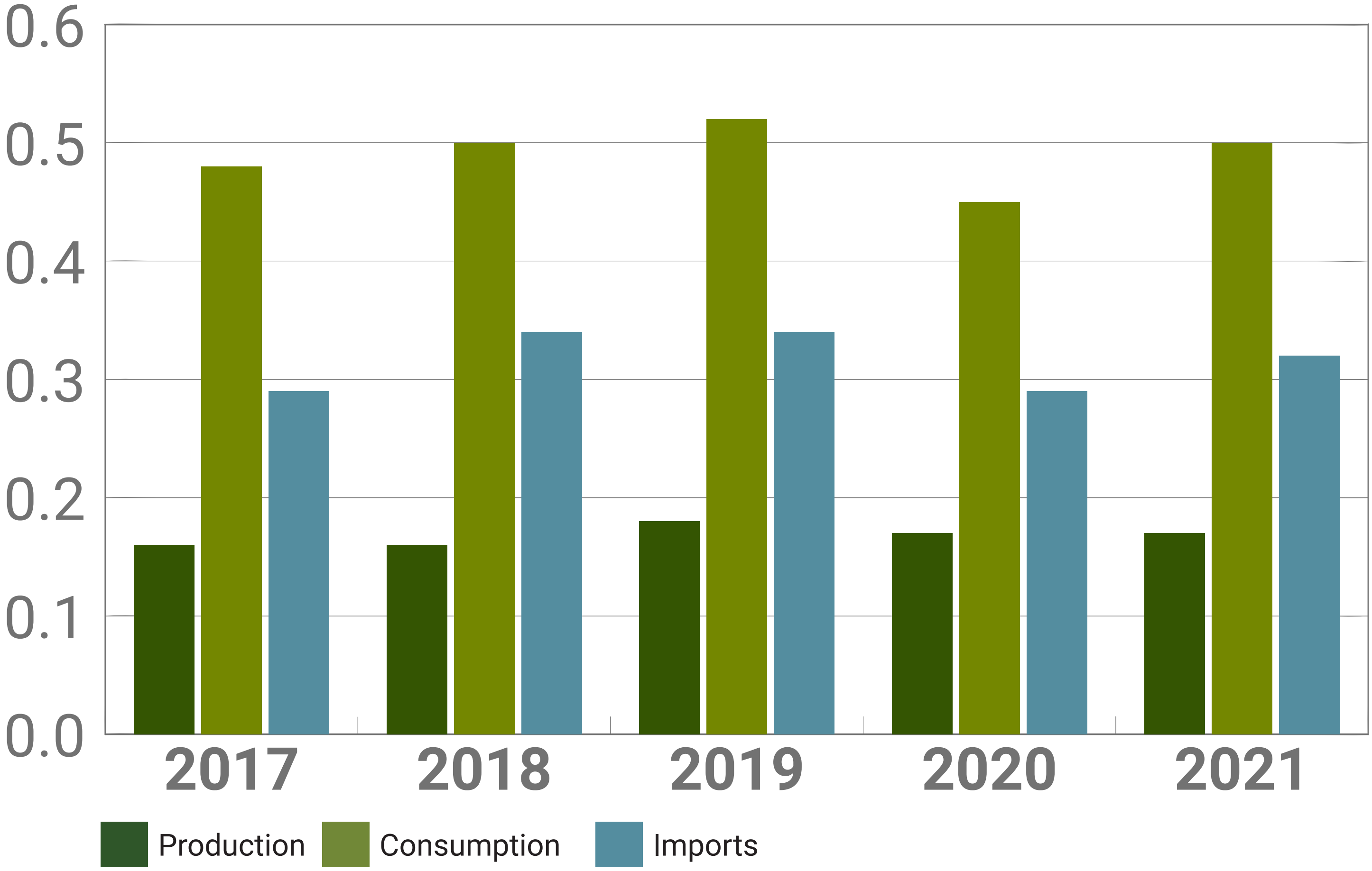


Figure 39. Liberia rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Rice is a major grain crop in Liberia, primarily used for human consumption. It accounts for approximately 25% of cultivated land during the agricultural season, making a significant economic impact. To improve productivity, it is recommended to optimize yield potential per unit area, develop new high-yielding varieties that can withstand biotic and abiotic stressors, improve cultural techniques, and update the package of recommendations (Tokpah, Mulbah, and Sumo 2022). Recent research has revealed that Liberia spends more than one-third of its national budget on importing rice, which amounts to a staggering USD 250 million per annum. To combat food insecurity in the country and bring about a long-term solution, it is imperative to focus on the following three key areas: (1) enhancing the capacity for mechanized farming; (2) establishing government-operated rice farms in every county or, at the very least, in each of the four geographic regions; and (3) empowering local farmers (Sumaworo 2022). The government must address challenges such as price volatility, especially during short periods such as the Ebola epidemic of 2014. During that time, the cost of domestic rice rose by 30%, revealing the vulnerability of the rice market to external shocks (Fan 2020). It is crucial to implement measures that ensure food security and stabilize prices during crises. In recent years, Liberia has relied heavily on rice imports and import tariff is the main policy instrument used by Libera to regulate the rice market and to maintain a steady supply of rice at affordable prices for domestic consumers.

C. Summary of recent rice sector policies in Liberia

- ***Import tariffs:*** In January 2023, Liberia immediately renewed the suspension of import tariffs on various agricultural inputs, such as those for sowing rice (FAO 2023a).
- ***Import tariffs:*** In January 2023, Liberia renewed the suspension of import tariffs on semi-milled, wholly milled, and broken rice (FAO 2023b).
- ***Consumer prices, value-added taxes:*** Starting from 3 December 2022, Liberia raised the cost of a 25-kg bag of rice from USD 14 to USD 17.50 (or the equivalent in Liberian dollars) for retail purchases and from USD 13.50 to USD 17 (or the equivalent in Liberian dollars) for wholesale purchases (FAO 2022).
- ***Import tariff:*** In May 2021, Liberia renewed the import tariff suspension on semi-/wholly milled and broken rice, with immediate effect (FAO 2021).
- ***Production support, finance, and credit facilities:*** In March 2020, Liberia launched a three-year cash collateral scheme worth USD 700,000 to assist millers in buying and processing rice from smallholders (FAO 2020a).
- ***Import tariff:*** In February 2020, the country renewed duty exemptions on imports of semi-/wholly milled and broken rice, with immediate effect (FAO 2020b).
- ***Import tariff:*** In October 2018, Liberia decided that imports of semi-/wholly milled and broken rice would remain exempt from import duties, with immediate effect (FAO 2018).
- ***National Rice Strategy:*** The NRDS II aims to build a stable and functioning rice sector that is capable of increasing rice production to 1.3 million MT by 2030 through expansion of rice farming and robust engagement of the private sector (Ministry of Agriculture 2023).

MADAGASCAR

A. **Rice market overview:** Madagascar is a highly significant country when it comes to rice production and consumption in sub-Saharan Africa. On average, the country produces 13% of the region's rice. However, the production figures have experienced fluctuations over the years. On average, the country's rice production was 2.6 million MT from 2017 to 2021. In terms of consumption, Madagascar records an average consumption of 3.1 million MT of rice per year. This consumption rate has resulted in imports of 520,000 MT annually over the period. These imports represent only 3% of the total imports in sub-Saharan Africa.

B. **Key policy issues:** Rice is the primary food in Madagascar. In 2018, per capita annual rice consumption was estimated at 157 kg, making Madagascar one of the countries with the highest rice consumption per capita in the world (Nikiema et al. 2023). Madagascar has relied on rice imports to meet domestic consumption demand, indicating a gap between production and consumption. Addressing the constraints on rice cultivation, such as declining yields due to eroding soil fertility, is essential to enhance productivity and achieve rice self-sufficiency (Dröge et al. 2022). Promoting sustainable production practices and improving the governance of agriculture and rice trade are crucial for the long-term sustainability of the rice sector (Tey et al. 2020). Furthermore, policy interventions related to infrastructure development, access to credit, and technology adoption can play a crucial role in addressing the challenges and promoting the development of the rice value chain in Madagascar.

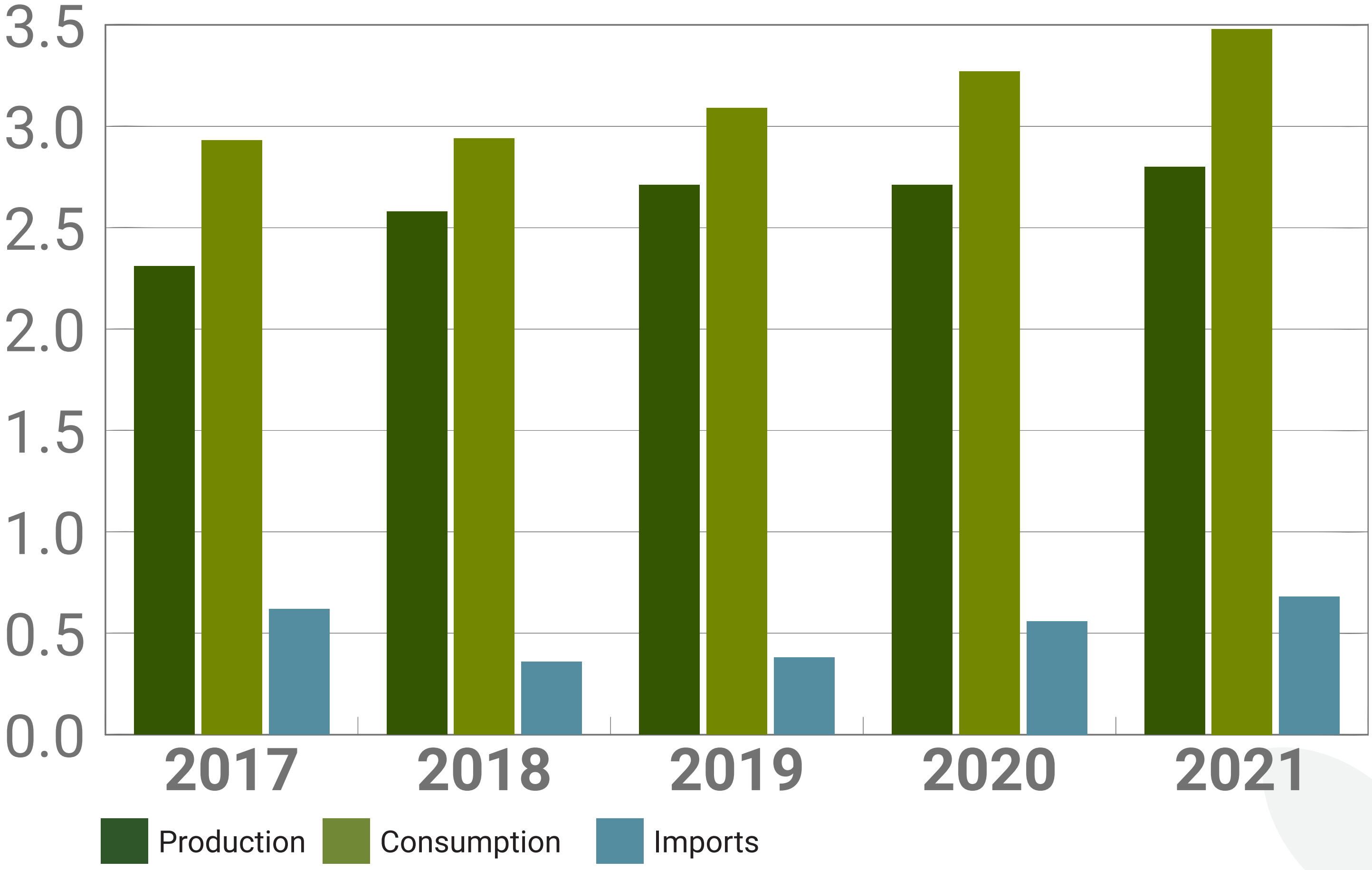


Figure 40. Madagascar rice production, consumption, and imports, 2017–2021.

C. Summary of recent rice sector policies in Madagascar

- ***Price controls:*** Starting in April 2022, Madagascar implemented a maximum retail price for 25% broken imported rice in the Analamanga region. The price limit was set at MGA 2,200 (USD 0.51) per kg. For other regions in Madagascar, the price cap would range from MGA 2,150 to 2,500 (USD 0.49–0.58) per kg. These price limits were to be in effect for three months and might be subject to renewal (FAO 2022).
- ***Price controls:*** In August 2021, Madagascar made an agreement with sector representatives to establish a maximum retail price for locally produced food items for a six-month time frame. For rice, the price ceiling was set at MGA 2,300 (USD 0.58) per kg (FAO 2021a).
- ***Consumer prices:*** Starting in January 2021, Madagascar initiated a program to assist consumers in dealing with rising domestic prices by distributing rice imported by the State Procurement of Madagascar. As part of this initiative, households were able to purchase up to 5 kg of state-imported rice at a cost of MGA 1,500 (USD 0.39) per kg. Subsequently, the price of state-imported rice declined to MGA 1,200 (USD 0.31) per kg through a series of actions (FAO 2021b).
- ***Price controls:*** In December 2020, Madagascar imposed a maximum retail price of MGA 1,925 (USD 0.50) per kg on imported 25% broken rice (FAO 2020a).
- ***Food subsidies:*** In March 2020, Madagascar unveiled a Social Emergency Plan to support vulnerable households affected by COVID-19 quarantine measures. As part of this plan, the country announced that it would distribute food assistance in the form of rice, sugar, and other necessities starting on 26 March. An additional announcement declared that food kits containing rice, oil, sugar, and other items would be given to 240,000 at-risk households in Antananarivo and Toamasina (FAO 2020b).
- ***Price controls:*** In March 2020, Madagascar set a ceiling on rice prices at MGA 1,800 (USD 0.47) per kg to combat sudden spikes in local quotations due to COVID-19 (FAO 2020c).
- ***Production support:*** Madagascar announced plans in November 2019 to establish Dokany Mor throughout the country. This initiative was designed to provide agricultural equipment, seeds, and fertilizer support to producers at subsidized prices, with the aim of achieving food self-sufficiency. The plan also included the rehabilitation of 100,000 ha for rice cultivation, of which the state had already rehabilitated 35,000 ha. In response to the COVID-19 emergency, the government implemented a ceiling of MGA 1,800 (USD 0.47) per kg on rice prices to counter a sudden increase in local quotations (FAO 2019).
- ***National Rice Strategy:*** The NRDS-II revision process began in 2021 with the aim of gradually increasing rice production. By 2024, the target was to produce 6 million MT of rough rice, followed by 8.8 million MT in 2027 and 10.7 MT in 2030. To achieve this, all partner organizations involved must support the implementation efforts to strengthen the technical and operational capacities of stakeholders. This involves developing rice production sites such as irrigation schemes and plots; mobilizing production factors such as certified seed, fertilizer, and agricultural equipment; as well as reinforcing the processing and marketing of production (CARD 2022).

MALI

A. **Rice market overview:** The rice sector in Mali plays a critical role in the country's agricultural industry, with self-sufficiency exceeding 90% in 2018. However, from 2019 to 2021, there has been a noticeable decline in production, averaging about 3% annually, which has resulted in an average volume of 1.88 million MT (white rice equivalent), representing 9.6% of sub-Saharan Africa's production. On the contrary, consumption has been on a steady rise from 2017 to 2020, increasing by an average of 4% annually, which has resulted in an average consumption of 2.3 million MT. Unfortunately, this increase in consumption led to a drop in the self-sufficiency rate from 94% in 2018 to 66% in 2021. To make up for the shortfall in production, Mali has had to resort to importing rice. On average, Mali has imported 386,000 MT annually, with a peak of 800,000 MT in 2021. Despite this, it is noteworthy that Mali's imports represent only 2.06% of sub-Saharan Africa's imports. Therefore, there is still significant room for improvement in the rice sector to increase production and decrease import dependency (USDA 2024).

B. **Key policy issues:** Mali has several concerns regarding rice policies that involve production, trade, quality, and sustainability. These issues are affected by climate change, poverty, disease management, market competitiveness, and government policies. One of the most critical policy concerns in the rice sector is the necessity to maintain and raise domestic production to avoid relying on imported rice and bolster food security. To achieve this, dependable methods of water control and soil management must be implemented to enhance rice productivity (Aman et al. 2019). It is important to control and prevent rice blast disease to sustain rice production and ensure food security (Mahamadou et al. 2022). The production of rice in Mali is affected by climate, irrigation practices, and land management. The use of irrigation is essential for rice farming in Mali, as a considerable portion of rice production relies on it. To ensure stable rice production, it is crucial to implement effective climate risk management and sustainable land and water management practices to diminish the impact of hydroclimatic risks (Nkonya et al. 2018; Dossou-Yovo et al. 2018).

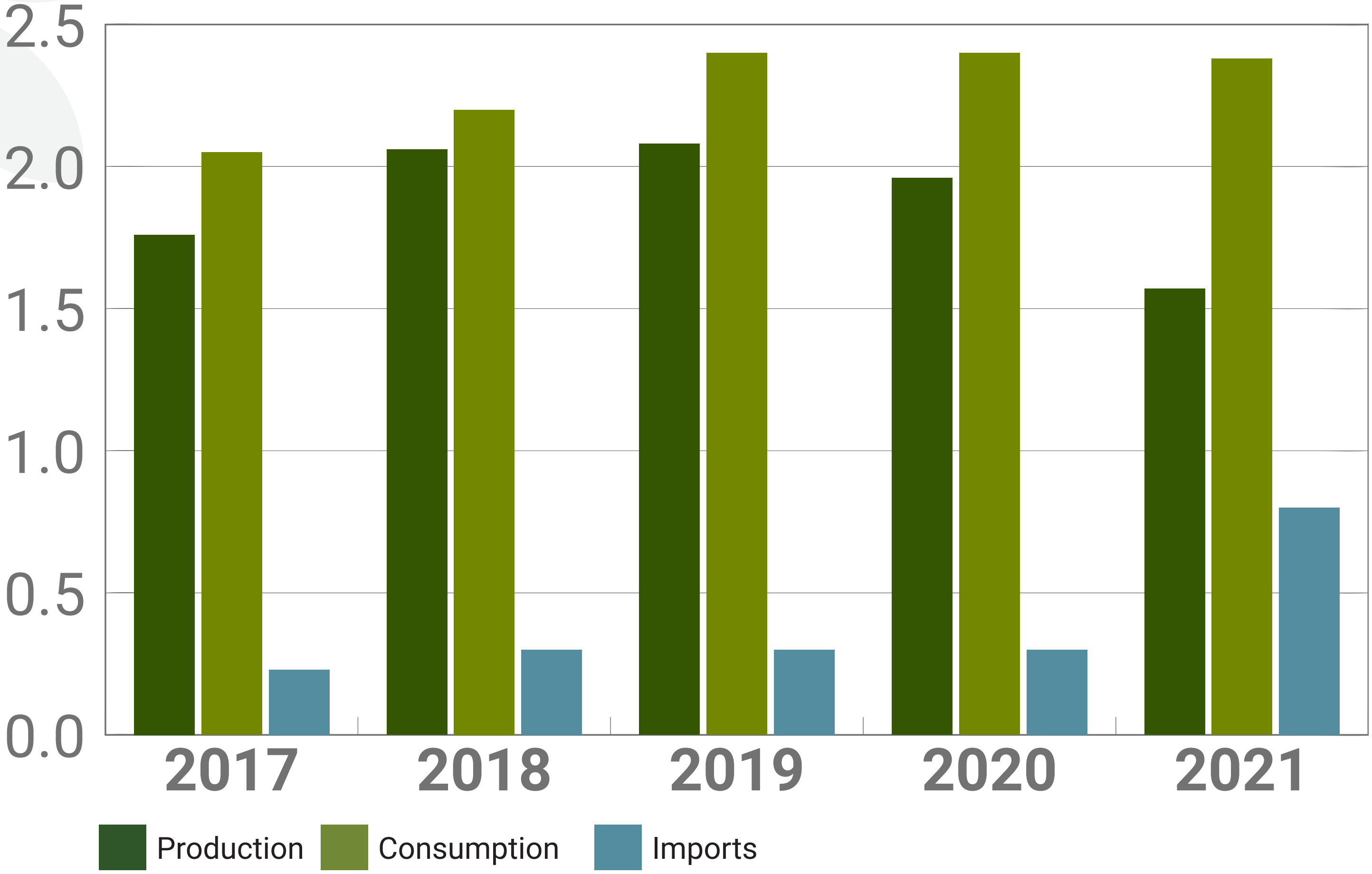


Figure 41. Mali rice production, consumption, and imports, 2017–2021.

C. **Summary of recent rice sector policies in Mali**

- ***Price controls:*** In April 2022, Mali adjusted the retail price ceiling of non-fragrant broken rice to XOF 375 (USD 0.60) per kg (FAO 2022).
- ***Export restrictions and price controls:*** In December 2021, Mali prohibited exports of rice and other cereals until further notice. In November 2021, the government set a XOF 350 (USD 0.56) per kg ceiling on the retail price of non-fragrant broken rice and, in April 2021, a ceiling on the retail price of non-fragrant broken rice of XOF 340 (USD 0.63) per kg. For wholesale prices for this quality of rice, a cap of XOF 290,000 (USD 537) per MT would apply (FAO 2021a, 2021b, 2021c).
- ***Customs valuation, import tariffs:*** In November 2021, Mali decided that it would apply a 50% rebate on the customs duty tax base for up to 300,000 MT of imported rice in order to quell upward increases in consumer prices (FAO 2021d).
- ***Import policy:*** In March 2021, Mali issued statements indicating that, among the various measures being taken by the government to halt increases in prices of basic foodstuffs, it would lower the customs tax base by 25% percent broken rice by 50%. The lower rate would be applicable for 250,000 MT of imported rice (FAO 2021e).
- ***Price controls:*** In March 2020, Mali set ceilings on prices of four foodstuffs. For non-fragrant broken rice, these were set at XOF 350 (USD 0.58) per kg at the retail level and at XOF 300,000 (USD 495) per MT at the wholesale level (FAO 2020).
- ***Import policy:*** In March 2019, Mali decided to lower the customs tax base for 100% broken

rice from XOF 200,000 (USD 344) to XOF 100,000 (USD 172) per MT. The measure was to be effective from 7 March 2019 to September 2019, and was geared toward lowering the retail price of broken rice to XOF 350 (USD 0.60) per kg until 31 December 2019 (FAO 2019).

- ***Price controls:*** In May 2017, Mali set price ceilings on various commodities in order to ensure access to affordable supplies during Ramadan. For imported broken rice, these were set at XOF 330 (USD 0.57) per kg at the wholesale level and at XOF 350 (USD 0.61) per kg at the retail level, effective 22 May 2017 (FAO 2017).
- ***National Rice Strategy:*** By 2025, the NRDS plans to produce 5.5 million MT of rough rice annually. This goal aims to meet domestic demand and transform Mali into a rice-exporting nation. To achieve this vision, the government plans to develop 200,000 hectares of land, resulting in a total of 632,000 ha allocated for rice cultivation (Ministere de l'Agriculture 2016).

MAURITANIA

A. **Rice market overview:** From 2017 to 2021, Mauritania produced an average of 204,000 MT of rice annually, with an average annual growth rate of 8%. The increase in rice production was greater than the increase in rice consumption, which saw an average annual increase of 3%. On average, the country consumed 287,000 MT of rice annually. As a result, Mauritania achieved an average rice self-sufficiency rate of 71%, ranging from 69% in 2017 to 81% in 2019. In addition, the country imported an average of 88,000 MT of rice annually, representing less than 1% of rice imports into sub-Saharan Africa (USDA 2024).

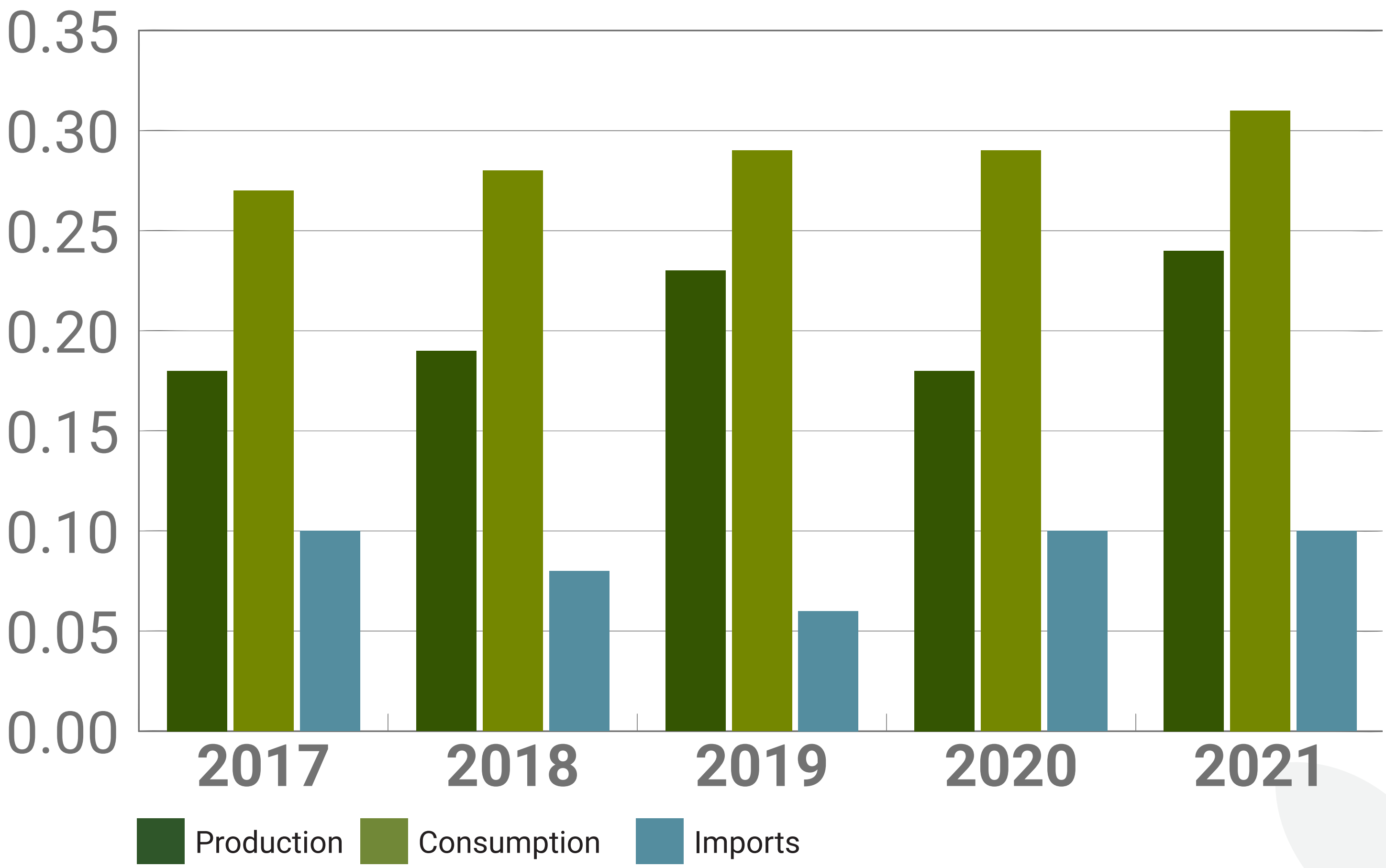


Figure 42. Mauritania rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Since 2011 tangible efforts to boost rice production (and to a much lesser extent wheat production) have borne fruit, which confirms that farmers do indeed respond to suitable policies. Significant progress has been made in rice production, showing that farmers respond rapidly to the appropriate measures. At the beginning of 2018, the state enterprise SONIMEX, which is responsible for importing essential foods for the low-income population, went into liquidation. Government production support for agriculture has taken the form of hydro-agricultural works on behalf of the poorest village communities, as well as subsidized agricultural inputs (in particular, fertilizer and herbicide, and seeds for rice, wheat, and vegetable production). Farmed areas have been rehabilitated and developed, and rough rice processing and local storage have been improved (Mauritania Secretariat 2018).

C. **Summary of recent rice sector policies in Mauritania**

- ***Price controls:*** Mauritania announced new measures to control inflationary pressure by introducing retail and wholesale price ceilings for several basic food products from September 2021. The maximum prices for first-quality imported rice at wholesale and retail levels were MRU 32 (USD 0.87) and MRU 36 (USD 0.98) per kg, respectively. For second-quality imported rice, the price cap was MRU 30 (USD 0.82) per kg for wholesale and MRU 32 (USD 0.87) per kg for retail. The ceiling for locally produced broken rice was MRU 27 (USD 0.74) for wholesale and MRU 30 (USD 0.82) per kg for retail. The maximum price for whole-grain local rice was MRU 25 (USD 0.68) per kg for wholesale and MRU 27.50 (USD 0.75) per kg for retail. These measures were implemented immediately in an effort to control the rising cost of living for the people of Mauritania (FAO 2021).
- ***Import tariff:*** In August 2015, Mauritania announced its plans to support the growth of the local rice industry. To achieve this, the country intended to implement a crop insurance program, buy 40,000 MT of rice from the domestic market (or an equivalent amount of rough rice), and restore 1,500 hectares of land for rice cultivation. These efforts were in addition to the existing support programs and the planned implementation of stronger border protection measures (FAO 2015a).
- ***Production support:*** As part of its 2016 budget, Mauritania raised import duties on different types of rice, including rough, husked, semi- or wholly milled, and broken rice, to 20% in December 2015 (FAO 2015b).

MOZAMBIQUE

A. **Rice market overview:** From 2017 to 2021, Mozambique's rice self-sufficiency rate was only 23%. This meant that the country heavily depended on the external market. Mozambique's rice production averaged 189,000 MT during this time, which is less than 1% of the production rate in sub-Saharan Africa. Despite an 8% increase in production on an annual average, this is still insufficient to meet the consumption rate, which averaged 815,000 MT during the period. Mozambique imported an average of 626,000 MT of rice, which accounted for 4% of rice imports into sub-Saharan Africa (USDA 2024).

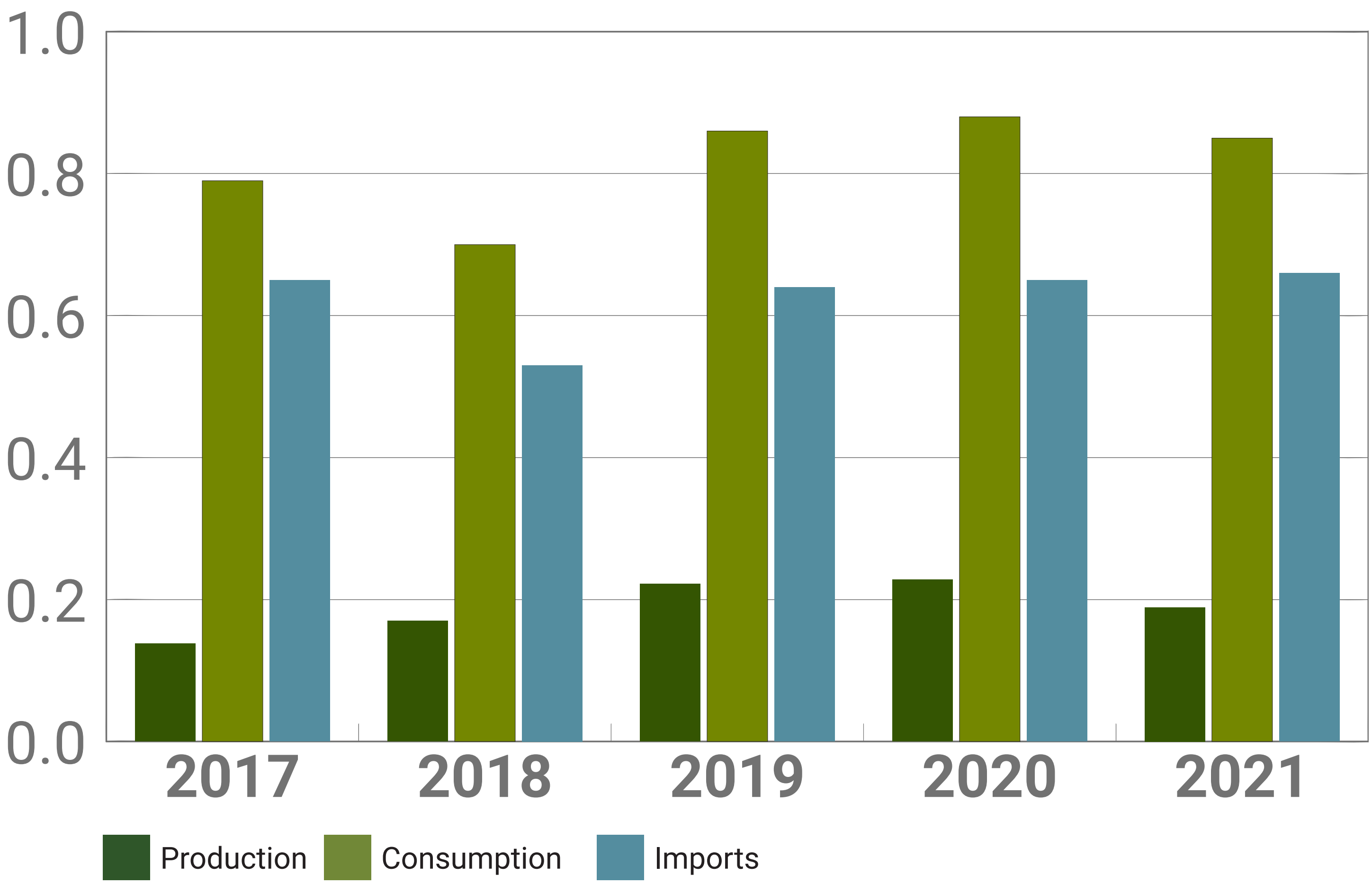


Figure 43. Mozambique rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Food security is a priority for the government of Mozambique. Despite having a small role in SSA in terms of rice production, the country's consumption of rice is rising and much of this demand is now coming from the urban areas. The agricultural sector is dominated by low-productivity subsistence farming, which is in need of new technology and investment. The country still imports a significant share of its food, mainly rice, to supply urban centers. Food habits have changed in Mozambique. As the country develops, demand is increasing for cereals (rice and wheat) and milk products, which are mainly imported (Mozambique Secretariat 2017). Understanding local preferences and investing in value chain upgrading is essential to achieve self-sufficiency, as in many SSA countries (Arouna et al. 2021).

C. **Summary of recent rice sector policies in Mozambique**

- ***Rice seed value chain development:*** The Seed Act serves as the basic legal instrument that regulates the various aspects of the national seed system, including variety improvement, variety listing, seed production, processing, storage, analysis, certification, and trade, including import and export (USDA 2024). The Instituto de Investigação Agrária de Moçambique (IIAM) is responsible for improving and conducting rice variety trials in the country.
- ***Input subsidies and financing:*** The National Rice Development Programme (NRDP) 2016–2027 aims to increase local rice production and decrease rice imports through sustainable intensification of the use of appropriate technologies and processes in Mozambique. To achieve these goals, the NRDP proposes the following strategies (Ministry of Agriculture and

Food Security 2016; CARD 2024):

- » Make fertilizer available to small producers at subsidized prices through vouchers.
- » Facilitate the supply of fertilizer (5,249 MT in 2016; 6,823 MT in 2017; 8,870 MT in 2018; and 11,531 MT in 2019).
- » Exempt customs duties on fertilizer imports (from 2.5% to 0%).
- » Introduce a pilot program on a brand of locally produced rice through campaigns to publicize the selected varieties.
- » Mobilize MZN 720 million for financing rice producers.
- » Increase budget allocation for breeder seed production and seed fund.

- ***Import reduction plan:*** In 2016, the government developed the Operational Plan for Food Production, which advocates for significant increases in food production. The implementation of this plan aimed to decrease rice imports by 50% by 2019 (Mozambique 2017).

NIGER

A. **Rice market overview:** From 2017 to 2021, Niger produced an average of about 76,000 MT of rice per year. Despite an average annual growth rate of nearly 5%, production in Niger remained among the lowest in sub-Saharan Africa during this period. On the other hand, the consumption of rice in Niger was 454,000 MT per year on average, resulting in an average self-sufficiency rate of only 17%. To make up for this shortfall, Niger imported 378,000 MT of rice per year on average, which constituted 2.4% of all imports into sub-Saharan Africa (USDA 2024).

B. **Key policy issues:** Rice is the third most important cereal crop in terms of surface area and production, after millet and sorghum. It plays a crucial role in fighting poverty by improving the income and food security of families who grow it, as well as being a major expense for some households. However, to develop the rice sector and meet the growing demand from urban areas, several concerns need to be addressed: poor access to high-quality inputs, ineffective management of hydro-agricultural infrastructure and cooperatives, inadequate application of good agricultural practices, low mechanization of production and postharvest operations, lack of infrastructure such as drying areas and storage warehouses, difficulties in accessing credit, and low competitiveness of locally produced rice compared with imported rice, among others (Ministere de l'Agriculture 2022).

C. **Summary of recent rice sector policies in Niger**

- ***National Rice Strategy:*** In March 2021, Niger completed and approved its second National Rural Development Strategy (NRDS II) within the Comprehensive Africa Agriculture Development Programme (CAADP). The NRDS works together with the 3N initiative that was launched in 2012 after the 2011 food crisis. The 3N initiative replaced the Rural Development Strategy developed in 2003 at the request of donors as part of the development plan to reduce poverty (CARD 2021). According to the NRDS II, the country targets reaching self-sufficiency in rice by 2030 by investing in increasing local production through area and yield, certified seeds, mechanization rate, and milling capacity.

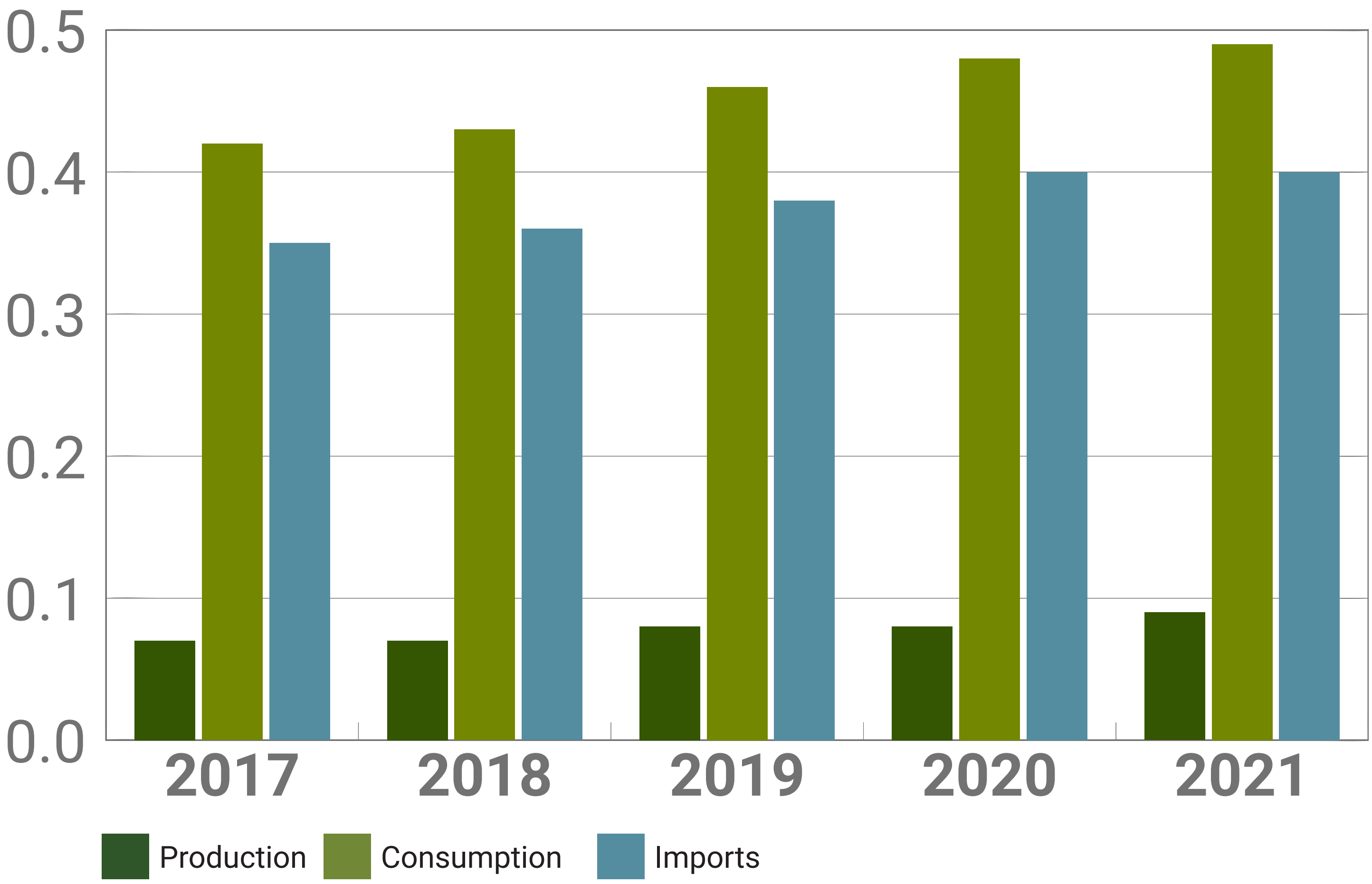


Figure 44. Niger rice production, consumption, and imports, 2017–2021.

- ***Re-export restrictions:*** In September 2019, and according to unconfirmed press reports, Niger issued a circular prohibiting re-exports of white and parboiled rice to Nigeria, with immediate effect.
- ***Import policy:*** Since 2013, Niger has decided that an authorization to import a given quantity of rice is subject to proof of purchase of locally produced rice at the rate of 3% of the volume to be imported (CARD 2021; World Trade Organization n.d.).

NIGERIA

A. **Rice market overview:** Nigeria is a major rice market in Africa, accounting for the highest production, consumption, and imports in sub-Saharan Africa. Nigeria averaged 5.1 million MT of rice production from 2017 to 2021, accounting for 1% of global rice production, but 26% of rice production in sub-Saharan Africa. Meanwhile, the country's average domestic rice consumption during the same period was 7 million MT, accounting for 1% of global rice consumption and 21% in SSA. To meet this local demand, the country averaged 2.0 million MT of rice imports, amounting for 4% and 13% of global and SSA totals from 2017 to 2021 (USDA 2024).

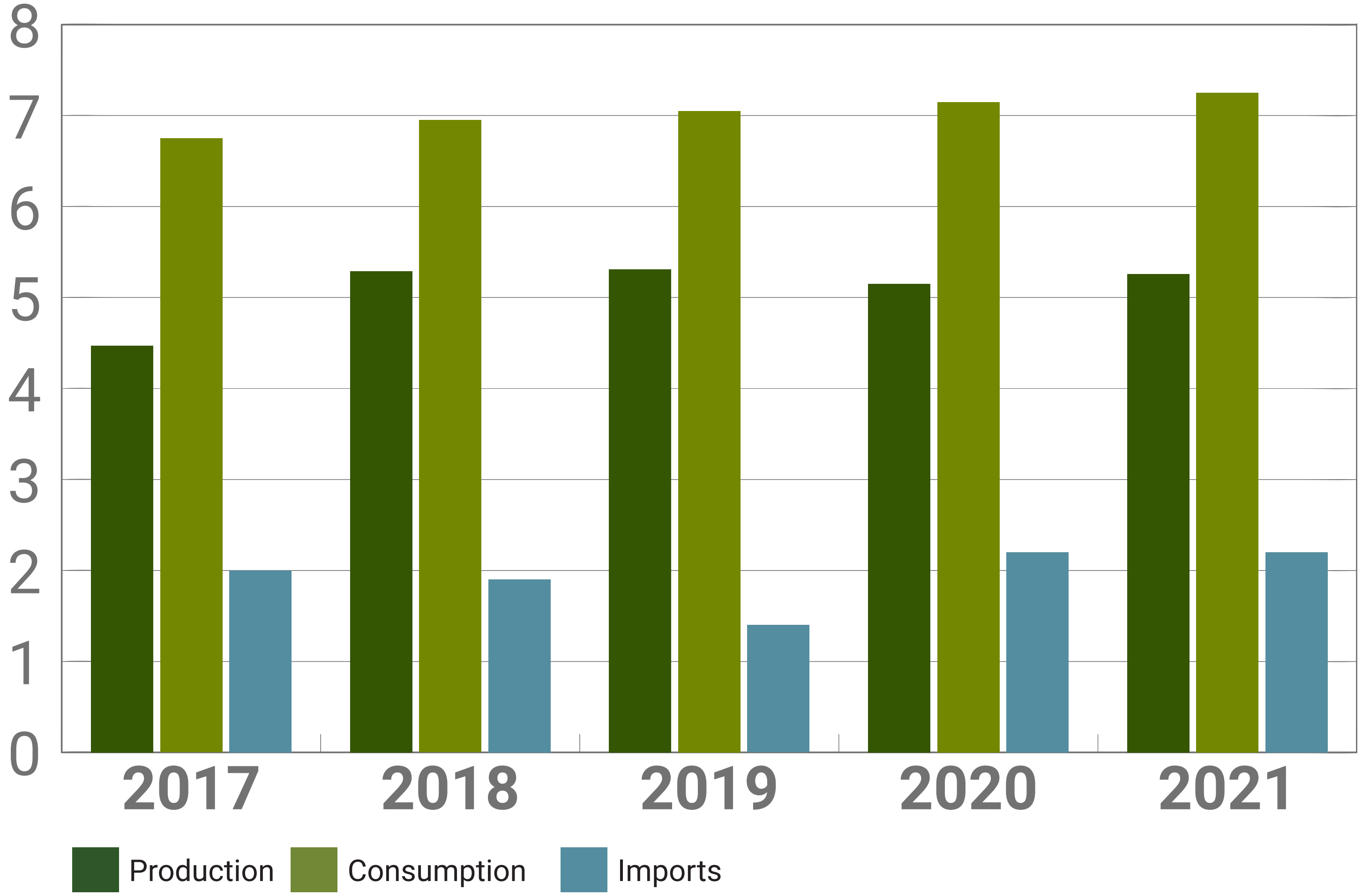


Figure 45. Nigeria rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Nigeria's rice production systems mainly consist of upland rainfed, lowland rainfed, supplementary irrigation, and irrigated agriculture, each with its own set of challenges and constraints (Opata 2019). In addition, the lack of competitiveness and quality problems in Nigerian rice, such as the presence of husk, dirt, stones, and poor-quality and broken grains, affect consumer preference for local rice, while high costs and affordability are constraints for imported rice consumption (Onu 2018). The Nigerian government has implemented various policies and programs aimed at achieving self-sufficiency in rice production, including the establishment of the Commercial Agricultural Credit Support Scheme, increased import tariffs on rice, and the ban on rice importation through land borders (Ogunleke and Baiyegunhi 2019). The government continues to highlight the success of the Anchor Borrower Program and the forex bans as successful policies in decreasing rice imports. In addition, the government views the border closure from 19 August 2019 through 16 December 2020 as another critical factor that helped the country reach rice self-sufficiency (Boluwade 2022). Currently, Nigeria's agricultural policy prioritizes domestic food and agricultural production through protective trade policies (Onu 2018) and aims to use agricultural mechanization and modernization to help overcome low productivity (Boluwade 2021).

C. Summary of recent rice sector policies in Nigeria

- ***Sector policy framework:*** In May 2022, Nigeria introduced the National Agricultural Technology and Innovation Policy (NATIP), a six-year plan aimed at addressing critical challenges in Nigerian agriculture. NATIP seeks to modernize the sector by encouraging investment from both the public and private sectors. The plan is built around ten key pillars and its objectives are to increase productivity; adopt technology; decrease imports of rice, dairy, and meat; improve resilience; and strengthen value chains for priority crops, including rice (FAO 2022).
- ***Import restrictions:*** In December 2020, Nigeria lifted the partial closure of borders with neighboring countries that had been in place since August 2019, reopening the Seme, Illela, Maigatari, and Mfun land borders with immediate effect. According to the decision, all other land borders were to reopen by 31 December 2020, but the cross-border import ban on rice would remain in place (FAO 2020). In October 2019, Nigeria indicated that, with the partial closure of borders with neighboring countries implemented since late August 2019, cross-border exchanges of any goods remained banned for an indefinite period (Kassa and Zeufack 2020). In August 2019, Nigeria launched Exercise Swift Response, which was a joint security operation that involved several entities such as the Nigeria Customs Service, the Nigeria Immigration Service, and the Armed Forces of Nigeria. The operation enforced a partial closure of borders with Benin, which was later extended to borders with Niger. The main objective was to curb smuggling, particularly the smuggling of rice. The operation was also intended to be supported by other anti-smuggling measures that were to be discussed with authorities in Benin and Niger (Eboh 2019).
- ***Food subsidies:*** In April 2020, Nigeria approved the release of 150 trucks of rice seized by the Nigeria Customs Service for country-wide distribution through the Ministry of Humanitarian Affairs and Disaster Management (FAO 2020).
- ***Production support:*** In November 2017, Nigeria announced that it would continue supporting farmers through the Anchor Borrower Program and the President's Fertilizer Initiative, as part of its 2018 budget. The country also planned to complete irrigation projects, combat food smuggling, and establish six Staple Crop Processing Zones to enhance agricultural production, processing, and storage capacity. These efforts aimed at bolstering the growth of agriculture in Nigeria (Development Finance Department Central Bank of Nigeria 2013).
- ***Import tariff:*** In December 2016, Nigeria released the 2016 Fiscal Policy Measures. The document set a 50% levy on all imports of semi-/wholly milled and broken rice and on imports of husked rice by traders not possessing milling facilities or operating backward integration programs. These classes previously had an import levy of 60%. Imports of husked rice by millers and/or traders operating backward integration programs would continue to have a 20% levy. An additional 10% import duty would also apply to all imports of husked, semi-/wholly milled, and broken rice (FAO 2021).
- ***Production support:*** In August 2016, Nigeria introduced the Agricultural Sector Policy Roadmap, also known as "Green Alternative." The policy focused on four key priorities: achieving food security, reducing import dependency, creating jobs, and diversifying the economy. To achieve these goals, the policy aimed to increase productivity and encourage private investment in the agricultural sector. It also sought to strengthen and reorganize institutions in partnership with state-level authorities. The policy's initial focus was on enhancing food security by increasing the

production of rice, wheat, maize, soybeans, and tomatoes. It also aimed to promote the export of various crops such as cocoa, cassava, oil palm, sesame, and gum Arabic (FAO 2016).

- ***National Rice Strategy:*** After NRDS 1, Nigeria developed its NRDS 2 (2020–2030) to achieve self-sufficiency in rice under the CARD initiative (Federal Ministry of Agriculture and Rural Development 2014).

SENEGAL

A. **Rice market overview:** Senegal produced an average of 830,000 MT of rice per year from 2017 to 2021, which accounted for 4.2% of the total production in SSA. Despite an average growth rate of 7% within the time period, this production met only 57% of the country's needs during the period. On average, Senegal consumed nearly 1.9 million MT annually, with an average annual increase of 3.3%. Senegal is currently the third largest importer of rice in Africa, following Nigeria and Côte d'Ivoire. Despite the country's efforts to boost domestic rice production, the supply is still insufficient to meet the strong demand. As a result, Senegal imported on average nearly 1.2 million MT of rice from 2017 to 2021, which constituted 2.5% of Senegal's total imports (USDA 2024). Rice remains the main grain consumed by Senegalese because of its availability, ease of preparation, and lower cooking time, which leads to less fuel consumption than other grain-based meals. However, strong sensitization campaigns on the benefits of consuming domestically produced rice and a growing number of milling companies have boosted local rice consumption gradually, going from 24% in 1990 to 40% in 2018 (Bousso 2023).

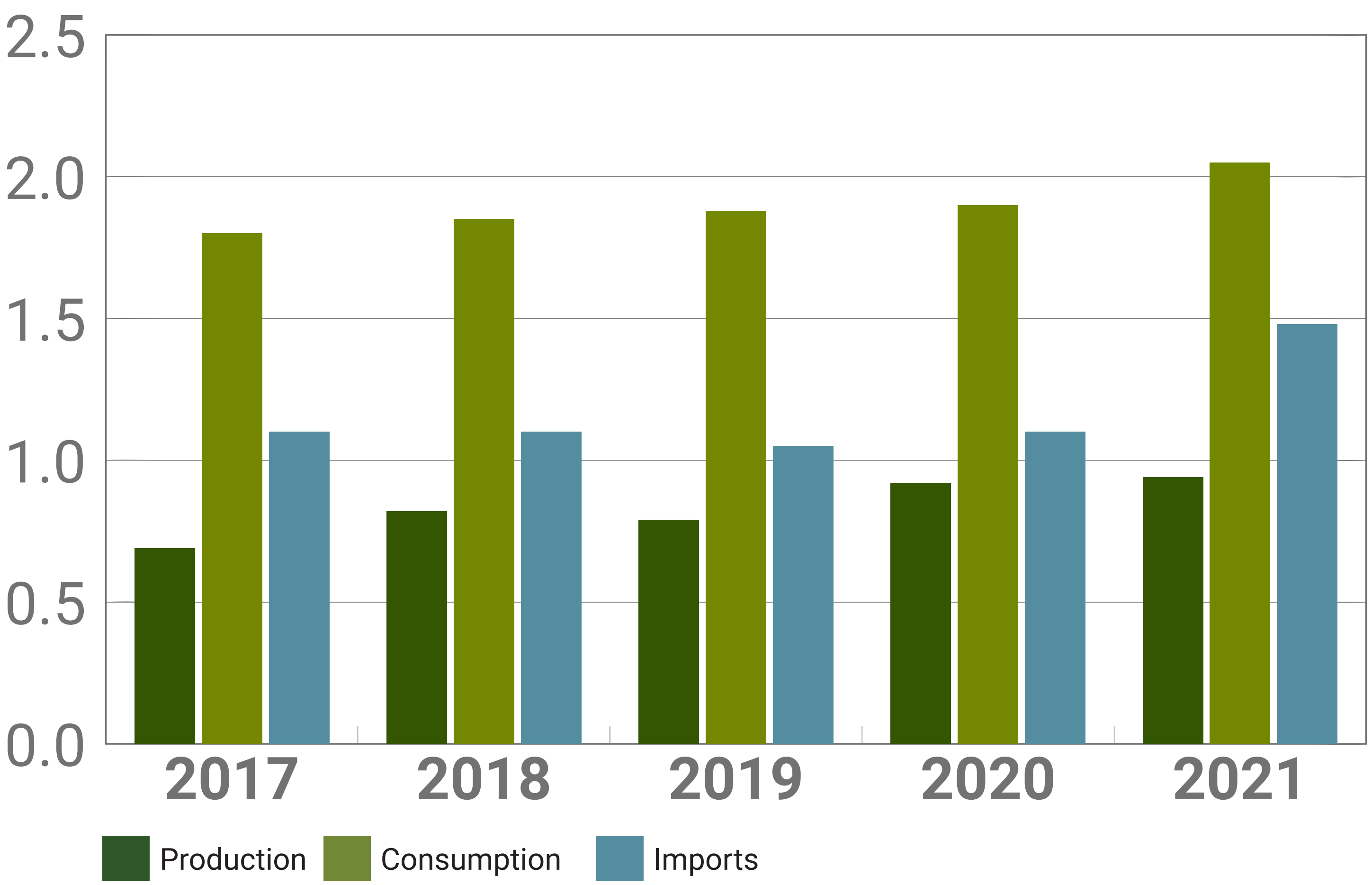


Figure 46. Senegal rice production, consumption, and imports, 2017–2021.

B. Key policy issues: Since independence, Senegal has been highly reliant on international markets to meet its food needs. This tendency has increased with rapid levels of urbanization in recent decades. The government of Senegal (GoS) response was to suspend customs duties and value-added taxes, provide consumer subsidies and other modes of social protection, and launch a high-profile agricultural initiative (Bousso 2023). The price of local rice fell closer to that of imported rice based on greater availability and more efficient production and milling; however, the gap in price is expected to persist. Since 2014, the government has implemented eight solid measures to revive the local rice value chain. These measures have enabled the government to combat salinization and silting of the lowlands, develop an appropriate mechanization policy, strengthen advisory support, maintain the subsidy policy on inputs, and establish proper financing mechanisms such as integrated financing models, contractualization, third-party ownership, warehouse receipt systems, and leasing (CARD 2023).

C. Summary of recent rice sector policies in Senegal

- ***Production support:*** The GoS implemented new measures for both imported and local rice in November 2022. For imported broken rice, urgent measures included reimbursement of demurrage to importers by GoS and a subsidy of 32 CFA (USD 0.05) per kg for rough rice. This was to bring the producer price to 162 CFA (USD 0.26) per kg to support local rice production. The government planned to construct equipped warehouses in production areas and expand financing through the warehouse receipt system to support local rice in the short and long term (Bousso 2023).
- ***Production support:*** In March 2022, Senegal decided to allocate XOF 70 billion (USD 111.3 million) to support agricultural activities during the 2022/23 season. The support package was to include XOF 12.0 billion (USD 19.08 million) for seeds of various crops and a XOF 13 billion (USD 20.670 million) year-to-year increase in funds allocated to fertilizer, up to XOF 41 billion (USD 65.19 million). In February 2022, the government also decided to extend a XOF 32 per kg (USD 50.88 per MT) outlay to rice producers in order to bring prices they received for paddy to XOF 162 per kg (USD 257.58 per MT) (FAO 2022a, 2022b).
- ***Import tariffs, consumption prices:*** In February 2022, Senegal decided to lower the price of a set of necessities. For non-aromatic broken rice, retail prices would pass from XOF 15,000 for a 50-kg bag (USD 0.48 per kg) to XOF 13,750 (USD 0.44 per kg). Unconfirmed reports suggest that the move was accompanied by a decrease in customs duties and charges levied on imported non-aromatic brokens from a total of 12.7% to 2.7% (FAO 2022c).
- ***Price controls:*** In September 2021, Senegal set ceilings on retail prices of various essential items. For 100% broken aromatic rice, these were set at XOF 300 (USD 0.53) per kg for the Dakar region. Price caps for other Senegalese regions were to be determined based on transportation costs, as defined by the Conseil Régional de la Consommation (Regional Consumer Council) (FAO 2021).
- ***Production support:*** In May 2020, Senegal indicated that it had increased funds destined for the distribution of agricultural inputs and equipment to smallholders by 50% to XOF 20 billion (USD 33 million) in order to support productive activities during the 2020 season in the context of the COVID-19 pandemic. The move was in line with its target of boosting paddy production to 1.5 million MT and attaining self-sufficiency in rice (FAO 2020a).
- ***Food subsidies:*** In April 2020, Senegal launched a scheme under which 100,000 MT of rice, alongside other necessities, would be distributed to 1.0 million households in order to help

them cope with the impact of the COVID-19 pandemic (FAO 2020b).

- ***Production support:*** In July 2017, Senegal announced that rough rice prices would be fixed at XOF 125 per kg (USD 225 per MT) in order to ensure sufficient returns for rice farmers. Earlier, in August 2016, Senegal oversaw the signing of a memorandum of understanding between sector representatives under which importers committed to purchasing 50,000 MT of rice from the 2016 season harvest and 1,500 MT stored by millers. Under the accord, importers would pay XOF 240,000–245,000 (USD 405–414) per MT for 100% broken rice and XOF 275,000–280,000 (USD 465–473) per MT for whole grains (FAO 2017).

SIERRA LEONE

A. **Rice market overview:** Rice production in Sierra Leone changed slightly from 2017 to 2021, at an average annual rate of 2%. Average annual production over the period was 937,000 MT, representing 4.8% of production in SSA. With an average annual growth of 3.7%, the country's average annual consumption surpassed 1.32 million MT. The country thus covers 71% of its rice needs, with average annual imports of 384,000 MT (USDA 2024).

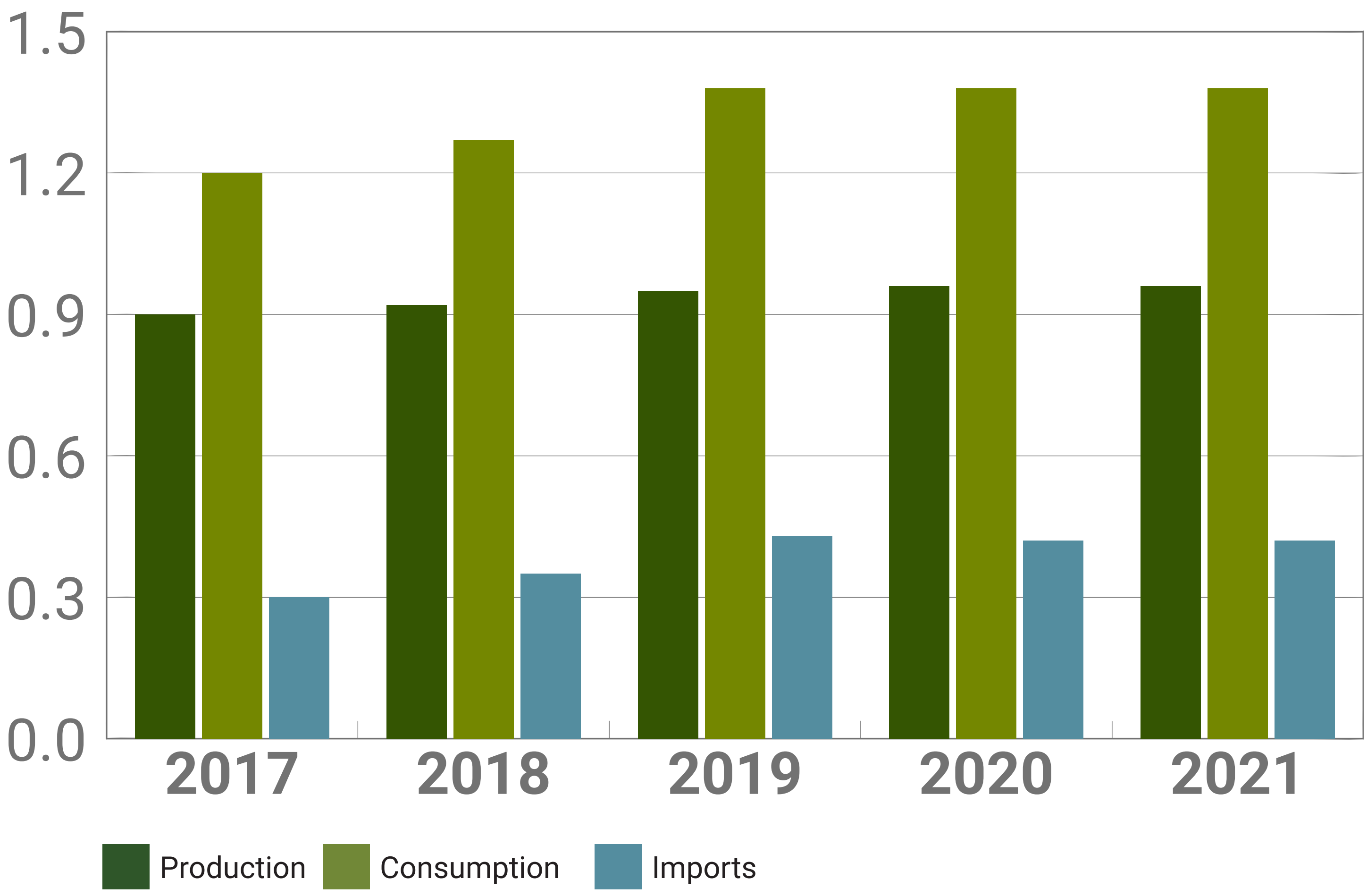


Figure 47. Sierra Leone rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Rice is a fundamental part of the Sierra Leonean diet, with an annual per capita consumption of 131 kg, one of the highest in West Africa. The crop is cultivated by small-scale farmers in both upland and diverse lowland environments. Unfortunately, Sierra Leone has not been able to produce enough rice to meet its local consumption demand for a long time. The rice sector in Sierra Leone faces several challenges: limited availability of improved seeds, low mechanization, poor processing and storage facilities, declining soil fertility, climate change, limited access to fertilizer, inadequate research capacity, and weak linkages between research and extension services. Limited access to credit and inputs, weak producer organizations, and poor coordination along the rice value chain are also challenges. Bird scaring and other crop protection challenges continue to pose problems (Rice for Africa 2022). The importance of rice is further emphasized by the government's efforts to promote local rice production, diminish food insecurity, and enhance the welfare of smallholder rice farmers in rural communities (Sheriff et al. 2020).

C. Summary of recent rice sector policies in Sierra Leone

- ***National Rice Strategy:*** The target of the NRDS 2 developed in 2022 is to double rice production and be self-sufficient by 2030, with a production of 2.77 million MT, and to export the surplus of 178,000 MT (Rice for Africa 2022).
- ***Production support:*** In December 2018, as part of its budgetary allocations, Sierra Leone announced that it would destine SLL 294.1 billion (USD 32 million) to assist local production of rice and other basic foodstuffs to decrease dependence on imports. Specific interventions would include the provision of improved seeds and fertilizer, the development of irrigation infrastructure, agricultural research, the rehabilitation of inland valley swamps, and promotion of mechanization through the acquisition and enhanced maintenance of tractors (FAO 2018).
- ***Foreign agricultural investment:*** In January 2012, Sierra Leone announced a six-year project by the government and Chinese investors to put 135,000 ha under rice and rubber cultivation (FAO 2012).
- ***Consumer prices:*** In August 2011, Sierre Leone set imported rice prices at SLE 136,000 per 50-kg bag (USD 598 per MT) of 25% broken rice and SLE 128,000 per 50-kg bag (USD 563 per MT) of 100% broken rice (FAO 2011a).
- ***Import agreement:*** In June 2011, Sierra Leone signed a memorandum of understanding with Vietnam to enhance cooperation in rice trade. The accord also envisaged the provision of 100,000 MT of Vietnamese rice to Sierra Leone by 2015 (FAO 2011b).

TANZANIA

A. **Rice market overview:** The rice market in Tanzania is characterized by significant production, consumption, and trade dynamics. Although the country is a major player in regional rice production and exports, it also relies heavily on imports to meet domestic demand. To ensure the sustainability and profitability of rice farming, efforts are being made to improve its productivity especially in mitigating the impacts of climate change and increasing resistance to major pests and diseases which have caused production fluctuations in recent years. The average annual production of rice was 2.2 million MT from 2017 to 2021. Tanzania's production represents almost 10% of the total production in sub-Saharan Africa. As a result, the country is able to meet 95% of the needs for more than 2.3 million MT of this commodity. Rice imports are low, at almost 188,000 MT per year (USDA 2024).

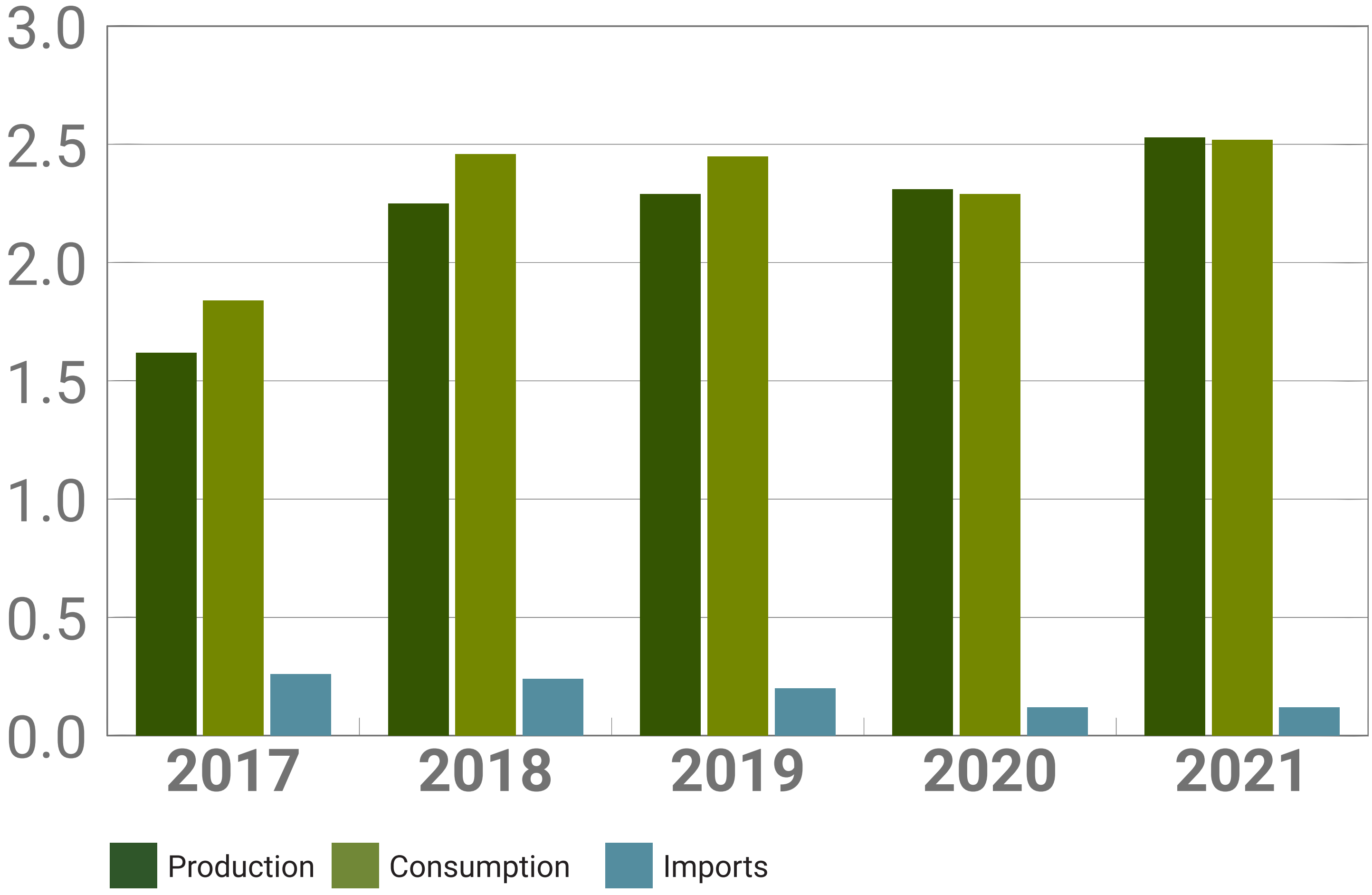


Figure 48. Tanzania rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Rice is one of the most important staple foods in Tanzania, ranking second in terms of both production and consumption after maize Peter et al. 2020). The rice sector in Tanzania has implications for trade, as the country exports rice to neighboring nations, including Rwanda, Uganda, Kenya, Zambia, Malawi, and the Democratic Republic of Congo (Magezi, Nakano, and Sakurai 2023). The rice value chain in Tanzania has been affected by a combination of policies, regulations, strategies, and programs that have been implemented at the same time. This highlights the importance of aligning these policies and strategies to improve the competitiveness and efficiency of the value chain (MDoe and Mlay 2021).

C. Summary of recent rice sector policies in Tanzania

- ***Import quota:*** In February 2023, Tanzania announced that, in order to contain domestic rice prices, it would issue import permits for 90,000 MT of rice (Ministry of Agriculture 2019).
- ***National Rice Strategy:*** The NRDS II (2019–2030) aims to sustain rice self-sufficiency, contribute to regional self-sufficiency, and have the country become a rice market leader. The strategy focuses on further enhancing the quality, quantity, and value of locally produced rice (FAO 2019).
- ***Import tariff:*** In June 2013, Tanzania decided to apply a duty rate of 25% on imported rice and 10% when imports were undertaken to cover shortages in the domestic market. Rice imports normally accrue a duty of 75% under the CET of the East African Community (FAO 2013).
- ***Production support:*** In June 2012, Tanzania announced that, under the Tanzania Agriculture and Food Security Investment Plan (TAFSIP), USD 10.4 million (16.7 billion shillings) would be allocated to boost output over 350,000 ha across five regions by enhancing irrigation, processing, and marketing capacity (FAO 2012).

TOGO

A. Rice market overview: Togo has a low production rate, with an average annual production of 99,000 MT from 2017 to 2021. However, the country has a high annual consumption of 426,000 MT. This consumption volume represents just over 2% of the average annual consumption in SSA. As a result, Togo satisfies only 2% of its needs through local production. This means that the country must import an average of 327,000 MT annually to meet its needs (USDA 2024).

B. Key policy issues: Togo has a problem with consumers preferring imported rice over domestically produced rice due to better quality. This is a significant policy concern that requires strategies to improve the quality of locally produced rice (Adabe et al. 2019). Substantial investments will be required to enhance the quality of rice by addressing the key challenges in rice processing: inefficient and outdated equipment, insufficient equipment, poor quality of rough rice, and unavailability of quality packaging in the local market. In order to increase production and fill the production gap, priority actions identified are the development of infrastructure and better access to agricultural equipment, irrigation schemes, and storage infrastructure. The second priority is to make it easier for producers to obtain agricultural inputs such as certified seed, fertilizer, and high-quality phytosanitary products in sufficient quantities. Lastly, there is a need to focus on research, dissemination of new technologies, and capacity building to improve the overall productivity of the agricultural sector (Ministere de l’Agriculture, de la Production Animale et Halieutique 2020).

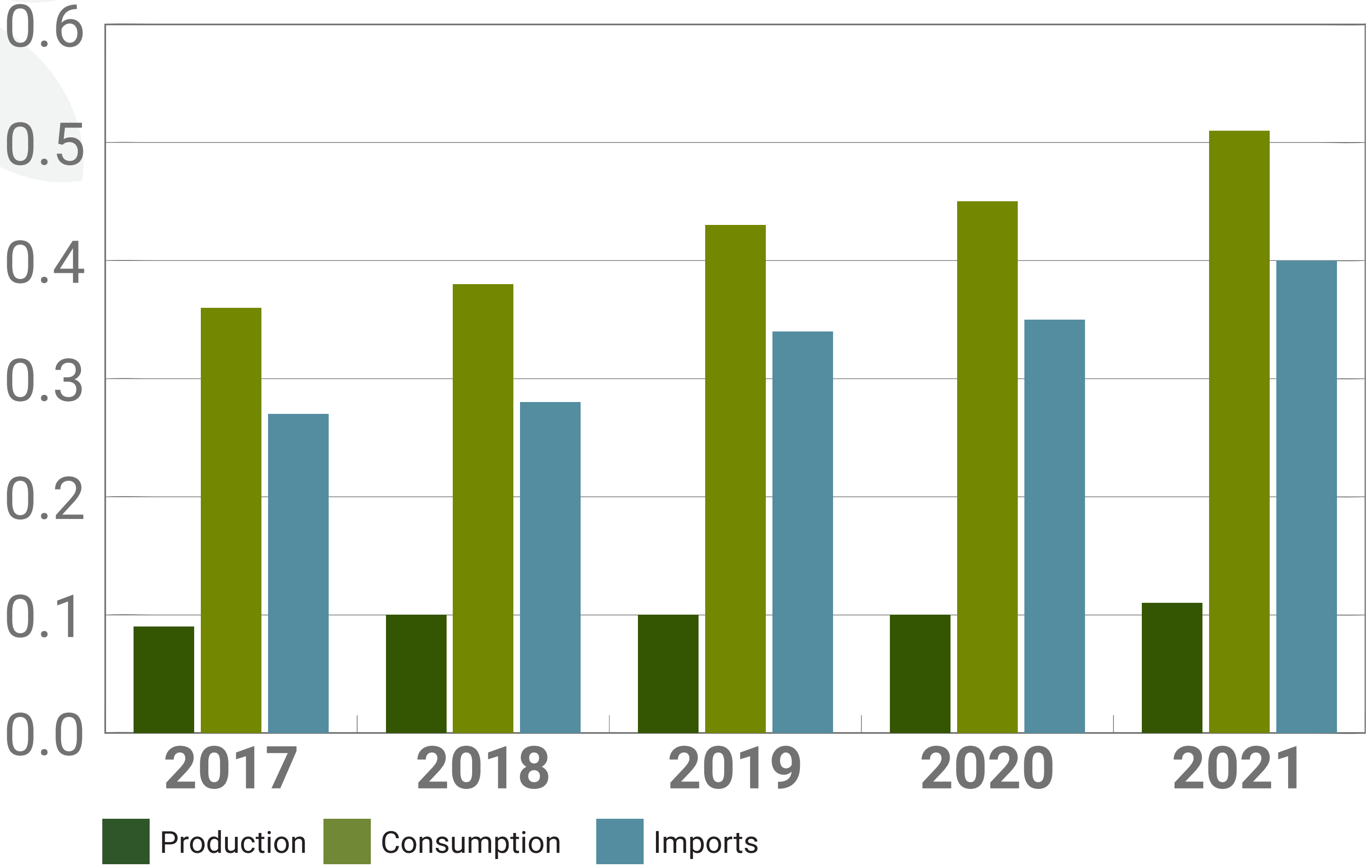


Figure 49. Togo rice production, consumption, and imports, 2017–2021.

C. Summary of recent rice sector policies in Togo

- ***Export requirements:*** In May 2022, Togo introduced new regulations for the export of various food items, including rice. These regulations required traders to obtain prior approval from the Ministry of Commerce, Industry, and Local Consumption before exporting. To obtain approval, traders had to provide detailed information about the product they wished to export, including the product's nature, volume, source of supply, place of production/processing, and expected date of departure. In addition, exporters were required to pay administrative costs of XOF 50,000 (USD 74.50). Once issued, export permits were valid for 30 days, but could be renewed if administrative costs were re-paid (FAO 2022a).
- ***Price controls:*** In May 2022, Togo implemented a price ceiling on a variety of food items, including locally produced rice. For Grand Lomé District, the maximum price for a 25-kg bag of rice was set at XOF 16,500 (equivalent to USD 0.98 per kg). In other regions of Togo, the price ceiling varied from XOF 14,000 to 16,500 for a 25-kg bag of rice (equivalent to USD 0.83 to 0.98 per kg) (FAO 2022b).
- ***Import policy:*** In April 2022, Togo decided to suspend value-added taxes on different imported products, including 25% broken rice. It also set price limits on these products. For locally produced rice, retail prices were limited to XOF 16,500 for a 25-kg bag (USD 0.98 per kg) in Grand Lomé District. For all other regions of the country, the price limit for a 50-kg bag of imported 25% broken rice was set at XOF 16,000 (USD 0.48 per kg) (FAO 2022c).
- ***Tax policy:*** Togo announced in January 2017 that it would not levy VAT on paddy for sowing and

husked rice, except for luxury rice. This move was made to encourage local consumption and decrease the cost of living. Additionally, VAT on rice flour, agricultural machinery, and the rental/repair of agricultural machinery declined from 18% to 10%. The new measures came into effect on 1 January 2017 (FAO 2017).

- ***National Rice Strategy:*** In 2010, Togo developed its National Rice Development Strategy (NRDS) 1 for the period 2010–2018 and developed NRDS 2 in 2019 for 2019–2030. These strategies were created under the CARD initiative to achieve rice self-sufficiency (Adabe et al. 2019).

UGANDA

A. **Rice market overview:** Uganda's rice production is relatively low, averaging 136,000 MT annually. In contrast, average consumption approaches 200,000 MT. As a result, the country supplies only 69% of its own rice needs, with the remaining 31% being filled by imports of 72,000 MT (USDA 2024). Ugandan farmers began growing rice in 2003, resulting in increased local supply. Rice is now an important urban food and rural cash crop. The National Rice Development Strategy aims to increase rural income and improve urban food supplies, with all stakeholders participating in its development (Barungi, Guloba, and Ading 2017).

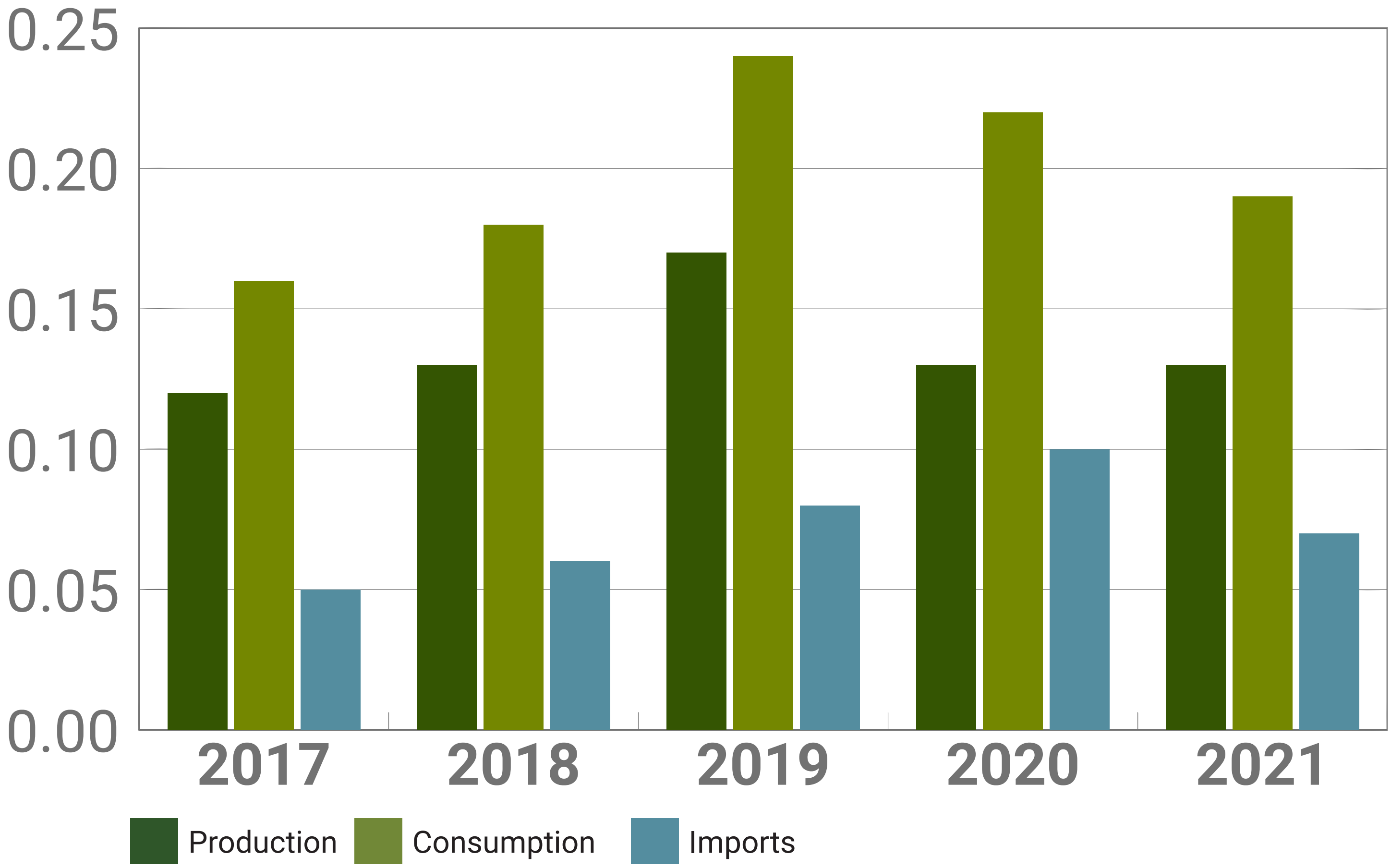


Figure 50. Uganda rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** The government of Uganda regards rice farming as a crucial agricultural enterprise that has the potential to significantly increase rural income and improve food and nutrition security. However, current rice yields are significantly low, partly because the farmers do not use agro-inputs such as improved seed, fertilizer, and herbicide, which could otherwise help increase yield (Barungi, Guloba, and Adong 2017). To develop the rice sector, Uganda already identified key areas of intervention, including strengthening the institutional framework; improving research, technology dissemination, and capacity building; increasing the production, multiplication, and dissemination of certified seed; improving fertilizer marketing and distribution, along with sustainable soil management; improving irrigation and water management; improving postharvest handling, processing, and marketing; improving access to and maintenance of agricultural equipment; and improving access to agricultural finance (CARD 2022).

C. Summary of recent rice sector policies in Uganda

- ***National Rice Strategy:*** In the NRDS-II period, Uganda would need to increase its local rice production to 1 million MT (before milling) by 2030. This would require more than a fourfold increase in production from the level in 2021 (CARD 2021).
- ***Cultivation limits:*** In July 2021, as part of Uganda's efforts to safeguard the environment and natural resources, the country decided that cultivation of rice and other crops would be prohibited in wetlands, with immediate effect (FAO 2021).
- ***Import tariff:*** In March 2017, Uganda decided to restore the duty remission on husked rice until 31 July 2017. The measure was geared to alleviating the high costs of rice in the country, with importers committing not to sell rice at more than UGX 3,000 per kg (USD 828 per MT) (FAO 2017a).
- ***Import tariff:*** Uganda reinstated the 75% (USD 345 per MT) import duty on rough and husked rice, applicable under the CET of the East African Community, effective 1 January 2017 (FAO 2017b).
- ***Import tariff:*** In June 2016, Uganda lowered import duties applicable under the CET of the East African Community. According to the decision, imports of rough and husked rice would be liable to a 75% import duty (USD 250 per MT) as opposed to the USD 345 per MTnormally applicable. The measure was to be effective for one year, starting on 1 July 2016 (FAO 2016).

V. Europe

EUROPEAN UNION

A. **Rice market overview:** After the UK left the EU on 1 February 2020, the EU comprised 27 member-state countries. Rice production is concentrated in the southern member states, namely, Italy, Spain, Greece, Portugal, and France, followed by Bulgaria, Romania, and Hungary. Italy is the largest rice producer in the EU, accounting for just over half of the EU's production. A total of 78% of the rice varieties grown in Italy are Japonica, while the rest of the varieties are Indica. Spain is the second largest rice producer in the EU, accounting for approximately 25% of production. About two-thirds of the rice consumed in the EU is produced there, with imports making up the rest. Pakistan, Myanmar, India, Guyana, Thailand, and Cambodia are traditionally the EU's leading rice suppliers, in particular to non-producing EU member states where there is a larger affinity for Indica rice and non-traditional varieties (i.e., basmati, wild rice blends, glutinous rice, or starchy rice). The marketing year for rice runs from 1 September to 31 August.

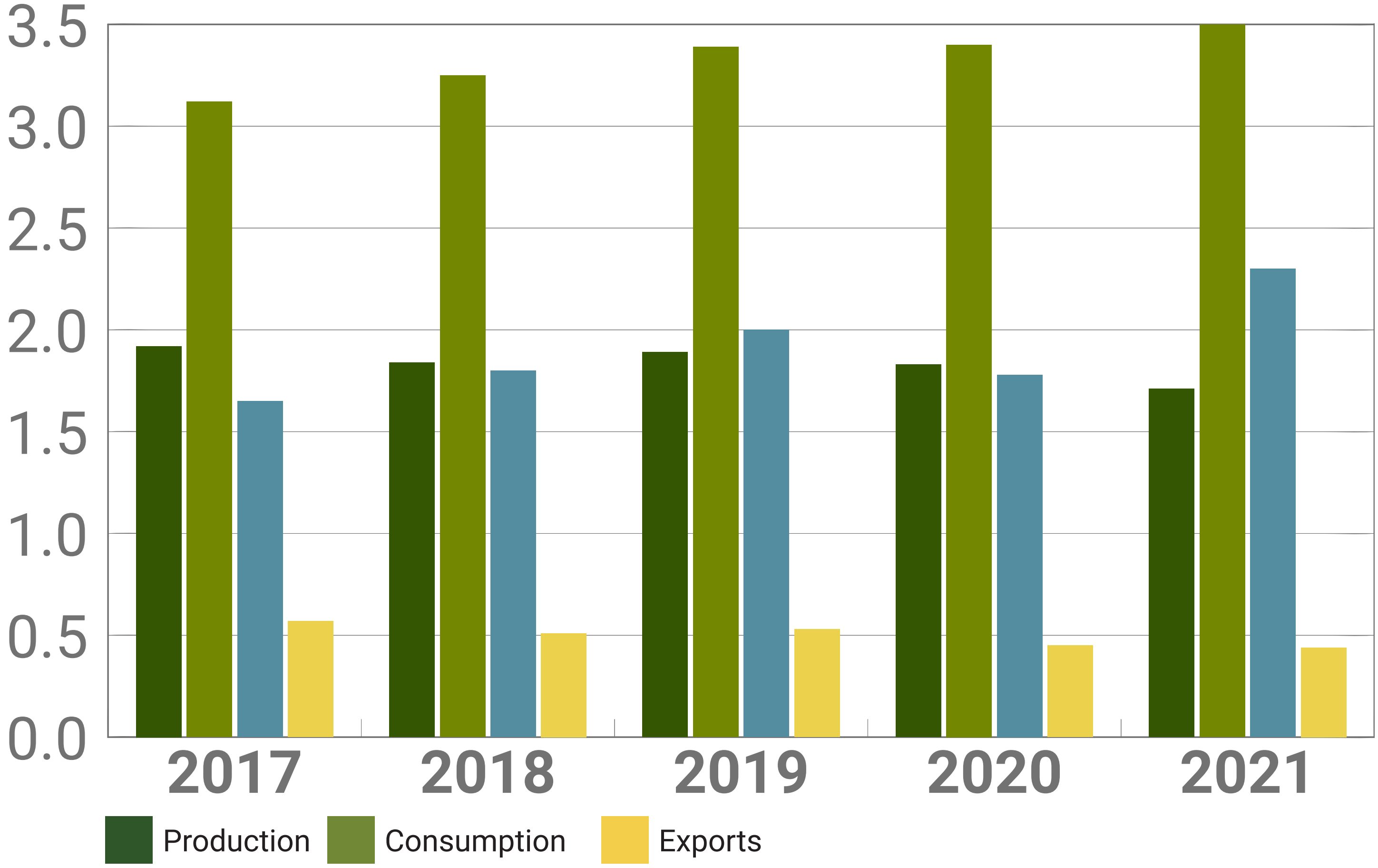


Figure 51. European Union rice production, consumption, and trade, 2017–2021.

B. **Key policy issues:** Historically, the EU has paid export subsidies ("refunds") to help EU products compete on a lower-priced world market. However, following a World Trade Organization agreement in the late 1990s, all developed countries agreed to end the use of such subsidies. The last export refund tenders for rice were in 2005. In any case, only a small quantity of EU rice, mainly Japonica, is exported.

The EU has several preferential import arrangements for specific milling degrees and suppliers. The overall quotas by milling degree are the following:

- » 103,216 MT of wholly milled or semi-milled rice covered by CN code 1006 30, at zero duty
- » 1,634 MT of husked rice covered by CN code 1006 20 at an ad-valorem duty fixed at 15%
- » 100,000 MT of broken rice covered by CN code 1006 40 00, at a duty reduced by 30.77%
- » 31,788 MT of broken rice covered by CN code 1006 40 00, at zero duty

These overall import tariff quotas are split up into smaller TRQs for individual countries and sub-periods (see Annex, Part A, of Regulation 2019/216 for the allocations2). For example,

- » Egypt has three duty-free quotas: for husked rice (21,218 MT); milled rice (74,263 MT); and broken rice (84,762 MT).
- » Bangladesh has a TRQ for all milling degrees of 4,000 MT, with the duty depending on the milling degree.
    - for paddy rice falling within CN code 1006 10, with the exception of CN code 1006 10 10, the customs duties fixed in the Common Customs Tariff less 50% and less a further EUR 4.34;
    - for husked rice falling within CN code 1006 20, the duty fixed in accordance with Article 183 of Regulation (EU) No. 1308/2013 less 50% and less a further EUR 4.34 for semi-milled and milled rice falling within CN code 1006 30, the duty fixed in accordance with Article 183 of Regulation (EU) No. 1308/2013 less EUR 16.78, less a further 50%, and less an additional EUR 6.52.
- » India and Pakistan have a special duty-free, quota-free regime for husked basmati rice varieties.
- » Since January 2010, all African, Caribbean, and Pacific (ACP) countries in EU Economic Partnership Agreements (EPAs) have duty-free, quota-free access to the EU, for all types of rice.
- » EU "overseas countries and territories" (OCTs), belonging to Denmark, France, the Netherlands, and the UK, have a TRQ for all types of rice, of 35,000 MT (in husked equivalent).
- » The world's least developed countries (LDCs) can export to the EU duty-free and quota-free, under the EU's Everything But Arms (EBA) regime. A safeguard provision allows the Commission to suspend the concession if imports from LDCs exceed by 25% the level of imports in the previous year.

Other recent developments include the elimination of EU import tariffs on Myanmar and Cambodian Indica white rice since January 2022, and the repeal of the 25% retaliatory tariffs on U.S. broken and milled rice from January 2022 until 31 December 2023.

C. Summary of recent rice sector policies

- ***Market support:*** based on a reference price of €150 per MT for paddy rice (Article 7b of Regulation 1308/2013, enacted 20 December 2013). The same regulation also sets criteria for standard-quality paddy rice (Annex III) and public intervention, but only between the buying-in period – 1 April to 31 July (Article 11). Intervention would operate only in member states where rice is grown.

- ***Income support:*** Farmers are eligible for decoupled direct aid payments, while member states can also choose to grant limited "coupled" direct payments for most products, including rice, to support a vulnerable sector or type of farming in a certain region.
- ***Import licenses:*** only needed for imports of husked and milled or semi-milled rice and for broken rice imports, as well as for all imports made under TRQs. Licenses are issued for a fixed period of validity and require the lodging of a security.
- ***Import duty:*** applied for paddy rice at €211 per MT. Import duties on husked, milled, and semi-milled rice can be adapted twice a year, at the beginning of and halfway through each marketing year, depending on the quantities imported in the previous period. There was an increase in import duty for husked rice effective from 8 September 2021 to 7 March 2022 (European Union 2022). `
    - » If the quantities imported are below a lower threshold of 382,326 MT, a duty of €65 per ton is applied for the next six months.
    - » If the imported quantities are above a higher threshold of 517,130 MT, the duty is fixed at €65 per ton.
    - » If the quantities imported are between the two thresholds, the duty is fixed at €42.5 per ton.
    - » For milled and semi-milled rice, there is a similar system, but with only one threshold – 387,743 tons – and two possible duty levels: €145 per ton and €175 per ton.
- ***Exceptional measures.*** Since 2014, a "safeguard clause" for all sectors, including rice, empowers the Commission to take emergency CAP measures in the event of market crises and other events such as a loss of consumer confidence due to public, animal, or plant health risks. No emergency CAP measures have ever been needed for the rice sector.
- ***Crop and stock declarations.*** Under Commission Implementing Regulation 2017/1185, all member states with rice producers have to notify the Commission annually of crop and stock declarations – distinguishing between round-, medium-, and long-grain rice. The Commission uses this information to deduce the level of rice stocks at the beginning of the marketing year to help it manage the market. The declarations are made by rice producers and millers. Producers must specify, for each type of rice, the varieties they have in stock. For the crop declaration, they have to specify area planted and yield. Millers have to specify, for each type of rice in stock, the quantities that are paddy, husked, or wholly milled produced in the EU and those quantities of wholly milled rice imported from third countries.

THE UNITED KINGDOM (ENGLAND, SCOTLAND, WALES, AND NORTHERN IRELAND)

A. **Rice market overview:** The UK does not grow rice and is not a big rice consumer. However, the region, as a whole, imports a relatively small amount of rice annually for domestic consumption.

B. **Key policy issues:** Since Brexit, the UK has issued its own import duty guideline applied for different rice types imported from third countries (countries without trade preferential agreements), ranging from GBP 25 to 176 per 1,000 kg. Semi-milled or wholly milled rice under CN code 1006 30 imported with TRQ dated 20 September 2022 is as follows (UK Government 2020).

  » Thailand: 0% duty within a TRQ of 3,727 plus 831 MT from 1 January to 31 December.
  » Australia: 0% duty within a TRQ of 779 MT from 1 January to 31 December.
  » USA: 0% duty within a TRQ of 478 MT from 1 January to 31 December.
  » India: 0% duty within a TRQ of 311 MT from 1 January to 31 December.
  » Pakistan: 0% duty within a TRQ of 225 MT from 1 January to 31 December.
  » Countries other than USA, Thailand, Australia, and member states of the EU: 0% duty within a TRQ of 779 MT from 1 January to 31 December.

VI. Middle East

IRAN

A. **Rice market overview:** Iran is the biggest producer in the region but meets most of its domestic requirements through imports. On average, it produced 2 million MT of rice, which covers about 65% of its consumption requirements (USDA 2024). India has the highest share in the country's rice imports. Other major exporters are Pakistan and Thailand (Financial Tribune 2023).

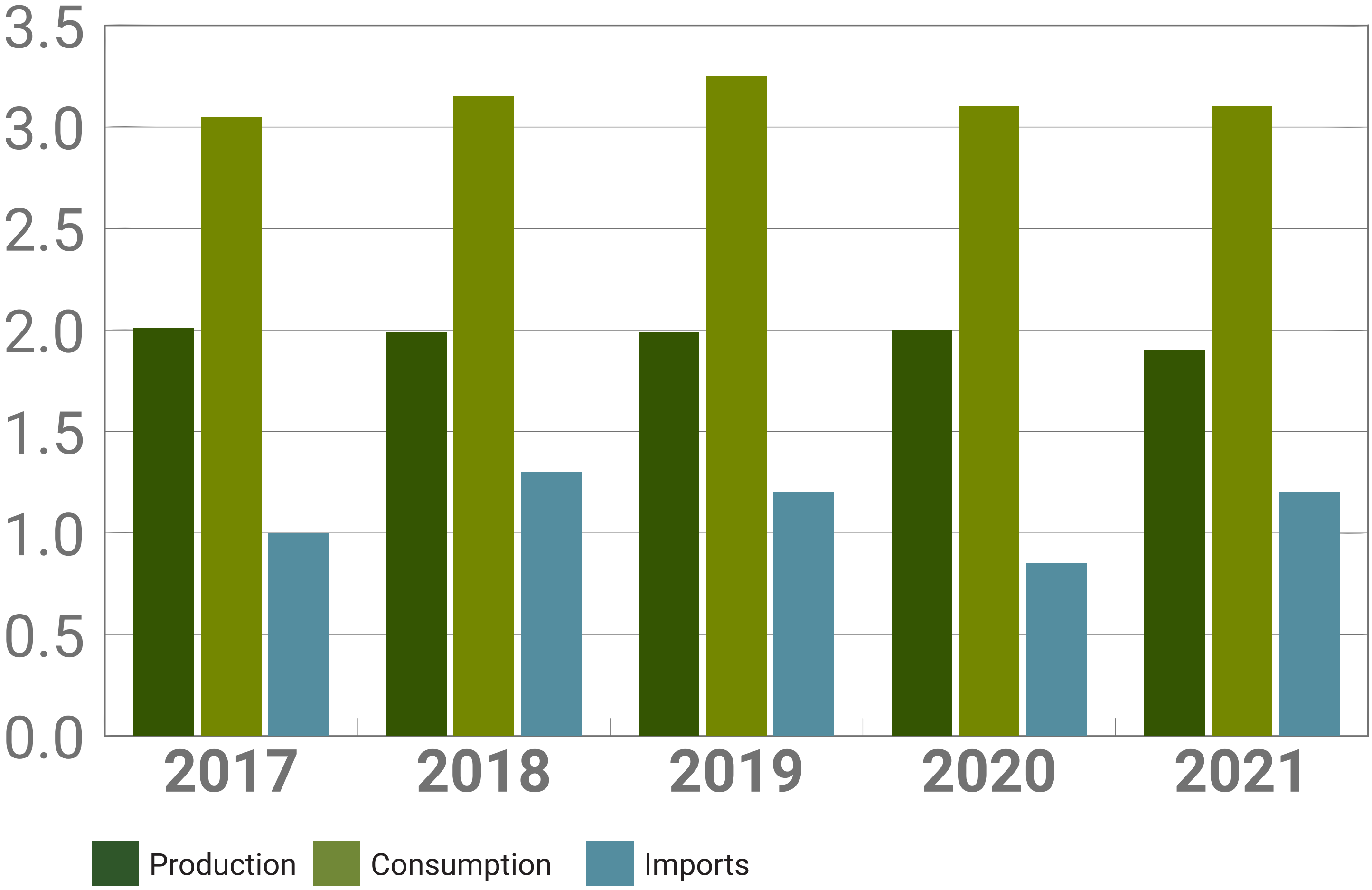


Figure 52. Iran rice production, consumption, and imports, 2017–2021.

B. **Key policy issues:** Iran has long aimed to achieve self-sufficiency in rice, but limited irrigation and continued droughts restrict the target every year. Iran incentivizes domestic production by offering guaranteed purchase prices and imposing duties and tariffs on imported rice, which sometimes leads to a complete ban during the rice harvesting season. Mostly, these bans are seasonal and are lifted once they no longer serve their purpose or begin affecting domestic food prices.

C. Summary of recent rice sector policies

- ***National Rice Strategy:*** In late 2022, the government tasked the Iran Revolutionary Guard Corps (IRGC) to increase rice production through irrigation infrastructure. The bulk of this five-year project was to be funded through bartering oil with foreign countries (Sinaiee 2022).
- ***Price support:*** The government increased producer support prices by 11% for Khazar rice to IRR 39,072 per kg (USD 1,205 per MT), by 12% for Sepidrood rice to IRR 35,431 per kg (USD 1,093 per MT), and by 10% for Nemat and Neda varieties to IRR 28,875 per kg (USD 891 per MT). (Exchange rate as of 1 April 2017) (FAO 2016).
- ***Import ban:*** In early 2023, Iran enacted a seasonal ban on importing rice to balance out trade with exporting countries, including India, which has the highest share in Iran's imported rice. The ban lasted for just a couple of days and was lifted to ease domestic rice prices (Financial Tribune 2023).
- ***Import tariff:*** In 2020, Iran lowered import tariffs on wholly and semi-milled rice from 26% to 10% (FAO 2020a). It further decreased tariffs on semi-milled rice to 4% later that year (FAO 2017). There has been a 5% import duty on husked rice since 2017 (FAO 2017).
- ***Trade policy:*** The government stopped subsidizing the exchange rate to import rice in 2020 (FAO 2020c).

IRAQ

A. Rice market overview: Most of Iraq's domestic demand is met through imports. After Saudi Arabia, it is the biggest importer in the region. On average, it imported an average of 1.3 million MT of rice from 2017 to 2021, which is about 90% of its total domestic consumption requirements (USDA 2024). Rice is a major staple food of the Iraqi diet. India is the dominant exporter for the local market (Morgan 2023).

B. Key policy issues: The government procures rice through bilateral agreements to support its domestic needs, mainly to run its food distribution program, the Public Distribution System (PDS). Under the PDS, the government distributes heavily subsidized food items to poor households, such as wheat flour, rice, sugar, and vegetable oil (Phadera, Sharma, and Wai-Poi 2020). Under this program, 3 kg of rice per person are distributed to a household in a single ration (Akingbe 2022). The country generally engages in bilateral contracts with exporting countries to facilitate smooth imports of the commodity.

C. Summary of recent rice sector policies

- ***Price support:*** The government purchases rough rice from farmers at agreed prices, ID 900,000 per MT (USD 623) for variety Amber and ID 700,000 per MT (USD 485) for variety Jasmin (exchange rate as of 2022). Amber is the most popular rice variety used in local dishes because of its aromatic scent, but production is well below consumption requirements (Akingbe 2022).

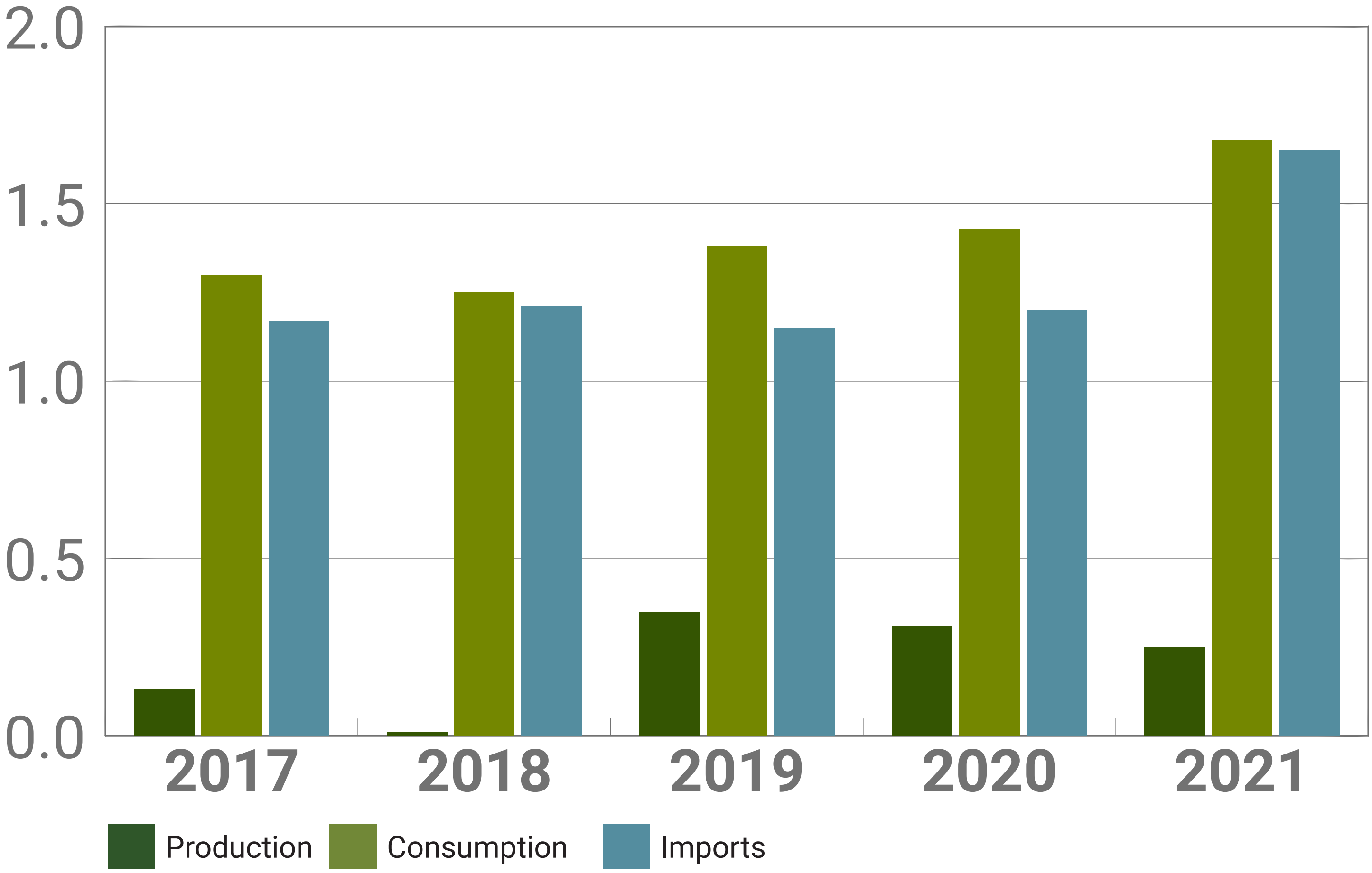


Figure 53. Iraq rice production, consumption, and imports, 2017–2021.

- ***Trade agreement:*** In 2021, contracts were awarded to import long-grain rice from the United States, Vietnam, Argentina, Brazil, Uruguay, and Thailand. Variety Basmati is mainly imported from India and other Southeast Asian countries via UAE (Akingbe 2022). In 2018, the government renewed a memorandum of understanding with the United States to procure rice until 2021 (FAO 2018).

JORDAN

A. Rice market overview: Jordon does not produce rice at all because of its dry climate conditions and because rice is a water-demanding crop. Nonetheless, rice is part of the daily diet, and Jordanians consume about 20 kg of rice and its products per capita per year. The preferred varieties are medium grain (Camolino), followed by long-grain white rice, basmati, and jasmine rice. In 2021, the U.S. was the top exporting country to Jordan, followed by India. Other exporting countries were Portugal, Italy, and Russia (Khraishy and Mello 2022). However, in recent years, India became the top exporter of rice to Jordan (Khraishy and Mello 2022).

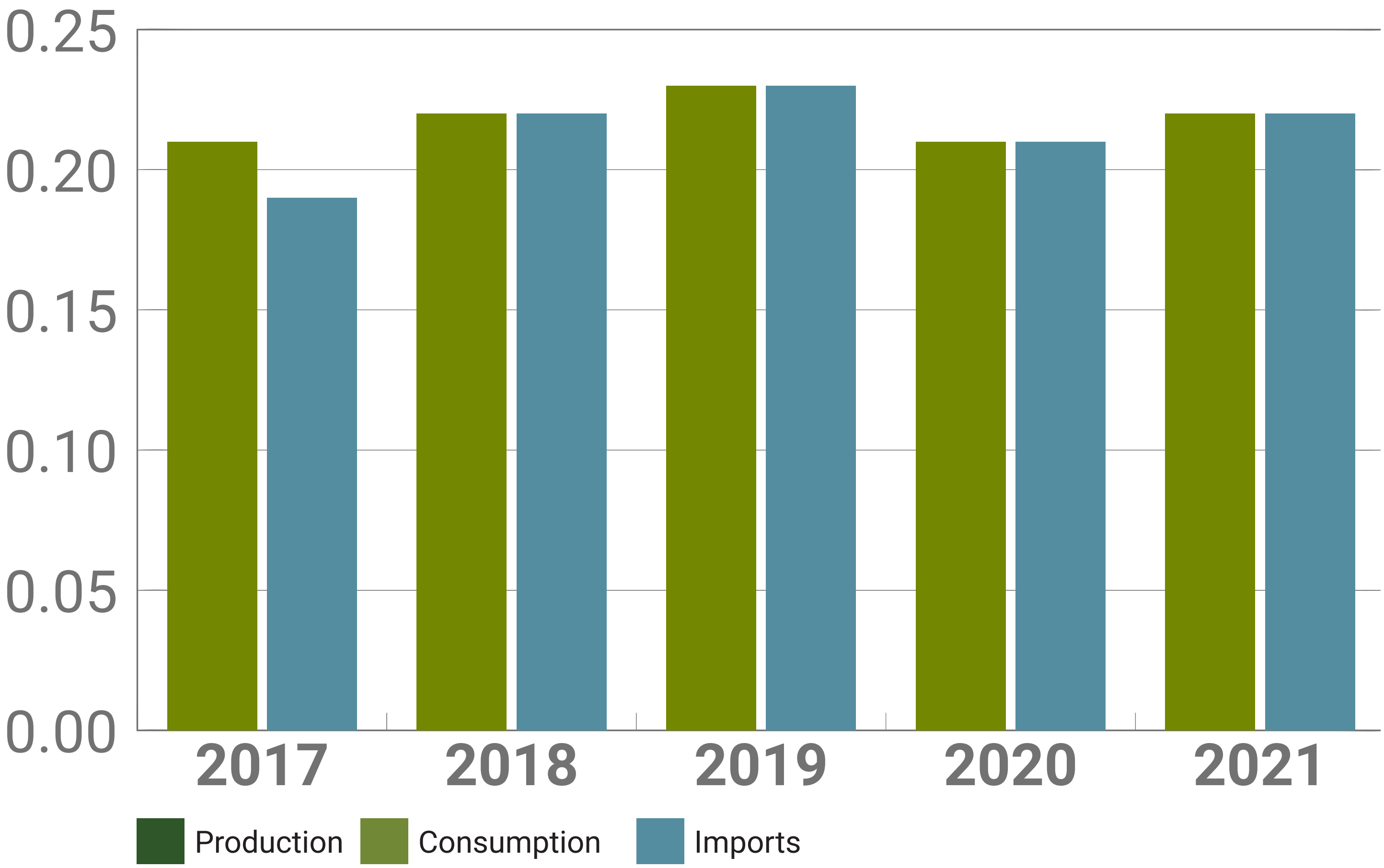


Figure 54. Jordan rice consumption and imports, 2017–2021.

B. Key policy issues: Jordan does not intervene in the rice market and there are no restrictions on trade and all imports are duty free. Rice is imported and distributed through the private sector in Jordan (Khraishy and Mello 2022).

SAUDI ARABIA

A. **Rice market overview**: Saudi Arabia does not produce rice and meets all of its domestic requirements through imports (USDA 2024). Rice is a staple food and a major part of the daily diet. Basmati (long-grain aromatic rice) is the most popular variety, followed by American long-parboiled and medium-grain Calrose varieties. The private sector imports rice and there are no tariffs or subsidies on rice imports. However, the government encourages the private sector to maintain a steady supply of stocks at home (USDA 2024). India, Pakistan, and the United States were the top three rice-exporting countries to Saudi Arabia in fiscal years 2019/2020 and 2020/2021 (Mousa 2023).

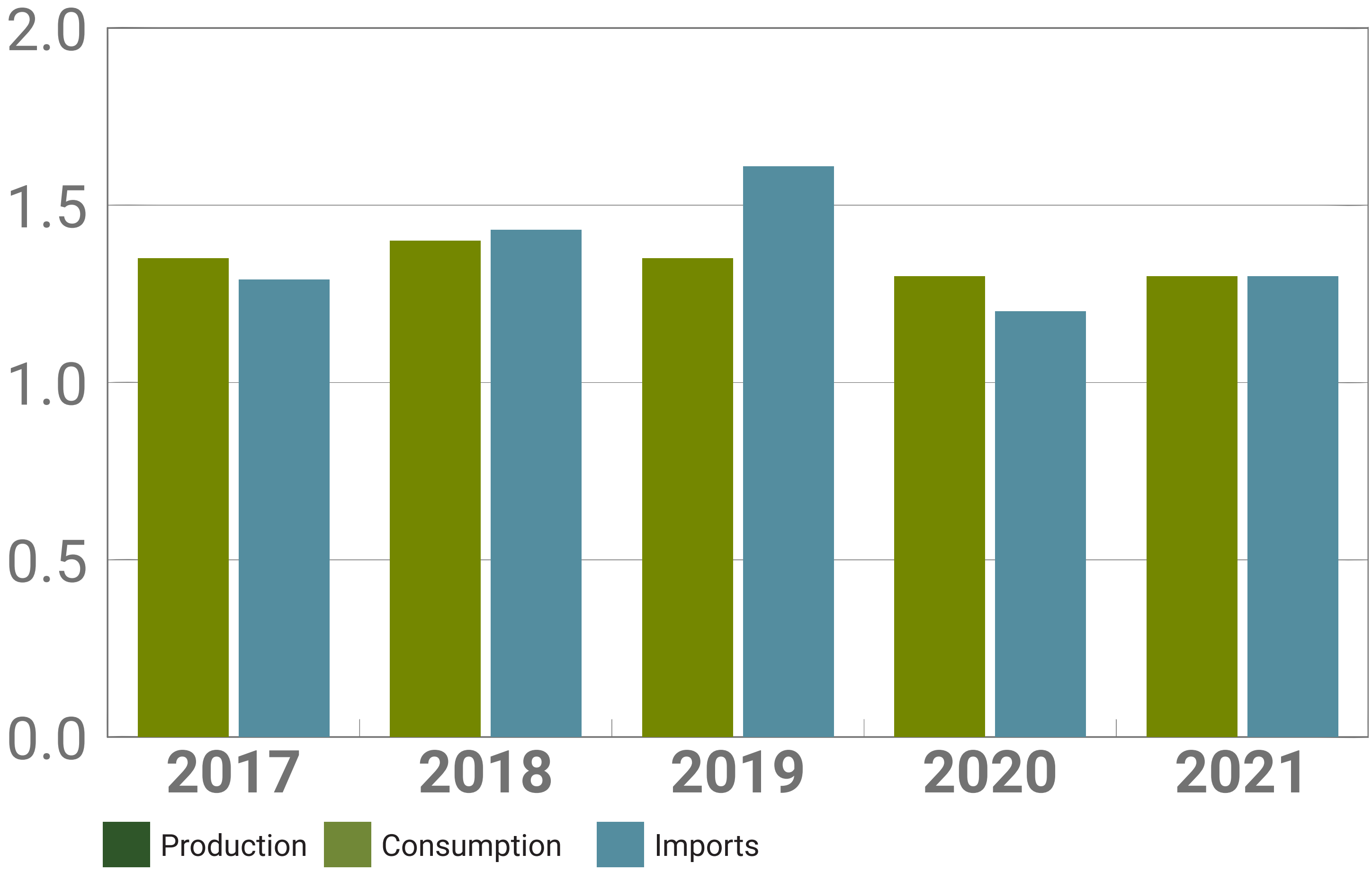


Figure 55. Saudi Arabia rice consumption and imports, 2017–2021.

B. **Key policy issues:** There are no import restrictions on rice. However, the government works with the private sector to ensure adequate stocks of rice at importers' warehouses (Mousa 2023).

TURKEY

A. **Rice market overview:** Turkey is the second largest producer of rice in the region after Iran. However, it produced only about 75% of its domestic consumption requirements from 2017 to 2021; the rest was imported from other countries. The leading suppliers of milled rice to Turkey in fiscal year 2021/2022 were China, Uruguay, and India. For rough rice, Russia was the top supplier, followed by Bulgaria (Karabina 2022a). Turkey also engages in rice exports, including re-exports, mainly with its neighboring countries. In fiscal year 2021/2022, the top destinations for Turkish rice exports were Syria, Iraq, and Libya (Karabina 2022a). On 22 October 2022, Turkey announced an "agricultural basin" program to support its 21 strategic crops, including rice, through production premiums and input subsidies for items such as fertilizer and fuel to mitigate the impact of high inflation in recent years (Karabina 2023).

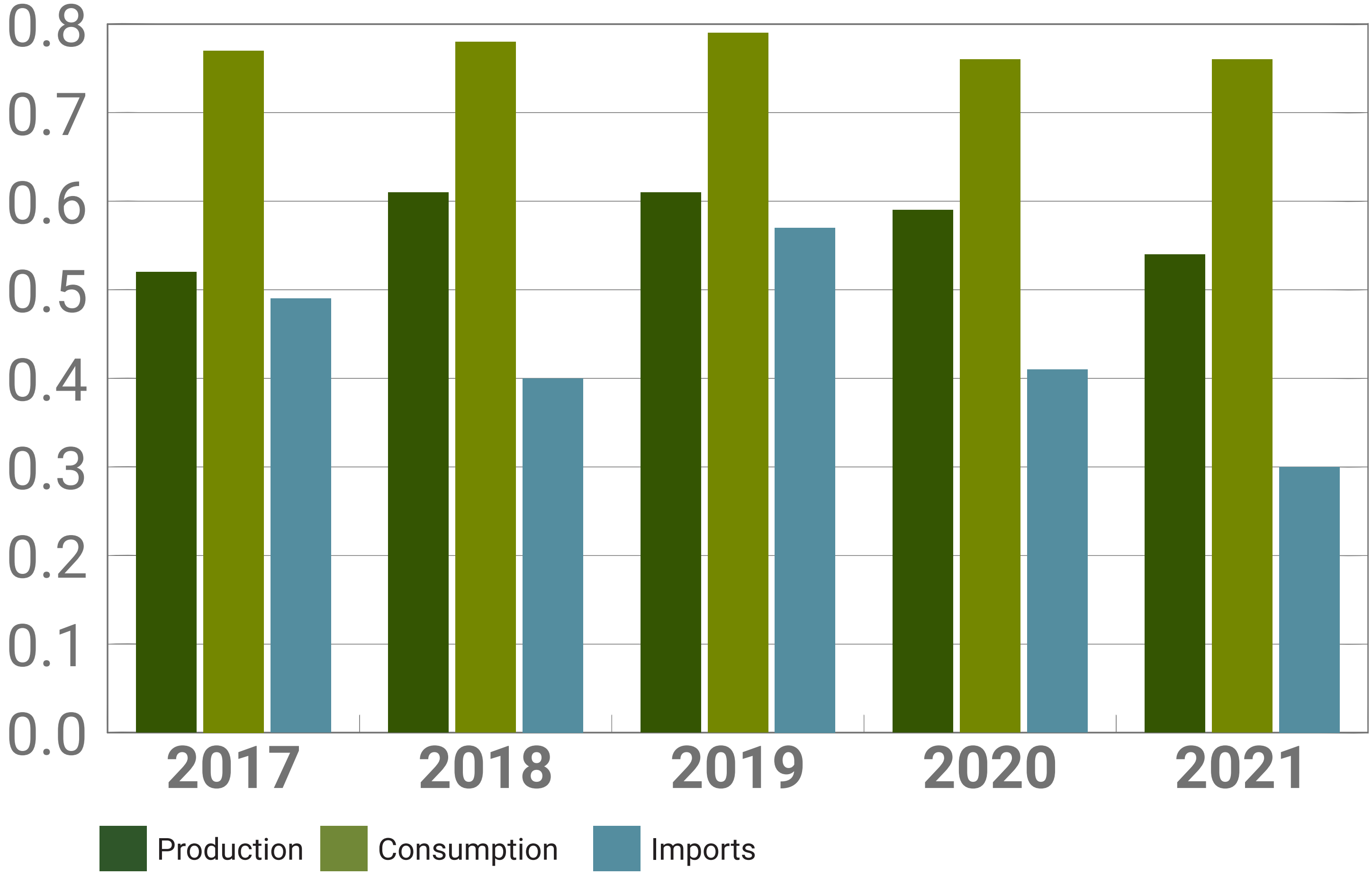


Figure 56. Turkey rice production, consumption, and trade, 2017–2021.

B. **Key policy issues:** To encourage domestic production, the government is involved in guaranteed purchase prices, procurement with bilateral agreements, and imposing tariffs and quotas during certain time periods. Turkey has a payment support system to help its farmers combat higher input costs due to its weakening local currency and rising international commodity prices.

C. **Summary of recent rice sector policies**

- ***Input price***: In April 2022, the government increased support payments for rice farmers to 80 TL (USD 5.50) for fertilizer and 680 TL (USD 46.90) for diesel per hectare. The support payments are particularly higher for rice than for other row crops, partly because the government wants to increase its rice production and rely less on imports (Karabina 2022a).

- ***Price support:*** Turkey increased government purchase prices for the 2020 season by 5.6% to 9.4% from TRY 3,500 to 4,750 (USD 413 to 561) per MT, effective until 12 April 2021 (FAO 2021).
- ***Procurement price:*** In October 2022, Turkey set rough rice procurement prices at 13,500–16,000 TL (USD 730–865) per MT for fiscal year 2022/2023. In 2023, these prices were set at 4,500–5,500 TL (USD 542–662) per MT (Karabina 2022b).
- ***Stock management:*** TMO, the state grains board, purchases rough rice and then sells it in domestic markets to stabilize market fluctuations. Rice prices are usually higher in open markets than in TMO retail stores (Karabina 2022a).
- ***Import tariff:*** In April 2022, import tariffs stood for rough rice at 34%, brown rice at 36%, and milled rice at 45%. Imports of U.S. rice are subject to further 25% retaliatory tariffs. Transshipments, re-exported rice, and government imports are not subject to these tariffs (Karabina 2022a).
- ***Import quota:*** Turkey approved a duty-free import quota for 100,000 MT of rough rice, valid until 31 May 2020 (FAO 2020).

UNITED ARAB EMIRATES

A. **Rice market overview:** UAE does not produce rice at all and meets all of its consumption requirements through imports. Rice is a staple food in UAE and Basmati and Jasmine are the popular varieties consumed. The UAE government does not intervene much in the market but maintains three months of stocks in its strategic reserves to control prices (Hamza 2023).

Most of the imported rice is milled or semi-milled rice. India was the top exporter of rice to UAE, while Thailand and the United States were the second and third largest exporters to the country from fiscal year 2016/2017 to 2020/2021.1 However, more recently, from 2019/2020 to 2021/2022, although India retained its top position, Pakistan occupied second place, moving Thailand and the U.S. to the third and fourth places, respectively (Hamza 2023).

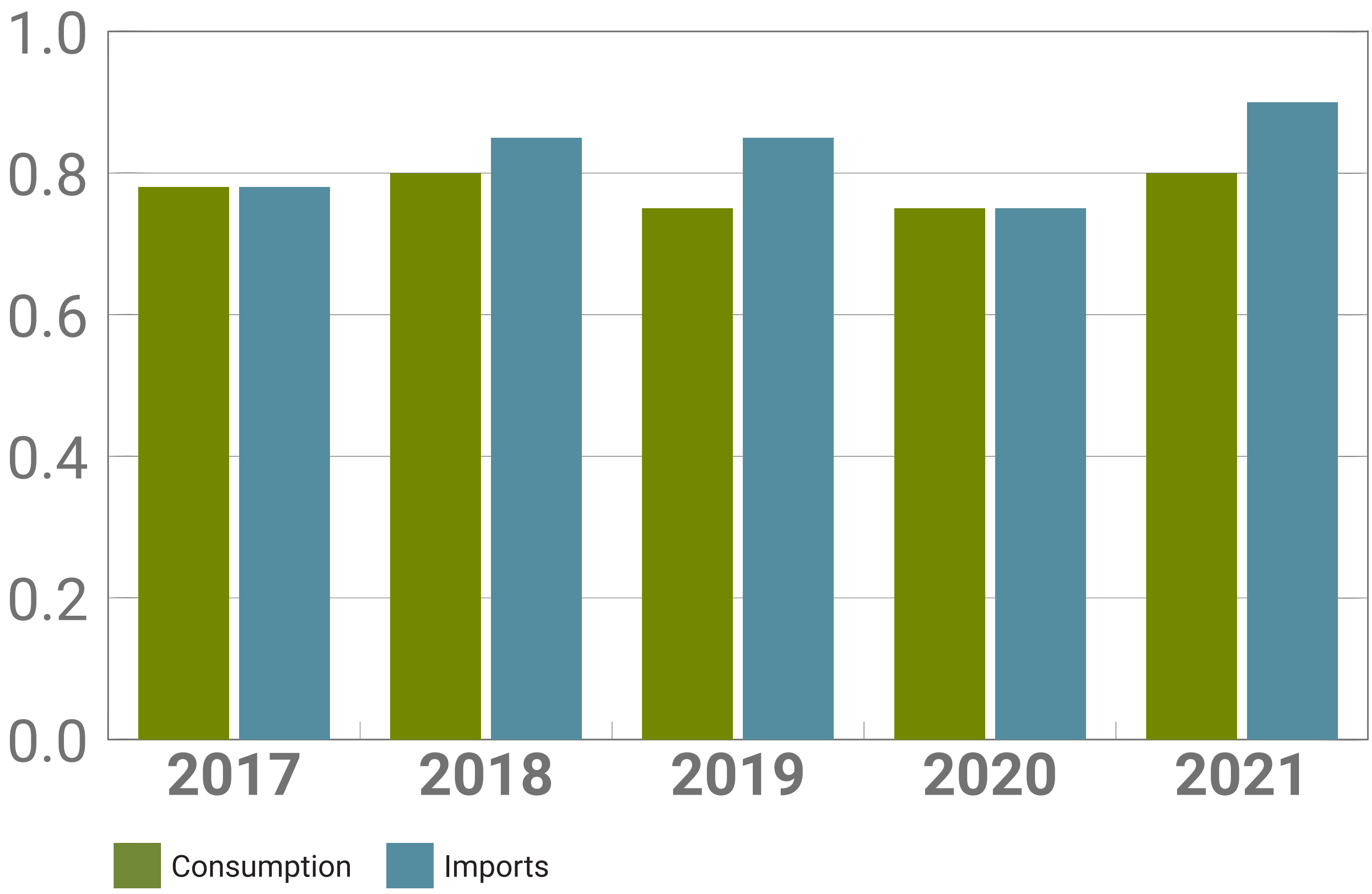


Figure 57. United Arab Emirates rice production, consumption, and trade, 2017–2021.

VII. Summary and Conclusions

This Handbook provides a documentation of current policies and programs related to rice in 70 rice-producing and -consuming countries and regions accounting for 99% of rice production and 98% of rice consumption in the world. Most rice production and trade still take place in Asia, which accounts for 90% of rice production, 84% of rice consumption, and 86% of rice exports.

Tables 1 to 7 summarize the rice policies in the major rice markets in Asia, Africa, the Americas, Europe, and the Middle East. There are similarities in policies in general and within regions. Given the importance of food security to all countries, policies are designed to increase and supplement farm income to sustain domestic production while ensuring access to and availability of affordable rice for consumers.

Government support is the highest in the major rice producers and consumers in Asia. Various policy instruments are in place, such as input and credit subsidies and minimum support prices, to bolster production, and import tariffs to protect local producers.

Growing rice consumption in Africa is also leading to an increasing number of rice-related policies. With African countries targeting self-sufficiency in rice, price controls and temporary export bans have been observed in some countries to stabilize prices and ensure domestic food availability. Several countries have also implemented input subsidies to bolster domestic production.

In the Americas and the European Union, rice trade and domestic prices are still managed primarily through import tariffs. Although significant rice producers are located in the Americas, such as Brazil, Uruguay, and the United States, much less government intervention is in place compared to their counterparts in Asia and Africa. Meanwhile, in the Middle East, only Iran, Iraq, and Turkey produce rice, leading to the region's reliance on imports to meet domestic demand, evidenced by the region accounting for more than 14% of global rice imports. Similar to the Americas and the EU, very few policy instruments are used in Middle Eastern countries.

Related to the efforts by Tobias et al. (2012) in documenting rice policies in Asia, strong intervention still occurs in current rice markets, most commonly through import tariffs. Although current market interventions are geared toward increasing farmer income, stabilizing consumer prices, and bolstering production, it is still important to note that sustainable economic growth could be attained by pursuing more liberalized trade and markets. Regional and global cooperation through bilateral and multilateral agreements is essential for building trust within the major rice markets in the world.

Table 1. Rice sector policies in key countries in Southeast Asia.

Southeast Asia								
	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam
Export Restrictions	✓				✓			
Export Bans	•				•			
Export Tax								
Import Restrictions	✓	✓		✓		✓		
Import Tariff	•			•		•		
Two-tier Tariff (Tariff Rate Quota)								
Import Quotas/Licenses	•	•						
State Trading	✓	✓			✓	✓		
Release Food From Stocks		✓						✓
Price Controls On Food		✓		✓		✓		
Consumer Food Subsidies								
Cash Transfer Programs				✓	✓	✓	✓	✓
Food Vouchers or Food Stamps								
Minimum Support Prices for Farmers		✓	✓	✓	✓		✓	
Subsidies to Farmers				✓	✓	✓	✓	
Fertilizer				•		•		
Seed						•		
Machinery				•		•		
Credit					•	•	•	
Irrigation						•		
Establish and Build Food Reserves		✓				✓	✓	✓

Table 2. Rice sector policies in key countries in East Asia.

East Asia				
	China	Japan	South Korea	Taiwan
Export Restrictions				
Export Bans				
Export Tax				
Import Restrictions	✓	✓	✓	✓
Import Tariff	•	•	•	•
Two-tier Tariff (Tariff Rate Quota)	•	•	•	•
Import Quotas/Licenses				
State Trading		✓		
Release Food From Stocks				
Price Controls On Food				
Consumer Food Subsidies				
Cash Transfer Programs		✓	✓	✓
Food Vouchers or Food Stamps				
Minimum Support Prices for Farmers	✓			
Subsidies to Farmers	✓		✓	
Fertilizer	•			
Seed				
Machinery				
Credit			•	
Irrigation				
Establish and Build Food Reserves			✓	

Table 3. Rice sector policies in key countries in South Asia.

South Asia					
	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Export Restrictions	✓	✓			
Export Bans	•	•			
Export Tax		•			
Import Restrictions	✓		✓	✓	✓
Import Tariff	•		•	•	•
Two-tier Tariff (Tariff Rate Quota)					
Import Quotas/Licenses					
State Trading	✓	✓		✓	✓
Release Food From Stocks	✓	✓			✓
Price Controls On Food					✓
Consumer Food Subsidies					✓
Cash Transfer Programs			✓		✓
Food Vouchers or Food Stamps	✓	✓			
Minimum Support Prices for Farmers		✓	✓		✓
Subsidies to Farmers	✓	✓		✓	✓
Fertilizer	•	•			•
Seed	•				
Machinery					
Credit	•			•	•
Irrigation					
Establish and Build Food Reserves	✓	✓			

Table 4. Rice sector policies in key countries in the Americas.

America								
	Argentina	Brazil	Colombia	Mexico	Peru	Uruguay	USA	Central America
Export Restrictions	✓							
Export Bans	•							
Export Tax								
Import Restrictions	✓	✓	✓	✓	✓	✓	✓	✓
Import Tariff	•	•	•	•	•	•	•	•
Two-tier Tariff (Tariff Rate Quota)			•					•
Import Quotas/Licenses								•
State Trading								
Release Food From Stocks			✓					
Price Controls On Food								
Consumer Food Subsidies								
Cash Transfer Programs				✓				
Food Vouchers or Food Stamps								
Minimum Support Prices for Farmers				✓		✓	✓	✓
Subsidies to Farmers								
Fertilizer								
Seed								
Machinery								
Credit								
Irrigation								
Establish and Build Food Reserves								

Table 5. Rice sector policies in key countries in Africa.

Africa								
	Benin	Burkina Faso	Cameroon	Chad	Congo (Kinshasa)	Côte d'Ivoire	Ethiopia	The Gambia
Export Restrictions	✓		✓					✓
Export Bans	•		•					•
Export Tax	•							
Import Restrictions		✓		✓	✓			✓
Import Tariff				•	•			•
Two-tier Tariff (Tariff Rate Quota)								
Import Quotas/Licenses		•						•
State Trading	✓							
Release Food From Stocks								
Price Controls On Food	✓		✓			✓		✓
Consumer Food Subsidies								
Cash Transfer Programs								
Food Vouchers or Food Stamps								
Minimum Support Prices for Farmers								
Subsidies to Farmers	✓					✓		
Fertilizer						•		
Seed						•		
Machinery						•		
Credit	•							
Irrigation								
Establish and Build Food Reserves	✓							

Table 5. (Continuation)

Africa (Continuation)								
	Ghana	Guinea	Guinea-Bissau	Kenya	Liberia	Madagas-car	Mali	Mauritania
Export Restrictions	✓	✓						
Export Bans	•	•						
Export Tax								
Import Restrictions	✓	✓		✓	✓		✓	✓
Import Tariff	•	•		•	•		•	•
Two-tier Tariff (Tariff Rate Quota)								
Import Quotas/Licenses				•				
State Trading								
Release Food From Stocks								
Price Controls On Food		✓	✓		✓	✓	✓	✓
Consumer Food Subsidies						✓		
Cash Transfer Programs					✓			
Food Vouchers or Food Stamps								
Minimum Support Prices for Farmers								
Subsidies to Farmers	✓			✓		✓		
Fertilizer	•			•		•		
Seed	•			•		•		
Machinery						•		
Credit								
Irrigation	•			•				
Establish and Build Food Reserves								

Table 5. (Continuation)

Africa (Continuation)								
	Mozambique	Niger	Nigeria	Senegal	Sierra Leone	Tanzania	Togo	Uganda
Export Restrictions		✓	✓					
Export Bans		•	•					
Export Tax								
Import Restrictions						✓	✓	✓
Import Tariff						•	•	•
Two-tier Tariff (Tariff Rate Quota)								
Import Quotas/Licenses						•		
State Trading					✓			
Release Food From Stocks								
Price Controls On Food				✓			✓	
Consumer Food Subsidies			✓					
Cash Transfer Programs				✓				
Food Vouchers or Food Stamps				✓				
Minimum Support Prices for Farmers								
Subsidies to Farmers	✓		✓	✓	✓	✓		
Fertilizer				•	•			
Seed				•	•	•		
Machinery					•			
Credit	•				•			
Irrigation			•		•	•		
Establish and Build Food Reserves								

Table 6. Rice sector policies in key countries in Europe.

Europe		
	European Union	United Kingdom
Export Restrictions		
Export Bans		
Export Tax		
Import Restrictions	✓	✓
Import Tariff	•	•
Two-tier Tariff (Tariff Rate Quota)	•	•
Import Quotas/Licenses	•	
State Trading		
Release Food From Stocks		
Price Controls On Food		
Consumer Food Subsidies		
Cash Transfer Programs	✓	
Food Vouchers or Food Stamps		
Minimum Support Prices for Farmers	✓	
Subsidies to Farmers		
Fertilizer		
Seed		
Machinery		
Credit		
Irrigation		
Establish and Build Food Reserves		

Table 7. Rice sector policies in key countries in the Middle East.

Middle East			
	Iran	Iraq	Turkey
Export Restrictions			
Export Bans			
Export Tax			
Import Restrictions	✓		✓
Import Tariff	•		•
Two-tier Tariff (Tariff Rate Quota)			
Import Quotas/Licenses	•		
State Trading		✓	
Release Food From Stocks			✓
Price Controls On Food			
Consumer Food Subsidies			
Cash Transfer Programs			✓
Food Vouchers or Food Stamps			
Minimum Support Prices for Farmers	✓	✓	✓
Subsidies to Farmers			✓
Fertilizer			•
Seed			
Machinery			
Credit			
Irrigation			
Establish and Build Food Reserves		✓	✓

VIII. References

SECTION REFERENCES

INTRODUCTION

Beers, Pieter J., Marjolein BA van Asselt, Jan D. Vermunt, and Paul A. Kirschner. 2003. "Policy makers, information and learning." Journal of Workplace learning 15, no. 2: 70-79.

Dawe, David, Steven Jaffee, and Nuno Santos. 2014. "Rice in the shadow of skyscrapers: Policy choices in a dynamic East and Southeast Asian setting."

Ethridge, Don E., Samarendu Mohanty, Suwen Pan, Mark Welch, Mohamadou L. Fadiga, Margarita M. Velandia-Parra, and Samantha Yates. 2009. "Guide to Foreign Crop Subsidies and Tariffs."

SUMMARY AND CONCLUSION

Tobias, Annette, Imelda Molina, Harold Glenn Valera, Khondoker Abdul Mottaleb, and Samarendu Mohanty. 2012. *Handbook on rice policy for Asia*. International Rice Research Institute Los Baños, Philippines.

COUNTRY REFERENCES

CAMBODIA

- Food and Agriculture Organization. 2020. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760541/.
- Hoy, Sokkea. 2022. Grain and Feed Annual (Cambodia – April 2022). Report CB2022-0001. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Phnom%20Penh_Cambodia_CB2022-0001.pdf.
- Hoy, Sokkea. 2023. Grain and Feed Annual (Cambodia – April 2023). Report CB2023-0003. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Phnom%20Penh_Cambodia_CB2023-0003.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.

html#/app/ advQuery.

- Vo, Thanh and Sokkea Hoy. 2021. Grain and Feed Annual (Cambodia – October 2021). Report CB2021-0004. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Phnom%20Penh_Cambodia_09-27-2021.pdf.

INDONESIA

- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Meylinah, Sugiarti. 2022. Grain and Feed Annual (Indonesia – March 2022). Report ID2022-0008. United States Department of Agriculture, Foreign Agricultural Service. https:// apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Jakarta_Indonesia_ID2022-0008.pdf.
- Food and Agriculture Organization. 2023a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768065/.
- Food and Agriculture Organization. 2023b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768068/.
- Food and Agriculture Organization. 2023c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768066/.
- Food and Agriculture Organization. 2023d. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768070/.
- Meylinah, Sugiarti. 2023a. Grain and Feed Annual (Indonesia – August 2023). Report ID2023-0016. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Jakarta_Indonesia_ID2023-0016.pdf.
- Meylinah, Sugiarti. 2023b. El Nino Conditions Compel Indonesia to Import Additional 2 MMT of Rice. Report ID2023-0020. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=El%20Nino%20Conditions%20Compel%20Indonesia%20to%20Import%20Additional%202%20MMT%20of%20Rice_Jakarta_Indonesia_ID2023-0020.pdf

LAOS

Mullis, Eric and Ponnarong Prasertsri. 2020. Laos Rice Price Report Annual. Report LA2020-0001.

United States Department of Agriculture, Foreign Agricultural Service. https:// apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Laos%20Rice%20Report%20Annual_Bangkok_Laos_06-08-2020.

United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/advQuery.

MALAYSIA

- Food and Agriculture Organization. 2020a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760846/.
- Food and Agriculture Organization. 2020b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761199/.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767644/.
- Food and Agriculture Organization. 2023a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768264/.
- Food and Agriculture Organization. 2023b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768267/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Wahab, Abdul Ghani. 2022. Grain and Feed Annual (Malaysia – April 2022). Report MY2022-0001. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Kuala%20Lumpur_Malaysia_MY2022-0001.pdf.

MYANMAR

- FAS Rangoon. 2022. Grain and Feed Annual (Burma – April 2022). Report BM2022-0006. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas. usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Rangoon_Burma%20-%20Union%20of_BM2022-0006.pdf.

- Food and Agriculture Organization. 2022a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768097/.
- Food and Agriculture Organization. 2022b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767715/.
- Reuters. 2023. “Myanmar plans to curb rice exports to control domestic prices.” August 25, 2023. https://www.reuters.com/article/%20ganda%20-rice-idAFL1N3A60GD/
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Wahab, Abdul Ghani. 2021. Grain and Feed Annual (Malaysia – May 2021). Report MY2021-0005. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Kuala%20Lumpur_Malaysia_03-15-2021.pdf

PHILIPPINES

- BAARM Ministry of Agriculture, Fisheries and Agrarian Reform. 2024. “Rice Program.” https://mafar.bangsamoro.gov.ph/rice-program/
- Bedford, Ryan. 2021. Grain and Feed Annual (Philippines – March 2021). Report RP2021-0009. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Manila_Philippines_03-19-2021
- Department of Agriculture. 2024. “Rice Competitive Enhancement Fund”. https://www.da.gov.ph/rice-competitiveness-enhancement-fund/
- Department of Agriculture – Agricultural Credit Policy Council. 2024. “Sikat Saka”. https://acpc.gov.ph/sikat-saka/
- Department of Agriculture - Agriculture and Fisheries Information Division. 2023. “Rice price ceiling takes effect.” September 5, 2023. https://www.da.gov.ph/rice-price-ceiling-on-takes-effect/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767323/.

- Food and Agriculture Organization. 2023a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768278/.
- Food and Agriculture Organization. 2023b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768279/.
- Food and Agriculture Organization. 2023c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768277/.
- Haas, Morgan. 2022. Grain and Feed Update (Philippines – June 2022). Report RP2022-0033. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas. usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Manila_Philippines_RP2022-0033.pdf
- Republic Act No. 10969. 2018. “An Act Providing Free Irrigation Service, Amending for the Purpose Republic Act No. 3601, A Amended, Appropriating Funds Therefor and for Other Purposes.” February 2, 2018. Manila: Official Gazette. https://www.officialgazette. gov.ph/downloads/2018/02feb/20180202-RA-10969-RRD.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

THAILAND

- Food and Agriculture Organization. 2023. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768285/.
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767731/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade/commodity-policy-archive/detail/en/c/761213/
- Iemsam-arng, Mana-anya. 2021. Grain and Feed Update (Thailand - November 2021). Report TH2021-0076. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Bangkok_Thailand_10-30-2021.pdf
- Iemsam-arng, Mana-anya. 2022a. Grain and Feed Annual (Thailand - March 2022). Report TH2022-0020. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Bangkok_Thailand_TH2022-0020.pdf

- Iemsam-arng, Mana-anya. 2022b. Grain and Feed Update (Thailand - June 2022). Report TH2022-0037. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Bangkok_Thailand_TH2022-0037.pdf
- Iemsam-arng, Mana-anya. 2023. Grain and Feed Annual (Thailand - March 2023). Report TH2023-0015. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Bangkok_Thailand_TH2023-0015.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

VIETNAM

- Food and Agriculture Organization. 2021a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767339/.
- Food and Agriculture Organization. 2021b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767338/.
- Food and Agriculture Organization. 2021c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767341/.
- Menker, Sara. 2018. "Vietnam's Rice Caught Between Two Models of Development". April 12. https://www.linkedin.com/pulse/vietnams-rice-caught-between-two-models-development-sara-menker/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Vietnam Investment Review. 2019. "Agriculture gets much-needed boost from legislators." January 28, 2019. https://vir.com.vn/agriculture-gets-much-needed-boost-from-legislators-65387.html#:~:text=116%2F2018%2FND%2DCP,cent%20of%20the%20project%20 value.
- Vo, Thanh. 2022. Grain and Feed Annual (Vietnam – April 2022). Report VM2022-0026. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda. gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Hanoi_Vietnam_VM2022-0026.pdf

CHINA

- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767619/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767620/.
- Food and Agriculture Organization. 2023. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768233/.
- McGrath, Chase. 2022. Grain and Feed Annual (People's Republic of China – April 2022). Report CH2022-0041. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName ?fileName=Grain%20and%20Feed%20Annual_Beijing_China%20-%20People%27s%20Republic%20of_CH2022-0041.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

JAPAN

- Fujibayashi, Keiko. 2021. MAFF Increases Crop Diversification Payments. Report JA2021-0032. United States Department of Agriculture, Foreign Agricultural Service. https:// apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=MAFF%20Increases%20Crop%20Diversification%20Payments_Tokyo_Japan_03-06-2021
- Fujibayashi, Keiko. 2022. Grain and Feed Update (Japan – September 2022). Report JA2022-0078. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Tokyo_Japan_JA2022-0078.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

SOUTH KOREA

- Jeon, Yoona. 2023. Grain and Feed Annual (Republic of Korea – April 2023). Report KS2023-0005. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Seoul_Korea%20-%20Republic%20of_KS2023-0005.pdf

- Oh, Sangyong. 2022a. Grain and Feed Update (Republic of Korea – June 2022). Report KS2022-0016. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Seoul_Korea%20-%20Republic%20of_KS2022-0016.pdf
- Oh, Sangyong. 2022b. Grain and Feed Annual (Republic of Korea – April 2022). Report KS2022-0009. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Seoul_Korea%20-%20Republic%20of_KS2022-0009.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

TAIWAN

- Lai, Troy and Oscar Lin. 2022. Grain and Feed Annual (Taiwan – April 2022). Report TW2022-0018. United States Department of Agriculture, Foreign Agricultural Service. https://apps .fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Taipei_Taiwan_TW2022-0018.pdf
- Lai, Troy and Erik Syngle. 2021. Grain and Feed Annual (Taiwan – April 2021. Report TW2021-0025. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Taipei_Taiwan_04-01-2021.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

BANGLADESH

- Ahmed, Tanvir. 2022a. Grain and Feed Update (Bangladesh – July 2022). Report BG2022-0024. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Dhaka_Bangladesh_BG2022-0024.pdf
- Ahmed, Tanvir. 2022b. Grain and Feed Annual (Bangladesh – April 2022). Report BG2022-0005. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dhaka_Bangladesh_BG2022-0005.pdf
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768033/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade

- Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768037/.

- Food and Agriculture Organization. 2022c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767682/.
- Food and Agriculture Organization. 2022d. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767684/.
- Food and Agriculture Organization. 2022e. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768036/.
- Food and Agriculture Organization. 2022f. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767685/.
- Food and Agriculture Organization. 2023a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768034/.
- Food and Agriculture Organization. 2023b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768035/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

INDIA

- Atoll Times. 2023. "Maldives says no impact of Indian rice export ban." July 22, 2023. Atoll Times. https://atolltimes.mv/post/business/4702
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767639/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768056/.
- Food and Agriculture Organization. 2022c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767640/.
- Food and Agriculture Organization. 2022d. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767706/.
- Food and Agriculture Organization. 2022e. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-

development/commodity-policy-archive/detail/en/c/767704/.

- Food and Agriculture Organization. 2022f. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767708/.
- Food and Agriculture Organization. 2022g. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768061/.
- Food and Agriculture Organization. 2022h. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768059/.
- Food and Agriculture Organization. 2023a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768062/.
- Food and Agriculture Organization. 2023b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768254/.
- Food and Agriculture Organization. 2023c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768257/.
- Jadhav, Rajendra. 2023. “India expands curbs on rice exports with 20% duty on parboiled grade.” August 26, 2023. Reuters. https://www.reuters.com/world/india/india-imposes-20-export-duty-parboiled-rice-govt-notification-2023-08-25/
- Jadhav, Rajendra, Mayank Bhardwaj and Shivam Patel. 2023. “India imposes major rice export ban, triggering inflation fears.” July 21, 2023. Reuters. https://www.reuters.com/markets/commodities/india-prohibits-export-non-basmati-white-rice-notice-2023-07-20/
- Reidy, Susan. 2023. “India sets minimum export price on basmati rice.” August 28, 2023. World Grain. https://www.world-grain.com/articles/18958-india-sets-minimum-export-price-on-basmati-rice
- Singh, Santosh K. and Mariano J. Beillard. 2022a. Grain and Feed Annual – 2022 (India). Report IN2022-027. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName? fileName=Grain%20and%20Feed%20Annual_New%20Delhi_India_IN2022-0027.pdf
- Singh, Santosh K. and Mariano J. Beillard. 2022b. Grain and Feed Update – July 2022 (India). Report IN2022-027. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_New%20Delhi_India_IN2022-0064.pdf
- The Wire Staff. 2023. “Singapore Gets Rice Export Ban Exemption; Bhutan, Mauritius Join List.” August 31, 2023. The Wire. https://thewire.in/trade/singapore-gets-rice-export-ban-exemption-due-to-very-close-strategic-partnership-india
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

NEPAL

- Department of Customs. 2020. Customs Tariff 2020/2021. Tripureshwor, Kathmandu: Government of Nepal, Ministry of Finance, Department of Customs. https://customs. gov.np/uploads/Pages/1611309259_np.pdf
- Food and Agriculture Organization. 2020a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760853/.
- Food and Agriculture Organization. 2020b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761204/.
- Food and Agriculture Organization. 2023. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768269/
- International Rice Research Institute. 2022. “Nepal releases seven new and improved rice varieties to increase domestic rice production.” August 30, 2022. https://www.irri.org/news-and-events/news/nepal-releases-seven-new-and-improved-rice-varieties-increase-domestic-rice
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

PAKISTAN

- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767320/
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767652/.
- Raza, Asmat. 2021. Grain and Feed Update (Pakistan – July 2021) Report PK2021-0007. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Islamabad_Pakistan_06-28-2021.pdf
- Raza, Asmat. 2022. Grain and Feed Annual (Pakistan – March 2022). Report PK2022-0006. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas. usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Islamabad_Pakistan_PK2022-0006.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

SRI LANKA

- Beillard, Mariano J. and Ayodya Galappattige. 2021. Grain and Feed Annual – 2021 (Sri Lanka). Report CE 2021-0002. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_New%20Delhi_Sri%20Lanka_03-27-2021
- Beillard, Mariano J. and Thilani K. Kankanamge. 2022. Grain and Feed Annual – 2022 (Sri Lanka). Report CE 2022-0004. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_New%20Delhi_Sri%20Lanka_CE2022-0004.pdf
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767667/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767726/.
- Food and Agriculture Organization. 2022c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767729/.
- Food and Agriculture Organization. 2022e. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767727/.
- Food and Agriculture Organization. 2022d. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767663/.
- Food and Agriculture Organization. 2023a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768088/.
- Food and Agriculture Organization. 2023b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768091/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

COLOMBIA

- FAS Bogota. 2022. Grain and Feed Annual (Colombia – March 2022). Report CO2022-0002. United States Department of Agriculture, Foreign Agricultural Service. https://apps. fas.usda.

gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Bogota_Colombia_CO2022-0002

- Federación Nacional de Arroceros. 2021a. "Política Sectorial y Acuerdos con Productores y Molineros Salvaron Cosecha Arrocera 2021." October 8, 2021. https://fedearroz.com.co / es/publicaciones/editoriales/2021/10/08/politica-sectorial-y-acuerdos-con-productores-y-molineros-salvaron-cosecha-arrocera-2021/.
- Federación Nacional de Arroceros. 2021b. Informe de Gestión Vigencia 2021. https://fedearroz-website.s3.amazonaws.com/media/documents/INFORME_DE_GESTION_VIGENCIA_2021_FNA.pdf
- SICE. 2023. Trade Agreements. http://www.sice.oas.org/agreements_e.asp
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

UNITED STATES

- Farm Service Agency. 2024. Agriculture Risk Coverage (ARC) & Price Loss Coverage (PLC). United States Department of Agriculture, Farm Service Agency. https://www.fsa.usda. gov/resources/programs/arc-plc
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- United States International Trade Commission. 2024. Harmonized Tariff Schedule of the United States. https://hts.usitc.gov/.

MEXICO

- Juarez, Benjamin. 2022. Grain and Feed Update (Mexico – September 2022). United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/new gainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Mexico%20City_Mexico_MX2022-0048
- Seguridad Alimentaria Mexicana. 2022. "Se anuncia modificación a las Reglas de Operación del Programa Precios de Garantía a Productos Alimentarios Básicos." November 23, 2022. Gobierno de Mexico. https://www.gob.mx/segalmex/prensa/se-anuncia-modificacion-a-las-reglas-de-operacion-del-programa-precios-de-garantia-a-productos-alimentarios-basicos-320323
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

PERU

- Durand-Morat, A and S Bairagi. 2022. International Rice Outlook: International Rice Baseline Projections 2021–2031. Research report 1009. Fayetteville, NC, USA: University of Arkansas. https://agribusiness.uark.edu/_resources/pdf/Rice/International_Rice_Outlook_ 2021- 2031.pdf
- Seguridad Alimentaria Mexicana. 2022. “Se anuncia modificación a las Reglas de Operación del Programa Precios de Garantía a Productos Alimentarios Básicos.” November 23, 2022. Gobierno de Mexico. https://www.gob.mx/segalmex/prensa/se-anuncia-modificacion-a-las-reglas-de-operacion-del-programa-precios-de-garantia-a-productos-alimentarios-basicos-320323
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

BRAZIL

- Latin American Integration Association. 2024. Acceso a Mercados. Accessed November 5, 2024. https://www.aladi.org/accesoamercados/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

URUGUAY

- Asociación de Cultivadores de Arroz. 2024. Precios del Arroz. https://www.aca.com.uy/precios-del-arroz/.
- Latin American Integration Association. 2024. Acceso a Mercados. https://www.aladi.org/accesoamercados/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

ARGENTINA

- Latin American Integration Association. 2024. Acceso a Mercados. Accessed November 5, 2024. https://www.aladi.org/accesoamercados/.

- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

CENTRAL AMERICA (COSTA RICA, EL SALVADOR, GUATEMALA, HONDURAS, AND NICARAGUA)

- Government of Costa Rica. 2022a. "Decreto Ejecutivo 43402 Alcance 19, La Gaceta 20 del 01/02/2022."
- Government of Costa Rica. 2022b. "Decreto Ejecutivo 43455 Alcance 59, La Gaceta 53 del 18/03/2022."
- Organization of American States (OAS). n.d. Dominican Republic-Central America Free Trade Agreement (CAFTA-DR). http://www.sice.oas.org/Trade/CAFTA/CAFTADR_e/CAFTADRin_e.asp.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

BENIN

- Coalition for African Rice Development. 2024. Country Site for Benin. Rice for Africa. https://riceforafrica.net/country_site/benin/
- Food and Agriculture Organization. 2019. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759869/.
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767686/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767614/.
- Food and Agriculture Organization. 2022c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767615/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

BURKINA FASO

- Bousso, Mamadou. 2022. Grain and Feed Annual (Senegal – April 2022).Report SG2022-0006. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dakar_Senegal_SG2022-0006.pdf
- Bousso, Mamadou. 2024. Grain and Feed Annual (Senegal – April 2024). Report SG2024-0004. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dakar_Senegal_SG2024-0004.pdf.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767297/.
- Ministère de l'Agriculture et des Aménagements Hydro-agricoles. 2021. Deuxième Génération de la Stratégie Nationale de Développement de la Rizicole 2021-2030. https://riceforafrica.net/wp-content/uploads/2021/09/burkinafaso_sndr2020-2030.pdf
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

CAMEROON

- Coalition for African Rice Development. 2024. Country Site for Cameroon. Rice for Africa. https://riceforafrica.net/country_site/cameroon/.
- Epule, Terence Epule, Abdelghani Chehbouni, Driss Dhiba, Daniel Etongo, Fatima Driouech, Youssef Brouziyne, and Changhui Peng. 2021. "Vulnerability of maize, millet, and rice yields to growing season precipitation and socio-economic proxies in Cameroon." Plos one 16, no. 6: e0252335. https://doi.org/10.1371/journal.pone.0252335
- Food and Agriculture Organization. 2016. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758271/.
- Food and Agriculture Organization. 2019." Cameroon takes measures to stabilize food prices." https://www.fao.org/giews/food-prices/food-policies/detail/en/c/1186781/
- Food and Agriculture Organization. 2022. "Cameroon suspends exports of wheat flour, rice, vegetable oil and other locally produced cereals from the East Region." https://www.fao.org/giews/food-prices/food-policies/detail/en/c/1585320/
- Mbodiam, Brice. 2022. "Cameroon seeks to bring local rice production to 750,000 tons by 2030." Business in Cameroon. https://www.businessincameroon.com/agriculture/3009-12780-cameroon-seeks-to-bring-local-rice-production-to-750-000-tons-by-2030.
- Shillie, Peter Ngek, Roland Azibo Balgah, and Clifort Tieh Njonyi. 2022. "Determinants of credit

access among rice farmers in rural Cameroon.” Journal of Agribusiness and Rural Development 66, no. 4: 321-329. https://doi.org/10.17306/j.jard.2022.01571

-
- Uited States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

CHAD

- Climate Technology Centre & Network. 2024. “Water Regulation Schemes for Traditional Rice Crops in Chad”. https://www.ctc-n.org/technologies/water-regulation-schemes-traditional-rice-crops-chad.
- Food and Agriculture Organization. 2019. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759872/.
- Food and Agriculture Organization. 2020. “National policy responses to limit the impact of COVID-19 on food markets – update.” Food and Agriculture Organization. https://www.fao.org/giews/food-prices/food-policies/detail/en/c/1275103/
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767617/.
- Riebe, Katherine, and Anne Dressel. 2021. “The impact on food security of a shrinking Lake Chad.” Journal of Arid Environments 189: 104486. https://doi.org/10.1016/j.jaridenv.2021.104486.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

CONGO (KINSHASA)

- Coalition for African Rice Development. 2022. DR Congo June 2022. Rice for Africa. https://riceforafrica.net/dr-congo-june-2022/
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767691/.
- Secrétariat Général de l’Agriculture, Pêche et Elevage. 2013. Strategie Nationale de Developpement de la Riziculture de Republique Democratique Du Congo. Rice For Africa. https://riceforafrica.net/wp-content/uploads/2021/09/NRDS_drc_fr-min.pdf

- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

CÔTE D'IVOIRE

- Archibald, Daniel. 2021. Grain and Feed Annual (Cote d'Ivoire – April 2021). Report IV2021-0002. United States Department of Agriculture, Foreign Agricultural Service. https://app s.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Accra_Cote%20d%27Ivoire_04-15-2021.pdf
- Coalition for African Rice Development. 2019. Cote d'Ivoire, March 2019. Rice for Africa. https://riceforafrica.net/cote-divoire-march-2019/.
- Food and Agriculture Organization. 2017. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758802/.
- Food and Agriculture Organization. 2020a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760829/.
- Food and Agriculture Organization. 2020b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760549/.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767304/.
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768041/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767696/.
- Louis Dreyfus Foundation. 2024. "Developing a Sustainable Rice Value Chain in Côte d'Ivoire." https://www.louisdreyfusfoundation.org/media/news/developing-sustainable-rice-value-chain-cote-divoire.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Yao, Isaac. 2022. Grain and Feed Annual (Cote d'Ivoire – April 2022). Report IV2022-0004. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas. usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Accra_Cote%20d%27Ivoire_IV2022-0004.pdf.

EGYPT

- Eliw, Moataz, Samim S. Alim, and Sarhan A. Soliman. 2022. "Impact of Agricultural Policy on Egyptian Rice." Journal of Animal & Plant Sciences. https://doi.org/10.36899/JAPS.2022.2.0447.
- Food and Agriculture Organization. 2017a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759027/.
- Food and Agriculture Organization. 2017b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758606/.
- Food and Agriculture Organization. 2017c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758290/.
- Food and Agriculture Organization. 2018a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759354/.
- Food and Agriculture Organization. 2018b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759355/.
- Food and Agriculture Organization. 2018c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758921/.
- Food and Agriculture Organization. 2018d. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758979/.
- Food and Agriculture Organization. 2019. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759602/.
- Food and Agriculture Organization. 2020. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760830/.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761182/.
- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768045/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768044/.

- Food and Agriculture Organization. 2022c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767698/
- Food and Agriculture Organization. 2022d. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767700/.
- Food and Agriculture Organization. 2022e. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767699/.
- Food and Agriculture Organization. 2022f. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767625/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Wally, Ahmed and Olutayo Akingbe. 2021. Grain and Feed Annual (Egyps – March 2021). Report EG2021-0004. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName ?fileName=Grain%20and%20Feed%20Annual_Cairo_Egypt_03-15-2021.

ETHIOPIA

- Desta, Mare Addis, Gete Zeleke, William A. Payne, and Wubneh Belete Abebe. 2022. “Impact of rice expansion on traditional wetland management in the tropical highlands of Ethiopia.” Agriculture 12 (7): 1055. https ://doi.org/10.3390/agriculture12071055.
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767627/.
- Ministry of Agriculture. 2020. National Rice Development Strategy-II 2020 – 2030. Addis Ababa, Ethiopia: Ministry of Agriculture. https://riceforafrica.net/wp-content/uploads/2021/09/ethiopia_nrds2.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

THE GAMBIA

- Britwum, Kofi, and Matty Demont. 2021. “Tailoring rice varieties to consumer preferences induced by cultural and colonial heritage: Lessons from New Rice for Africa (NERICA) in The Gambia.” Outlook on Agriculture 50 (3): 305-314. . https://doi.org/10.1177/00307270211019758.
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759007/.
- Food and Agriculture Organization. 2020. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760556/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761185/.
- Gomez, David, Edward Akpen-Ageh, and Hembafan Ann Kwaghngu. 2022. “Effect of Rice Value Chain Programme on Rice Production in the Gambia.” Asian Food Science Journal 21 (5): 1-13. https://doi.org/10.9734/afsj/2022/v21i530426
- The Republic of the Gambia Ministry of Agriculture. 2022. National Rice Seed Development Strategy (2022-2030). Rice for Africa. https://riceforafrica.net/wp-content/uploads/2023/08/gambia_rsds2.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

GHANA

- Anang, Benjamin Tetteh. 2018. “Farm technology adoption by smallholder farmers in Ghana.” Review of Agricultural and Applied Economics (RAAE) 21 (2): 41-47. https://doi.org/10.15414/raae.2018.21.02.41-47.
- Asravor, Jacob, Alexander N. Wiredu, Khalid Siddig, and Edward E. Onumah. 2019. “Evaluating the environmental-technology gaps of rice farms in distinct agro-ecological zones of Ghana.” Sustainability 11 (7): 2072. https://doi.org/10.3390/su11072072.
- Coalition for African Rice Development. 2024. Country Site for Ghana. Rice for Africa. https://riceforafrica.net/country_site/ghana/.
- Donkor, Emmanuel, Nicolette Matthews, and Abiodun A. Ogundeji. 2018. “Efficiency of rice farming in Ghana: policy implications for rice sector development.” African Development Review 30 (2): 149-161. https://doi.org/10.1111/1467-8268.12320.
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758291/.
- Food and Agriculture Organization. 2022a. “Commodity Policy Archive.” Markets and Trade

- Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768051/.

- Food and Agriculture Organization. 2022b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768050/.
- Food and Agriculture Organization. 2022c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade/commodity-policy-archive/en/
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

GUINEA

- Bousso, Mamadou. 2022. Grain and Feed Annual (Senegal – April 2022). Report SG2022-0006. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dakar_Senegal_SG2022-0006.pdf .
- Coalition for African Rice Development. 2019. Guinea, July 2019. Rice for Africa. https://riceforafrica.net/guinea-july-2019/.
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758803/.
- Food and Agriculture Organization. 2020. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760832/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767632/.
- Food and Agriculture Organization. 2022a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768035/.
- Food and Agriculture Organization. 2022b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767653/.
- Food and Agriculture Organization. 2022c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767634/.
- Food and Agriculture Organization. 2022d. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767633/.

- Ministry of Agriculture and Livestock. 2009. National Strategy for the development of Rice Growing. Republic of Guinea Ministry of Agriculture and Livestock. https://www.jica .go.jp/Resource/english/our_work/thematic_issues/agricultural/pdf/guinea_en.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

GUINEA-BISSAU

- Coalition for African Rice Development. 2019. Guinea-Bissau, September 2019. Rice for Africa. https://riceforafrica.net/guinea-bissau-sep-2019/.
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758803/.
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767703/.
- Food and Agriculture Organization. 2023. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768242/.
- Ministère de l’Agriculture et de Développement Rural. 2015. Stratégie National d’Autosuffisance en RIZ. République de la Guinée Bissau Ministère de l’Agriculture et de Développement Rural. https://riceforafrica.net/wp-content/uploads/2021/09/NRDS_ Guinea-Bissau_fr_2015-2025.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

KENYA

- Atera, Evans A., Florence N. Onyancha, and Eucabeth BO Majiwa. 2018. “Production and marketing of rice in Kenya: Challenges and opportunities.” Journal of Development and Agricultural Economics 10 (3): 64-70. https://doi.org/10.5897/jdae2017.0881.
- Coalition for Agrican Rice Development (CARD). 2024. “Kenya, May 2024.” https://riceforafrica.net/kenya-may-2024/.
- Food and Agriculture Organization. 2017a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-

development/commodity-policy-archive/detail/en/c/758612/.

- Food and Agriculture Organization. 2017b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758611/.
- Food and Agriculture Organization. 2018a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759360/ .
- Food and Agriculture Organization. 2018b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758984/ .
- Food and Agriculture Organization. 2019. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759883/ .
- Food and Agriculture Organization. 2020. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760845/ .
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767315/ .
- Food and Agriculture Organization. 2022. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767712/ .
- Namu, John, Hannah Karuri, Amos Alakonya, Justin Nyaga, and Editah Njeri. 2018. "Distribution of parasitic nematodes in Kenyan rice fields and their relation to edaphic factors, rainfall and temperature." Tropical Plant Pathology 43: 128-137. https://doi.org/10.1007/s40858-017-0194-9.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- Watanabe, Mamoru, Yutaka Sumita, Issaku Azechi, Kengo Ito, and Keigo Noda. 2021. "Production costs and benefits of japonica rice in Mwea, Kenya." Agriculture 11 (7): 629. https://doi.org/10.3390/agriculture11070629.

LIBERIA

- Fan, Shenggen. 2020. "Preventing global food security crisis under COVID-19 emergency." International Food Policy Research Institute. https://www.ifpri.org/blog/preventing-global-food-security-crisis-under-covid-19-emergency. DOI: https://doi.org/10.2499/p15 738coll2.133678.
- Food and Agriculture Organization. 2018. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759609/.
- Food and Agriculture Organization. 2020a. "Commodity Policy Archive." Markets and Trade

- Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760568/.

- Food and Agriculture Organization. 2020b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760567/.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/en/?fbclid=IwY2xjawGmf75leHRuA2FlbQIxMAABHWunUH67Aqia_py9r3nUFU09nnM2ejSN1h2vDR1PoFMes5UjW8qT6cZlVw_aem_0FXo5d8lKk041Nj63cBXCw.
- Food and Agriculture Organization. 2022. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768075/.
- Food and Agriculture Organization. 2023a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768077/.
- Food and Agriculture Organization. 2023b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768076/.
- Ministry of Agriculture. 2023. Liberia National Rice Development Strategy II 2018 – 2030. https://riceforafrica.net/wp-content/uploads/2023/01/liberia_nrds2.pdf.
- Sumaworo, Dr. Mory. 2022. "Towards food security and agricultural self-reliance: a policy study for the rice production in Liberia." International Journal of Social Science and Education Research Studies 2(11). https://doi.org/10.55677/ijssers/v02i11y2022-08.
- Tokpah, David P., Quaqua S. Mulbah, and Victor H. Sumo. 2022. "Guide to rice culture in lowland." World Journal of Advanced Research and Reviews 13(3): 496-506. https://doi.org/10.30574/wjarr.2022.13.3.0254.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

MADAGASCAR

- Coalition for African Rice Development. 2022. Madagascar, September 2022. Rice for Africa. https://riceforafrica.net/madagascar-september-2022/.
- Dröge, Saskia, Mahesh Poudyal, Neal Hockley, Rina Mandimbiniaina, Alexandra Rasoamanana, Nilsen S. Andrianantenaina, and Jorge C. Llopis. 2022. "Constraints on rice cultivation in eastern Madagascar: Which factors matter to smallholders, and which influence food security?." Human Ecology 50 (3): 493-513. https://doi.org/10.1007/s10745-022-00336-2.
- Food and Agriculture Organization. 2019. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760569/.

- Food and Agriculture Organization. 2020a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761197/.
- Food and Agriculture Organization. 2020b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760571/.
- Food and Agriculture Organization. 2020c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760570/.
- Food and Agriculture Organization. 2021a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767316/.
- Food and Agriculture Organization. 2021b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761196/.
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/768111/.
- Nikiema, Relwendé A., Sakiko Shiratori, Jules Rafalimanantsoa, Ryosuke Ozaki, and Takeshi Sakurai. 2023. “How are higher rice yields associated with dietary outcomes of smallholder farm households of Madagascar?.” Food Security 15 (3): 823-838. https://doi.org/10.1007/s12571-022-01333-5.
- Tey, Yeong Sheng, Abdulla Ibragimov, Mark Brindal, Shaufique F. Sidique, Rustam Abduraupov, and Miraziz Makhmudov. 2020. “Moving smallholders up rice value chain: a system dynamics approach.” British Food Journal 122 (3): 852-869. https://doi.org/10.1108/bfj-08-2019-0632.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

MALI

- Aman, Angora, Moussa Nafogou, Hermann Vami N’Guessan Bi, Yves K. Kouadio, and Hélène Boyossoro Kouadio. 2019. “Analysis and Forecasting of the Impact of Climatic Parameters on the Yield of Rain-Fed Rice Cultivation in the Office Riz Mopti in Mali.” Atmospheric and Climate Sciences 9 (3): 479-497. https://doi.org/10.4236/acs.2019. 93032.
-
- Dossou-Yovo, Elliott R., Sander J. Zwart, Amadou Kouyaté, Ibrahima Ouédraogo, and Oladele Bakare. 2018. “Predictors of drought in inland valley landscapes and enabling factors for rice farmers’ mitigation measures in the Sudan-Sahel Zone.” Sustainability 11 (1): 79. https://doi.org/10.3390/su11010079.
-

- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758820/.
- Food and Agriculture Organization. 2019. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759612/.
- Food and Agriculture Organization. 2020. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760572/.
- Food and Agriculture Organization. 2021a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767647/.
- Food and Agriculture Organization. 2021b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767646/.
- Food and Agriculture Organization. 2021c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761201/.
- Food and Agriculture Organization. 2021d. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767645/.
- Food and Agriculture Organization. 2021e. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761200/
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767648/.
- Mahamadou, Diarra, Kassogué Adounigna, Hamadoun Babana Amadou, Hamadoun Oumarou, Cissé Fousseyni, and Hamadoun Abdoulaye. 2022. “Isolation and in-vitro assessment of antagonistic activity of Trichoderma spp. against Magnaporthe oryzae Longorola strain causing rice blast disease in Mali.” African Journal of Microbiology Research 16 (2): 67-75. https://doi.org/10.5897/ajmr2021.9476.
- Minitere de l’Agriculture. 2016. Strategie Nationale de Developpement de la Riziculture II 2016 – 2025. Rice for Africa. https://riceforafrica.net/wp-content/uploads/2021/10/mali_ nrds2_fr.pdf.
- Nkonya, Ephraim, Jawoo Koo, Edward Kato, and Timothy Johnson. 2018. “Climate risk management through sustainable land and water management in Sub-Saharan Africa.” Climate smart agriculture: Building resilience to climate change: 445-476. https://doi.org/10.1007/978-3-319-61194-5_19.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

MAURITANIA

- Food and Agriculture Organization. 2015a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/757773/.
- Food and Agriculture Organization. 2015b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/757558/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767318/.
- Mauritania Secretariat. 2018. Trade Policy Review. World Trade Organization. https://www.wto.org/english/tratop_e/tpr_e/s371_e.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

MOZAMBIQUE

- Arouna, Aminou, Irene Akoko Fatognon, Kazuki Saito, and Koichi Futakuchi. 2021. “Moving toward rice self-sufficiency in sub-Saharan Africa by 2030: Lessons learned from 10 years of the Coalition for African Rice Development.” World Development Perspectives 21: 100291. https://doi.org/10.1016/j.wdp.2021.100291.
- Coalition for African Rice Development. 2024. Competitiveness of local rice to imported rice in Mozambique. Rice for Africa. https://riceforafrica.net/country_site/mozambique/
- Ministry of Agriculture and Food Security. 2016. Rice Seed Value Chain Development Strategy of Mozambique (2016-2019). Rice for Africa. https://riceforafrica.net/wp-content/uploads/2021/10/SS1_Mozambique-2016-2019.En_.pdf.
- Mozambique. 2017. Trade Policy Review. World Trade Organization. https://www.wto.org/english/tratop_e/tpr_e/g354_e.pdf.
- Mozambique Secretariat. 2017. Trade Policy Review. World Trade Organization. https://www.wto.org/english/tratop_e/tpr_e/s354_e.pdft.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

NIGER

- Coalition for African Rice Development. 2021. Niger, March 2021. Rice for Africa. https://riceforafrica.net/niger-march-2021/.
- Food and Agriculture Organization. 2019. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759884/.
- Ministere de l'Agriculture. 2022. Strategie Nationale de Eveloppement de la Riziculture (SNDR) Au Niger 2021- 2030. Rice for Africa. https://riceforafrica.net/wp-content/uploads/2022 /09/niger_nrds2_fr_2.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.
- World Trade Organization. n.d. "Annex 6 – Niger." https://www.wto.org/english/tratop_e/tpr_e / s362-06_e.pdf.

NIGERIA

- Boluwade, Ebenezer. 2021. Grain and Feed Annual (Nigeria – April 2021). Report NI2021-0002. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Lagos_Nigeria_03-15-2021.
- Boluwade, Ebenezer. 2022. Grain and Feed Annual (Nigeria – April 2022). Report NI2022-0005. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Lagos_Nigeria_NI2022-0005.pdf.
- Development Finance Department Central Bank of Nigeria. 2013. Anchor Borrowers' Programme Guidelines. https://www.cbn.gov.ng/out/2017/dfd/anchor%20borrowers %20 programme %20guidelines%20-dec%20%202016.pdf
- Eboh, Camillus. 2019. Nigeria to form border force with neighbors Benin and Niger to fight smuggling. November 15, 2019. Reuters. https://www.reuters.com/article/us-nigeria-trade%20ganda%20a-to-form-border-force-with-neighbors-benin-and-niger-to-fight-smuggling-idUSKBN1XO2JD/.
- Federal Ministry of Agriculture and Rural Development. 2014. Rice Seed Development Strategy of Nigeria. Rice for Africa. https://riceforafrica.net/wp-content/uploads/2021/10/SS1_Nigeria-2014-2018.pdf.

- Food and Agriculture Organization. 2016. Rice Market Monitor. https://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Rice/Images/RMM/RMM-Oct16_H.pdf.
-
- Food and Agriculture Organization. 2020. “Trade and markets – Detail.” Commodity Policy Archive. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/fr/c/754945/.
- Food and Agriculture Organization. 2021. Rice Market Monitor. https://openknowledge.fao.org/server/api/core/bitstreams/f38bb062-c7ba-4f9f-bbe1-298dfbd57b3d/content..
- Food and Agriculture Organization. 2020. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/761205/.
- Food and Agriculture Organization. 2022. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767716/.
- Kassa, Woubet and Albert Zeufack. 2020. Nigeria’s border closure: a road block or a speed bump on the road to a successful AfCFTA?. January 23, 2020. World Bank Blogs. https://blogs.worldbank.org/en/africacan/nigerias-border-closure-road-block-or-speed-bump-road-successful-afcfta .
- Ogunleke, Ayodeji Oluwaseun, and L. J. S. Baiyegunhi. 2019. “Households’ acceptability of local (ofada) rice based on quality attributes in south-west, Nigeria.” British Food Journal 121 (9): 2233-2248. https://doi.org/10.1108/bfj-01-2019-0045.
- Onu, Samson Ejike. 2018. “Preference for imported and Nigeria rice among rural households in Imo State Nigeria.” Journal of Agricultural Extension 22 (3): 53-63. https://doi.org/10.4314/jae.v22i3.6.
- Opata, Patience Ifeyinwa, Noble Jackson Nweze, Adaku Briget Ezeibe, and Mamun Mallam. 2019. “Efficiency of irrigated and rain-fed rice (Oryza sativa) producers in fadama agriculture, Nigeria.” Experimental Agriculture 55 (4): 597-609. https://doi.org/10.1017/s0014479718000212.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

SENEGAL

- Bousso, Mamadou. 2023. Grain and Feed Annual (Senegal – April 2023). Report SG2023-0005. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dakar_Senegal_SG2023-0005.pdf.
- Coalition for Agrican Rice Development (CARD). 2023. “Senegal, Feburary 2023.” https://riceforafrica.net/senegal-february-2023/.
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade

- Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758812/.
- Food and Agriculture Organization. 2020a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760599/.
- Food and Agriculture Organization. 2020b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/760598/.
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767325/.
- Food and Agriculture Organization. 2022a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767660/.
- Food and Agriculture Organization. 2022b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767658/.
- Food and Agriculture Organization. 2022c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767659/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

SIERRA LEONE

- Food and Agriculture Organization. 2011a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/755971/.
- Food and Agriculture Organization. 2011b. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/756676/.
- Food and Agriculture Organization. 2012. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/755871/.
- Food and Agriculture Organization. 2018. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/759616/.
- Rice for Africa. 2022. National Rice Development Strategy (NRDS 2) – Sierra Leone. https://riceforafrica.net/wp-content/uploads/2023/06/sierra_nrds2.pdf.
- Sheriff, Mohamed Ajuba, Kepifri A. Lakoh, Bob K. Conteh, and Tharcisse Nkunzimana. 2020. “Market and welfare effects of food security policies on smallholder rice farmers and

consumers in Sierra Leone." Journal of Agricultural Science 12(6):76. https://doi.org/10.5539/jas.v12n6p76.

- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

TANZANIA

- Food and Agriculture Organization. 2012. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/755834/.
- Food and Agriculture Organization. 2013. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/756563/.
- Food and Agriculture Organization. 2013. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/756563/.
- Magezi, Eustadius Francis, Yuko Nakano, and Takeshi Sakurai. 2023. "Mechanization in tanzania: Impact of tractorization on intensification and extensification of rice farming." Natural Resource Management and Policy 177-194. https://doi.org/10.1007/978-981-19-8046-6_9.
- Mdoe, Ntengua SY, and Glead I. Mlay. 2021. "Agricultural commercialisation and the political economy of value Chains: Tanzania rice case study." https://doi.org/10.19088/apra.2021.011.
- Ministry of Agriculture. 2019. National Rice Development Strategy Phase II (NRDS II) 2019-2030. Rice for Africa. https://riceforafrica.net/wpcontent/uploads/2021/09/NRDS2_ Tanzania_en.pdf.
- Peter, D. Kulyakwave, Shiwei Xu, Wen Yu, Sar Sary, and S. Muyobozi. 2020."Profitability Analysis of Rice Production, Constraints and Consumption Shares by Small-scale Producers in Tanzania." Asian Journal of Agricultural Extension, Economics & Sociology 1-12. https://doi.org/10.9734/ajaees/2019/v37i430280.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

TOGO

- Adabe, Kokou E., Abbevi G. Abbey, Irene S. Egyir, John KM Kuwornu, and Henry Anim-Somuah. 2019. "Impact of contract farming on product quality upgrading: the case of rice in Togo." Journal of Agribusiness in Developing and Emerging Economies 9 (4): 314-332. https://doi.org/10.1108gane-04-2018-0051.
- Food and Agriculture Organization.2017. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-

development/commodity-policy-archive/detail/en/c/758314/.

- Food and Agriculture Organization. 2022a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767733/.
- Food and Agriculture Organization. 2022b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767732/.
- Food and Agriculture Organization.2022c. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767738/.
- Ministere de l'Agriculture, de la Production Animale et Halieutique. 2020. Strategie Nationale de Developpement de la Riziculture 2019-2030. Rice for Africa. https://riceforafrica.net/wp-content/uploads/2021/09/NRDS2_Togo_fr.pdf.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

UGANDA

- Barungi, Mildred, Madina Guloba, and Annet Adong. 2017. "Understanding the rice value chain in Uganda-opportunities and challenges to increased production." https://doi.org/10.22004/ag.econ.253558.
- Coalition for Agrican Rice Development (CARD). 2022. "Uganda, November 2022." https://riceforafrica.net/uganda-november-2022/.
- Coalition for Agrican Rice Development (CARD). 2021. "Uganda, December 2021." https://riceforafrica.net/uganda-december-2021/.
- Food and Agriculture Organization. 2017a. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758632/.
- Food and Agriculture Organization. 2017b. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/758315/.
- Food and Agriculture Organization. 2016. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/757921/.
- Food and Agriculture Organization. 2021. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/markets-and-trade-commodity-policy-development/commodity-policy-archive/detail/en/c/767336/.
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

EUROPEAN UNION

- European Union. 2019. Regulation (EU) 2019/216 of the European Parliament and of the Council of 30 January 2019 on the apportionment of tariff rate quotas included in the WTO schedule of the Union following the withdrawal of the United Kingdom from the Union, and amending Council Regulation (EC) No 32/2000. Official Journal of the European Union. https://eur-lex.europa.eu/eli/reg/2019/216/oj
- European Union. 2022. Commission Implementing Regulation (EU) 2022/386 of 8 March 2022 fixing the import duties applicable to certain types of husked rice from 8 March 2022. Official Journal of the European Union. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R0386&qid=1646810760573.

THE UNITED KINGDOM (ENGLAND, SCOTLAND, WALES, AND NORTHERN IRELAND)

- UK Government. 2020. “Reference Documents for the Customs Tariff Quotas (EU Exit) Regulations 2020.” https://www.gov.uk/government/publications/reference-documents-for-the-customs-tariff-quotas-eu-exit-regulations-2020.

IRAN

- Financial Tribune. 2023. “Ban on Rice Imports Lifted.” January 13, 2023. https://financialtribune.com/articles/domestic-economy/116862/ban-on-rice-imports-lifted
- Sinaiee, Maryann. 2022. “Iran Revolutionary Guards Enter the Rice Business.” Iran International. January 29, 2023. https://www.iranintl.com/en/202201293264
- Food and Agriculture Organization. 2016. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/745428/
- Food and Agriculture Organization. 2017. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/745429/
- Food and Agriculture Organization. 2020a. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/755244/
- Food and Agriculture Organization. 2020c. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/755245/
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

IRAQ

- Akingbe, Olutayo. 2022. Grain and Feed Annual: Extreme Water Shortages and Policy Changes Impact Iraq Grain Production (Iraq – April 2022). Report IZ2022-0001. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/ newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Baghdad_Iraq_IZ2022-0001
- Food and Agriculture Organization. 2018. "Commodity Policy Archive." Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/753969/.
- Morgan, Jenny. 2023. Grain and Feed Annual (Iraq – May 2023). Report IZ2023-0002. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Baghdad_Iraq_IZ2023-0002
- Phadera, Lokendra, Dhiraj Sharma, and Matthew Wai-Poi. 2020. Iraq's universal public distribution system: Utilization and impacts during displacement. World Bank Policy Research Working Paper 9155. https://papers.ssrn.com/sol3/papers.cfm?abstract_id= 3541382
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

JORDAN

- Khraishy, Mohammed and Elizabeth Mello. 2022. Grain and Feed Annual (Jordan – April 2022). JO2022-0002. United States Department of Agriculture. Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName? fileName=Grain%20and%20Feed%20Annual_Amman_Jordan_JO2022-0002

SAUDI ARABIA

- Mousa, Hussein. 2023. Grain and Feed Annual (Saudi Arabia – March 2023). Report SA2023-0002. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Riyadh_Saudi%20Arabia_SA2023-0002
- United States Department of Agriculture. 2024. Production, Supply and Distribution (PSD) Online Database. Foreign Agricultural Service. https://apps.fas.usda.gov/psdonline/app/index.html#/app/ advQuery.

TURKEY

- Food and Agriculture Organization. 2020. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/754975/
- Food and Agriculture Organization. 2021. “Commodity Policy Archive.” Markets and Trade - Commodity Policy Development. https://www.fao.org/economic/est/est-commodities/commodity-policy-archive/detail/en/c/755582/
- Karabina, Kubilay. 2022a. Grain and Feed Annual (Turkey – April 2022). Report TU2022-0019. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Ankara_Turkey_TU2022-0019
- Karabina, Kubilay. 2022b. Grain and Feed Update (Turkey – October 2022). Report TU2022-0046. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Update_Ankara_Turkey_TU2022-0046
- Karabina, Kubilay. 2023. Grain and Feed Annual (Turkey – April 2023). Report TU2023-0012. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Ankara_Turkey_TU2023-0012

UNITED ARAB EMIRATES

- Hamza, Mohamed. 2023. Grain and Feed Annual (United Arab Emirates – April 2023). Report TC2023-0003. United States Department of Agriculture, Foreign Agricultural Service. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Dubai_United%20Arab%20Emirates_TC2023-0003

IRRI International Rice Research Institute

CGIAR