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World Rice Outlook

International Rice Baseline with Deterministic and Stochastic Projections, 2012-2021[1]

By

Eric J. Wailes and Eddie C. Chavez[2]

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Department of Agricultural Economics and Agribusiness
Division of Agriculture
Room 217, Agriculture Building
University of Arkansas
Fayetteville, AR 72701

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[1] The research is supported with funding provided by the Arkansas Rice Research and Promotion Board and the Arkansas Agricultural Experiment Station.
[2] L.C. Carter Chair and Distinguished Professor, and Senior Research Associate with the Department of Agricultural Economics and Agribusiness, University of Arkansas.

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International Rice Baseline with Deterministic and Stochastic Projections, 2012-2021

Eric J. Wailes and Eddie C. Chavez

Keywords: International rice, baseline, policy, deterministic, stochastic, Arkansas Global Rice Model

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This publication contains recent baseline projections from the Arkansas Global Rice Economics Program (AGREP) for U.S. and international rice economies. These projections serve as a baseline for evaluating and comparing alternative macroeconomic, policy, weather, and technological scenarios. They are intended for use by government agencies and officials, farmers, consumers, agribusinesses and others who conduct medium-range and long-term planning.

The AGREP baseline projections are grounded in a series of assumptions about the general economy, agricultural policies, weather, and technological change. It is generally assumed that current agricultural policies will be continued in the United States and other countries reported in this study. The AGREP World Rice Outlook starts with a preliminary baseline that is generated in the Food and Agricultural Policy Research Institute (FAPRI) multi-commodity global framework maintained at Iowa State University. The preliminary baseline is then submitted to a review process by experts from U.S. and international governments and organizations, individuals from the land grant and other universities as well as from extension specialists and industry experts. Their comments and suggestions are taken into consideration in the final baseline. We acknowledge and appreciate the help of these numerous individuals, but we take full responsibility for any remaining errors.

The projections included in the outlook were prepared in January 2012 based on the best information available at that time.

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Introduction

Deterministic and stochastic baseline estimates presented in this report are generated using the Arkansas Global Rice Model (AGRM). AGRM is a multi-country/region statistical simulation and econometric framework developed and maintained by the Arkansas Global Rice Economics Program (AGREP) with the Department of Agricultural Economics and Agribusiness at the University of Arkansas, Fayetteville. The global model is disaggregated into 43 of the major rice producing, consuming and trading rice countries; and the rest of the world into five regional aggregations: Africa, the Americas, Asia, Europe, and Oceania. Each country and regional model includes a supply (harvested area and yields) sector, a demand (per capita use) sector, with trade, stocks and price linkage equations. Net global rice trade for long grain and medium grain solves for the two world reference prices, long grain and medium grain.[3] Updated macroeconomic assumptions used in the model are provided by FAPRI-ISU, based on Global Insights projection. Costs and returns for U.S. crops are based on FAPRI-MO U.S. March 2012 baseline (2012).

The deterministic baseline assumes the following: continuation of existing policies; Global Insight projections for macroeconomic variables; no new WTO Doha Round trade reforms; average weather conditions; and no impact from Global Rice Science Partnership (GRiSP) R&D funding on global rice productivity (http://www.grisp.net/main/summary and http://irri.org/our-science/global-rice-science-partnership-grisp).

The stochastic baseline provides a range of probable outcomes, as opposed to the deterministic analysis which generates average point estimates. Stochastic analysis results are provided given the fact that underlying assumptions in the deterministic baseline usually do not hold true in reality, i.e., actual market outcomes deviate from average estimates. The stochastic framework is generated using multivariate empirical distributions (MVE) of the yield variable for each of the 48 countries and regions in the model, as well as for each of the six rice-producing states in the U.S. Yield is used because it is the variable that not only varies by year and by country but it is also very sensitive to changes in weather conditions and water availability—factors that are critical for rice production. The MVE take into account serial and geographical covariance. A total of 500 random draws are implemented using a 28-year empirical distribution of historical yields generated using the software Simulation & Econometrics to Analyze Risk (Simetar) developed by Richardson et al.(2008).

Macroeconomic Overview

Appendix Table 2 presents the real GDP growth rates by country from 2010 thru 2021. Real growth of the global economy slowed from 4.2% in 2010 to 2.8% in 2011 but will strengthen through 2014 at 3.9%, before declining slowly and steadily over the baseline period--reaching 3.2% by 2021. The average annual growth of the world economy over the baseline decade is 3.3%. Over the same period, the strongest growth in economies will be in Asia, namely: India, China, Laos, Cambodia, Vietnam, Bangladesh and Indonesia with real GDP growth rates ranging from 5.5% to 8.4%; and in Africa, namely: Ghana, Tanzania, Mozambique and Sierra Leone with growth rates ranging from 5.5% to 7.4%. Real GDP growth rates of the other modeled African countries are not far behind at 4-5% which is higher than those of the developing countries with rates of 1.0-3.5%. Growth of the U.S. economy is slowing, i.e., 2.8% in 2010, 1.7% in 2011 and 1.4% in 2012—with average growth of 2.5% over the baseline.

[3] Details of the theoretical structure and the estimated equations of the Arkansas Global Rice Model can be found in the documentation by Wailes and Chavez (2011).

Economies of a number of countries will recover in 2012 from the relatively slower growth in 2011. These include Australia, Brazil, India, Japan, Pakistan, the Philippines, Thailand, Egypt, Kenya and Tanzania. On the other hand, some countries will experience relatively slower growth in 2012 namely: Argentina, Bangladesh, Canada, China, Cambodia, Laos, Indonesia, Mexico, Nigeria and Saudi Arabia.

The population growth rates by country are presented in Appendix Table 3. The African countries have the fastest average population growth rates ranging from 1.67% to 2.65% over the baseline. Five major rice exporting countries (India, Pakistan, Cambodia, Myanmar, and Vietnam) have growth rates of 1.0-1.6% while the others (Thailand and the U.S.) have rates of 0.5%-0.9%. The top importing countries of the Philippines, Bangladesh and Indonesia have population growing at 1.8%, 1.6% and 1.0%, respectively.

Foreign exchange rate is an important factor affecting prices in global rice trade because international rice prices are quoted in US dollars. Under normal condition, if the local currency of a rice *exporter* is appreciating relative to the US dollar, its rice export price (in US dollars) will increase which in turn will weaken its competitiveness in the global rice market. On the other hand, if an *importing* country's local currency is appreciating relative to the US dollar, its rice import price (in US dollars) decreases which puts less burden on its local economy. The reverse is true for both cases.

Appendix Figures 1 and 2 show the exchange rate indices for selected major rice exporters and importers. Since the index is based on US$ per Local Currency Unit, an upward line means the local currency is appreciating relative to the US dollar (i.e., more US dollar is required to buy local currency) and a downward line means the opposite. Appendix Figure 1 indicates that Vietnam's local currency is expected to depreciate over the baseline thus improving its export competitiveness in the global rice market relative to Thailand and India. Appendix Figure 2 shows that the Bangladesh local currency will also depreciate, but this situation is not good for the importing country because it means it has to pay more local currency for the US dollar-priced rice imports.

Rice Policy Overview

Rice sector policy assumptions, by country, are shown in Appendix Table 1. Current domestic and trade policies (e.g. tariff rates) are maintained over the baseline.

Key Policy Drivers

India benefitted from near optimal rice production weather in 2011. However, with an export ban on non-basmati rice exports since the fall of 2007, government stocks became excessive. The Government of India officially lifted the export ban on non-basmati rice exports as of September 2011. This has been the primary driving force for the long grain global rice prices through the fall and into 2012. Selling at prices well below Thailand and Vietnam, India gained sudden access to the global rice importers. Price adjustments since fall 2011 by the other competing long grain rice exporters has reflected downward pressure. Removal of the export ban had an important effect of more than off-setting the price impact of wide-spread flooding in the fall of 2011 in major Southeast Asian rice economies (notably Thailand, Cambodia, Myanmar, Laos, and the Philippines).

The paddy rice pledging scheme was implemented by **Thailand's** new government in the fall of 2011. The newly elected government had promised rice producers this paddy rice price scheme in the run up to the election. Coupled with high minimum export prices—Thailand has been challenged to maintain its once dominant role as the world's leading rice exporter. While a high price support with government storage by the dominant exporter has the potential to increase world prices, this pledging program has not affected the international rice trade as much as initially anticipated due to the increased price competition from the other major rice exporting countries of India, Vietnam and Pakistan. Recently, rice export volumes from Thailand declined dramatically, while export supplies from the three other major exporters dominate international trade. As a consequence, the Thai prices have a diminished usefulness as the international reference price in the AGRM model. Consistent with this observation, it should not be surprising that the equilibrium international prices generated by AGRM are closer to the prevailing export prices of Vietnam and India. For this baseline, we call this price "International Reference Price" instead of Thai 100%B price.

High Volatility in the Global Rice Market

The international rice market is characterized by high volatility for a number of reasons. Rice is characterized by inelastic supply and demand throughout much of Asia where rice is the dominant food staple. Rice is also thinly-traded. Only 7% of rice production is traded as opposed to 10 percent for coarse grains and 16 percent for wheat (computed from FAFRI, 2010). Global rice exports are highly concentrated with the top five exporters accounting for 85% of global net trade.

Additionally, rice has a critical role in Asia's food security, hence, it is politically sensitive and vulnerable to national government policy actions and private sector speculation. In India, for example, Gulati et al. (2011) characterized India's historical rice trade policy as "stop-go" which contributed to the uncertainty in the international rice market. The government sets minimum support prices and provides input subsidies at the farm level; coupled with policies on procurement, stocks, and distribution. They note that until 1991, exports of common rice in India were subject to canalization, minimum export price (MEP), and export quotas. In 1994 export bans on non-basmati rice and MEP for basmati rice were eliminated. The export ban on non-basmati rice was re-implemented in 2007/2008. The MEP for basmati rice was also re-introduced. Gradual liberalization of non-basmati rice started in 2010, mainly because of increasing pressure from maintaining an abnormally high level of rice stocks.

In 2007/08, when India implemented a ban on non-basmati rice exports and the Philippines imported higher-than-normal volumes over a short period of time, the subsequent speculative rice price spikes endangered food security and triggered social unrest in a number of countries. A potentially useful result of this situation is that it served as a catalyst for a more concerted effort to address the need for improved market intelligence and policy dialogue among major rice exporters and importers. An example of this is the increased focus by the G20 on global food security and food security-related activities by international agencies. For the rice sector, the regional initiative such as the ASEAN Plus Three Emergency Rice Reserve (APTERR) which includes the 10 ASEAN countries plus China, Japan and South Korea is a direct response. (for more information, see http://www.apterr.org/index.php/what-is-apterr).

Results of the Deterministic Baseline Analysis

Detailed results of the deterministic analysis by country and by region showing 12 years of information (2010-2021) are presented in Tables 1 thru 53c and Figures a1 thru a5. The 2010/11 data are final and 2011/12 are preliminary, while 2012/13 to 2021/22 are projections.

Table 1 is a summary of net trade by country and rice prices (international long grain reference price, U.S. long grain export price, and the U.S. medium grain export price which serves as the international reference price for medium grain).

Table 2 presents the summary supply and demand for global rice.

Tables 3 thru 46 are the basic supply and demand projections (production, stocks, consumption, and net trade), by country.

Table 47 is the per capita rice consumption projection, by country.

Table 48 presents the average yield per hectare projection, by country.

Tables 49a thru 53c present the world regional rice supply and demand projections.

Figures a1 thru a5 show pie charts of world rice (area, production, consumption, net exports, and net imports) highlighting the changes in world shares by country from 2010 to 2021.

Since the 2011/12 marketing year is not typical because of weather-related production shortfalls in major rice economies, the changes and growth rates over the projection period are computed using 2010/11 as the base year. Thus, the percentage growth rates presented in the text represent compounded growth over the 11-year period which covers 2010/11-2020/21.

Global Rice Supply and Demand

Over the baseline period, world rice output grows at 1.00% per year with 0.80% from yield improvement and 0.20% from growth in area harvested. Driven solely by population growth, global rice consumption increases by 1.06% annually—as per capita use remains flat. Net trade continues to grow at 2.54% per year. International rice prices are projected to be flat or decline slightly as self-sufficiency in rice and the use of high-yielding hybrids and other improved production technology including hybrids are adopted. A combination of slow growth in consumption and somewhat higher growth in output are expected to increase ending stocks and reduce prices over the baseline period.

Over the same period, India and China remain as the largest rice economies; when combined they account for 46% of global rice area harvested, 51% of total milled production, and 50% of total consumption. Indonesia, Bangladesh, and Thailand together account for 12% of world area harvested while Indonesia, Bangladesh and Vietnam combined account for 21% of total milled production and 20% of total consumption.

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Rice Export Supplies

The top five rice exporters, Thailand, Vietnam, India, Pakistan, and the U.S., account for 85% of global net trade. Despite current uncertainties regarding the impact of Thailand's pledging scheme and other rice policies into the future, the country with its production resources and strong focus on quality and branding is expected to remain the top global rice exporter over the baseline period. Slower rice export growth is expected for Vietnam and the U.S. due to area limitations, and irrigation constraints in the case of the U.S. India will surpass Vietnam and replace the latter as the second top rice exporter over the same period. Cambodia and Myanmar are projected to increase rice exports steadily as production continues to exceed consumption; and it is interesting to note that the rice export volumes of both countries are projected to catch up with the declining U.S. export levels by the end of the baseline period, at around 2.1 million metric tons (mmt).

Global net rice exports are projected to grow by 9.3 mmt over the baseline period. Aggregated net exports of India, Vietnam, Myanmar, and Cambodia will grow by 9.9 mmt while those of Thailand and the U.S. will contract by 1.7 mmt.

Figure a4 shows the changes in world export shares of major exporting countries, indicating that Thailand's share increases from 24% to 35%; U.S.' share increases from 6% to 10%; while India's share contracts from 22% to 10%.

Rice Import Demand

The bulk (31.6%) of the total rice net import demand is projected to come from the Philippines, Nigeria, Bangladesh, Iran, and Indonesia; and 16.7% from Iraq, Saudi Arabia, Ivory Coast, Malaysia and Senegal. However, 33.2% of the growth in net rice imports is accounted for by the Philippines and Bangladesh; 32.8% by Africa; and 16.7% by the Middle East. See Figure a5 for changes in world shares of major importing countries from 2010 to 2021.

Rice Harvested Area and Production

The five countries of India, China, Indonesia, Bangladesh, and Thailand account for 68.1% of the world's total area harvested. While a number of notable countries expand rice area, others contract theirs over the baseline period. A total of 3.4 million hectares will be added by India, Pakistan, Thailand, and Bangladesh which more than compensates for the total decline of 1.5 million hectares in China, and 0.5 million hectares in the U.S., Japan, South Korea, and Vietnam. A number of challenges face potential rice expansion worldwide: constraints in land and water, farm demographics, climate change, and rice carbon footprint issues.

The world's top milled rice producers are China, India, Indonesia, Bangladesh, and Vietnam—which combined accounts for 72.3% of global output. Global milled rice production expands by 51.3 mmt over the same period, with 62.2% coming from India, Indonesia, Bangladesh, Vietnam, and Thailand combined; and 24.7% comes from China, Egypt, Cambodia, Myanmar, Pakistan, the Philippines, and Nigeria combined.

Figures a1 and a2 show the changes in world shares of major countries from 2010 to 2021, indicating that the big change will come from China with share in area harvested declining from 19.0% to 17.6% and share in milled production declining from 30.1% to 27.3% over the same period.

Rice Domestic Consumption

Rice consumption is driven by income, population, and other demographics. Rising incomes dampen rice demand in some Asian countries where rice is considered an inferior good. Demographic trends also weaken rice demand as aging populations and increasing health consciousness shift preferences away from carbohydrates and towards protein-based diets. About 70% of total global rice consumption is accounted for by China, India, Indonesia, Bangladesh, and Vietnam over the baseline period. World total rice consumption expands by 54.8 mmt (net), with 54.2% coming from the same group five countries above; and 6.1% accounted for by the Philippines and Pakistan.Figure a3 shows that China's world share in rice consumption declines from 30.3% in 2010 to 28.1% in 2021.

Rice Supply and Demand by World Region

The summary results for the five world regions are presented in Tables 49a-53c. Three tables (*a, b*, and *c*) are associated with each region. The first one (*a*) is the total for the region, which is the sum of (*b*) modeled countries in the region and (*c*) other countries in the region. Thus, the sum of the five regions covers the entire world rice economy. A more detailed look at the projections for the five regions provides a better understanding of the relative geographical dynamics of the global rice economy.

Africa

Africa's total rice output is projected to grow by 2.86% per year, driven by 1.09% annual growth in area and 1.75% annual improvement in yields. This expected productivity improvement is supported by availability of increased research funding from institutions and NGOs, a more focused efforts by the Africa Rice Center and the International Rice Research Institute (IRRI), and a possible expanded distribution and adoption of improved rice varieties like the recently-developed New Rice for Africa (NERICA) cultivars. (see http://www.africarice.org/warda/guide-compend.asp for details). The region's total rice consumption grows by 2.99 % per year as population grows by 2.28% and per capita use by 0.70% annually.

The group of individually-modeled African countries in AGRM is expected to grow total rice production by 2.96% per year, as area and yields grow by 0.90% and 2.04%, respectively. Total consumption of this group gains 2.94% driven by 1.98% growth in population and 0.94% growth in per capita use.

The "Other Africa" (or the rest of African countries that are modeled as a group) expands its rice output by 2.62% per year, with 1.50% coming from growth in area and 1.10% from yield. Total consumption of this group expands at 3.10% per year, of which 2.55% comes from population growth and 0.54% from per capita use.

Americas

Total rice production of the Americas grows at 0.67% per year all of which comes from yield growth (0.79%) as area declines by 0.12% annually. Total consumption increases at 1.44% annually, a combined effect of 0.97% population growth and 0.46% gain in per capita use.

The group of individually-modeled American countries is projected to grow total rice output slightly by 0.31% per year, as area declines by 0.51% and yields grow by 0.82%. Total rice consumption of this group gains 1.23% annually, with population growth accounting for 1.08% and per capita use, 0.15%.

Total rice production of the Other America (modeled as a group) increases by 1.57% per year, with 0.59% coming from area expansion and 0.98% from yield. Total consumption of this group grows at 1.75% per year, of which 0.93% comes from population growth and 0.81% from per capita use.

Asia

Total rice production of Asia increases by 0.92% per year, most of which comes from yield growth (0.78%) as area increases only slightly (0.14%). The growth in total Asian consumption of 0.90% per year comes solely from population growth as per capita use declines by 0.03% annually.

The group of individually-modeled Asian countries is projected to grow total rice production by 0.93% annually, as area gains slightly by 0.15% and yields increase by 0.77%. Total consumption of this group grows by 0.85%, with population growing at 0.90% and per capita use declining slightly by 0.05%.

The net growth of total rice output of the Other Asia (modeled as a group) is 0.66% annually, with area contracting by 0.43% and yield gaining 1.09% per year. Total consumption of this group grows at 2.90% per year, of which 1.41% comes from population growth and 1.47% from per capita use.

Europe

The total rice production of Europe grows at 1.11% per year all of which comes from yield growth (1.24%) as area declines by 0.12% annually. Total consumption increases slightly at 0.38%, a net effect of flat population growth and 0.41% gain in per capita use.

The group of individually-modeled European countries is projected to grow total rice output slightly by 1.21% per year, as area increases marginally and yields grow by 1.12%. Total consumption of this group gains 0.44% annually, with population and per capita use accounting for 0.18% and 0.26%, respectively.

Total rice production of the Other Europe (modeled as a group) increases by 0.88% per year, with all the growth coming from yield improvement (1.46%)--as area contracts by 0.57%. Total consumption of this group grows slightly at 0.23% annually, with per capita use increasing by 0.71% and population declining by 0.47%.

Oceania

Oceania, the last of the five regions, mainly consists of Australia hence will not be discussed further.

Selected Results of the Stochastic Baseline Analysis

The detailed results of the stochastic analyses for selected variables by selected country are presented in Figures 1 thru 40. A summary of the stochastic results showing the average changes in the 10^{th} and 90^{th} percentiles is presented. Intuitively, the gap between the two percentiles (10^{th} and 90^{th}) indicates volatility. Widening indicates increased volatility and narrowing indicates decreased volatility.

In order to show the direction and spread of the stochastic outcome distribution, three selected outcome items (stochastic average, 10^{th} percentile, and 90^{th} percentile) for selected price and trade variables are presented.

Figure 1 shows the long grain rice international reference price. For 2012 while the stochastic average is $562 per metric ton (mt), the stochastic distribution indicates that 10% of the time the average price will be higher than $656 per mt; and lower than $484 per mt 10% of the time. Note that the gaps between the 10^{th} and 90^{th} percentiles are $171 in 2012, $121 in 2016 and $130 in 2021.

Figure 2 shows the U.S. long grain export price which indicates a stochastic average of $546 per mt in 2012. The stochastic distribution indicates that 10% of the time the average price will be higher than $600 per mt; and lower than $496 per mt 10% of the time. The gaps between the 10^{th} and 90^{th} percentiles are $104 in 2012, $198 in 2016 and $231 in 2021---indicating increasing volatility over the baseline relative to the more stable international reference price shown in Figure 1 above.

This feature of the stochastic analysis provides an advantage as it indicates how the outcomes are distributed, an analytic limitation of the average point estimates generated by deterministic analysis. A similar analysis can be made for the rest of the stochastic results for the other selected variables for selected countries presented in Figures 3 thru 40. The same principle holds—with the difference lying only with varying units and absolute numbers. To save space, the details of the remaining stochastic charts will not be discussed as they are quite self-explanatory.

Table 1. Rice Prices and Trade Prices

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Prices					(U.S. Dollars per Metric Ton)							
Long Grain												
Reference Price	518	449	500	495	461	484	458	454	448	448	455	457
U.S. FOB Gulf Ports	539	510	507	495	474	502	511	477	501	490	487	476
Medium Grain												
U.S. No. 2 FOB CA	825	869	828	881	913	932	908	894	895	911	909	888
Net Exporters					(Thousand Metric Tons)							
Argentina	640	638	639	612	580	600	578	568	586	595	605	616
Australia	200	346	333	327	338	347	343	355	368	394	396	409
Cambodia	980	996	1,004	1,188	1,320	1,404	1,518	1,619	1,743	1,962	2,105	2,141
China	-38	99	155	248	231	270	240	270	236	234	227	155
Egypt	40	545	477	470	461	463	432	420	405	391	393	383
India	2,800	6,500	7,995	7,557	8,070	8,001	8,791	8,632	8,134	8,446	8,515	8,542
Myanmar (Burma)	750	721	1,034	1,117	1,189	1,337	1,477	1,637	1,804	1,940	2,026	2,064
Pakistan	3,150	3,555	3,404	3,503	3,245	3,379	3,325	3,396	3,401	3,479	3,559	3,454
Thailand	10,300	7,531	7,446	9,076	9,410	9,406	9,392	9,480	9,449	9,480	9,330	9,370
United States	2,905	2,149	2,323	2,428	2,164	2,182	1,924	1,969	1,901	2,001	2,032	2,141
Uruguay	995	898	857	886	909	921	933	941	949	972	984	987
Vietnam	6,500	6,137	7,367	7,470	7,828	7,895	7,966	8,001	8,280	8,387	8,590	8,240
Total Net Exports *	**29,222**	**30,116**	**33,034**	**34,882**	**35,745**	**36,206**	**36,918**	**37,288**	**37,257**	**38,283**	**38,764**	**38,502**

*** Total net exports are the sum of all positive net exports and negative net imports.**

Table 1. Rice Prices and Trade Prices, continued

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Net Importers												
Bangladesh	1,560	624	1,595	2,366	2,362	2,417	2,605	2,694	2,716	2,882	2,695	2,671
Brazil	-650	-253	-97	-79	-258	-415	-623	-732	-768	-858	-905	-1,091
Brunei Darussalam	28	36	36	36	37	37	38	39	40	41	42	42
Cameroon	320	354	341	371	402	423	440	455	463	477	492	492
Canada	327	356	356	366	388	415	429	441	456	464	471	474
China - Hong Kong	410	419	422	428	436	438	442	443	444	444	441	440
Cote d'Ivoire	826	1,141	900	1,084	1,189	1,254	1,342	1,403	1,460	1,493	1,530	1,541
European Union-27	900	821	847	855	850	842	860	876	888	892	906	901
Ghana	560	552	508	494	495	517	525	587	598	611	624	633
Guinea	240	293	279	317	361	374	402	407	403	417	444	416
Indonesia	2,775	1,274	2,428	2,191	1,783	1,551	1,330	1,174	988	1,016	1,240	1,369
Iran	1,300	1,546	1,631	1,686	1,749	1,806	1,850	1,882	1,823	1,897	2,021	2,076
Iraq	1,150	1,203	1,262	1,314	1,295	1,341	1,405	1,452	1,496	1,526	1,555	1,589
Japan	500	532	532	532	532	532	532	532	532	532	532	532
Kenya	300	427	358	391	406	405	450	469	479	500	527	492
Laos	40	57	-44	-45	-46	-30	-36	-28	-33	-31	-25	-13
Malaysia	1,039	1,127	1,226	1,117	1,114	1,107	1,109	1,103	1,102	1,113	1,122	1,136
Mali	125	249	195	142	144	146	157	179	168	191	237	239
Mexico	788	771	764	756	787	788	796	813	817	853	876	893
Mozambique	360	410	421	458	478	500	507	519	529	547	574	547
Nigeria	2,400	2,544	2,436	2,576	2,631	2,646	2,763	2,860	2,950	3,088	3,172	3,122
Philippines	1,500	1,640	2,811	2,755	2,915	3,005	3,119	3,144	3,068	3,187	3,374	3,474
Saudi Arabia	1,080	1,156	1,181	1,196	1,223	1,247	1,283	1,317	1,348	1,379	1,399	1,413
Senegal	790	876	702	824	852	881	911	944	978	1,012	1,050	1,084
Sierra Leone	120	157	137	136	144	150	160	173	177	189	193	199
Singapore	310	312	318	324	331	336	342	347	350	357	362	373
South Africa	735	888	687	832	856	866	902	927	953	977	995	1,018
South Korea	367	362	368	388	409	409	409	409	409	409	409	409
Taiwan	120	123	106	106	106	106	106	106	106	106	106	106
Tanzania	90	158	126	151	169	154	168	163	150	153	168	126
Turkey	219	205	326	313	302	311	327	342	353	364	387	382
Rest of World	7,168	9,963	10,068	10,693	11,510	11,869	12,090	12,079	12,056	12,321	12,018	11,693
Residual	1,425	-207	-194	-192	-209	-222	-220	-231	-241	-266	-266	-276
Total Net Imports	**29,222**	**30,116**	**33,034**	**34,882**	**35,745**	**36,206**	**36,918**	**37,288**	**37,257**	**38,283**	**38,764**	**38,502**

Table 2. World Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	157,278	160,206	159,858	159,971	160,284	160,163	160,306	160,234	160,160	160,420	160,702	160,557
					(Metric Tons per Hectare)							
Yield	2.87	2.90	2.92	2.95	2.99	3.01	3.03	3.05	3.07	3.09	3.11	3.13
					(Thousand Metric Tons)							
Production	451,385	464,625	466,659	471,992	478,922	481,503	485,314	488,646	491,699	496,277	500,466	502,699
Beginning Stocks	94,200	97,938	102,797	104,566	107,035	111,536	114,706	116,928	118,689	120,561	122,769	124,689
Domestic Supply	545,585	562,563	569,455	576,558	585,957	593,039	600,021	605,574	610,388	616,838	623,235	627,389
Consumption	446,222	460,016	465,084	469,715	474,630	478,555	483,313	487,116	490,069	494,335	498,812	501,043
Ending Stocks	97,938	102,797	104,566	107,035	111,536	114,706	116,928	118,689	120,561	122,769	124,689	126,622
Domestic Use	544,160	562,813	569,650	576,750	586,166	593,262	600,241	605,805	610,629	617,104	623,501	627,665
Trade	33,690	33,037	36,589	38,441	39,395	39,925	40,718	41,151	41,181	42,237	42,798	42,563
					(Percent)							
Stocks-to-Use Ratio	21.95	22.35	22.48	22.79	23.50	23.97	24.19	24.37	24.60	24.84	25.00	25.27

Table 3. U.S. Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	1,463	1,059	1,134	1,156	1,164	1,176	1,173	1,192	1,193	1,203	1,207	1,215
					(Metric Tons per Hectares)							
Yield	5.19	5.61	5.63	5.67	5.71	5.75	5.80	5.83	5.88	5.92	5.97	6.01
					(Thousand Metric Tons)							
Production	7,593	5,937	6,378	6,551	6,644	6,765	6,797	6,951	7,013	7,129	7,205	7,308
Beginning Stocks	1,184	1,514	1,229	1,080	822	794	741	844	942	1,082	1,165	1,215
Domestic Supply	8,777	7,451	7,608	7,632	7,466	7,559	7,537	7,795	7,955	8,211	8,370	8,523
Consumption	4,358	4,115	4,205	4,382	4,509	4,636	4,769	4,884	4,971	5,046	5,122	5,149
Ending Stocks	1,514	1,229	1,080	822	794	741	844	942	1,082	1,165	1,215	1,233
Domestic Use	5,872	5,344	5,285	5,203	5,303	5,377	5,613	5,826	6,053	6,211	6,337	6,382
Net Trade	2,905	2,149	2,323	2,428	2,164	2,182	1,924	1,969	1,901	2,001	2,032	2,141

Table 4. Argentina Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	257	240	226	223	221	220	220	220	220	221	222	224
					(Metric Tons per Hectares)							
Yield	4.42	4.23	4.34	4.39	4.43	4.47	4.51	4.55	4.59	4.64	4.68	4.73
					(Thousand Metric Tons)							
Production	1,136	1,014	983	977	979	982	993	1,001	1,011	1,023	1,038	1,058
Beginning Stocks	75	221	241	222	220	244	244	272	310	332	351	369
Domestic Supply	1,211	1,235	1,224	1,199	1,198	1,225	1,237	1,272	1,322	1,355	1,389	1,427
Consumption	350	356	362	368	375	381	388	394	404	410	415	420
Ending Stocks	221	241	222	220	244	244	272	310	332	351	369	391
Domestic Use	571	597	585	588	619	625	659	704	736	760	783	811
Net Trade	640	638	639	612	580	600	578	568	586	595	605	616

Table 5. Australia Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	75	101	109	112	115	116	117	117	116	117	118	120
					(Metric Tons per Hectares)							
Yield	6.92	6.76	6.79	6.83	6.88	6.93	6.94	7.01	7.07	7.13	7.17	7.19
					(Thousand Metric Tons)							
Production	519	683	737	765	789	807	816	818	824	834	848	866
Beginning Stocks	46	45	34	70	120	176	236	297	344	377	398	424
Domestic Supply	565	728	771	836	909	983	1,052	1,115	1,168	1,211	1,245	1,291
Consumption	320	348	367	389	395	400	412	416	423	419	425	432
Ending Stocks	45	34	70	120	176	236	297	344	377	398	424	450
Domestic Use	365	382	437	508	571	636	709	760	800	817	849	882
Net Trade	200	346	333	327	338	347	343	355	368	394	396	409

Table 6. Bangladesh Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	11,800	12,000	11,992	12,086	12,134	12,173	12,183	12,168	12,187	12,202	12,218	12,202
					(Metric Tons per Hectares)							
Yield	2.81	2.83	2.71	2.73	2.76	2.76	2.79	2.81	2.86	2.89	2.94	3.00
					(Thousand Metric Tons)							
Production	33,200	34,000	32,545	33,013	33,489	33,556	33,934	34,244	34,803	35,207	35,956	36,572
Beginning Stocks	640	1,400	1,491	944	957	967	969	981	989	1,000	1,012	1,023
Domestic Supply	33,840	35,400	34,036	33,956	34,446	34,523	34,903	35,225	35,791	36,207	36,968	37,594
Consumption	34,000	34,533	34,687	35,365	35,841	35,970	36,527	36,930	37,507	38,078	38,640	39,231
Ending Stocks	1,400	1,491	944	957	967	969	981	989	1,000	1,012	1,023	1,035
Domestic Use	35,400	36,024	35,631	36,323	36,808	36,940	37,508	37,918	38,507	39,089	39,662	40,266
Net Trade	-1,560	-624	-1,595	-2,366	-2,362	-2,417	-2,605	-2,694	-2,716	-2,882	-2,695	-2,671

Table 7. Brazil Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	2,820	2,603	2,674	2,679	2,703	2,723	2,762	2,792	2,796	2,816	2,824	2,849
					(Metric Tons per Hectares)							
Yield	3.28	3.14	3.25	3.31	3.36	3.41	3.47	3.51	3.54	3.57	3.60	3.63
					(Thousand Metric Tons)							
Production	9,257	8,169	8,699	8,860	9,090	9,297	9,581	9,795	9,898	10,053	10,177	10,338
Beginning Stocks	550	757	525	609	735	807	857	880	909	932	937	940
Domestic Supply	9,807	8,926	9,224	9,469	9,824	10,104	10,438	10,675	10,807	10,986	11,114	11,278
Consumption	8,400	8,149	8,518	8,655	8,760	8,831	8,935	9,034	9,107	9,191	9,269	9,242
Ending Stocks	757	525	609	735	807	857	880	909	932	937	940	945
Domestic Use	9,157	8,674	9,128	9,390	9,567	9,688	9,815	9,943	10,039	10,128	10,209	10,187
Net Trade	650	253	97	79	258	415	623	732	768	858	905	1,091

Table 8. Brunei Darussalam Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	1	1	1	1	1	1	1	1	1	1	1	1
					(Metric Tons per Hectares)							
Yield	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
					(Thousand Metric Tons)							
Production	1	1	1	1	1	1	1	1	1	1	1	1
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Supply	1	1	1	1	1	1	1	1	1	1	1	1
Consumption	29	37	37	37	38	38	39	40	41	42	43	43
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Use	29	37	37	37	38	38	39	40	41	42	43	43
Net Trade	28	36	36	36	37	37	38	39	40	41	42	42

Table 9. Cambodia Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	2,777	2,700	2,675	2,706	2,733	2,750	2,768	2,777	2,797	2,856	2,894	2,876
					(Metric Tons per Hectares)							
Yield	1.87	1.96	1.99	2.04	2.09	2.14	2.19	2.24	2.29	2.34	2.39	2.44
					(Thousand Metric Tons)							
Production	5,200	5,300	5,322	5,525	5,724	5,873	6,055	6,221	6,411	6,696	6,908	7,009
Beginning Stocks	0	0	0	8	9	11	14	16	19	21	24	27
Domestic Supply	5,200	5,300	5,321	5,532	5,733	5,884	6,069	6,237	6,430	6,717	6,932	7,036
Consumption	4,220	4,304	4,309	4,336	4,401	4,466	4,535	4,599	4,665	4,731	4,800	4,866
Ending Stocks	0	0	8	9	11	14	16	19	21	24	27	29
Domestic Use	4,220	4,304	4,317	4,345	4,413	4,480	4,551	4,618	4,687	4,755	4,826	4,895
Net Trade	980	996	1,004	1,188	1,320	1,404	1,518	1,619	1,743	1,962	2,105	2,141

Table 10. Cameroon Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	65	65	65	66	67	67	68	68	68	68	70	70
					(Metric Tons per Hectares)							
Yield	0.83	0.94	1.01	1.12	1.18	1.20	1.21	1.23	1.24	1.26	1.28	1.29
					(Thousand Metric Tons)							
Production	54	61	66	74	79	80	82	83	85	86	89	90
Beginning Stocks	0	0	15	16	17	18	19	20	21	21	22	22
Domestic Supply	54	61	81	90	96	99	102	103	105	107	111	112
Consumption	374	400	406	444	480	502	521	537	547	563	580	582
Ending Stocks	0	15	16	17	18	19	20	21	21	22	22	22
Domestic Use	374	415	422	461	498	521	541	558	568	584	603	605
Net Trade	-320	-354	-341	-371	-402	-423	-440	-455	-463	-477	-492	-492

Table 11. Canada Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Metric Tons)							
Production	0	0	0	0	0	0	0	0	0	0	0	0
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Supply	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	327	356	356	366	388	415	429	441	456	464	471	474
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Use	327	356	356	366	388	415	429	441	456	464	471	474
Net Trade	-327	-356	-356	-366	-388	-415	-429	-441	-456	-464	-471	-474

Table 12. China Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	29,820	29,940	29,211	29,009	29,127	28,898	28,777	28,586	28,476	28,476	28,453	28,321
					(Metric Tons per Hectares)							
Yield	4.59	4.69	4.74	4.79	4.85	4.88	4.90	4.92	4.94	4.94	4.94	4.94
					(Thousand Metric Tons)							
Production	137,000	140,500	138,334	139,063	141,159	140,947	141,096	140,775	140,533	140,671	140,537	139,888
Beginning Stocks	40,534	42,572	44,456	43,216	42,790	43,899	44,370	44,843	45,023	45,255	45,626	45,786
Domestic Supply	177,534	183,072	182,790	182,278	183,950	184,846	185,466	185,618	185,556	185,926	186,163	185,673
Consumption	135,000	138,517	139,420	139,240	139,820	140,206	140,382	140,325	140,065	140,067	140,150	139,409
Ending Stocks	42,572	44,456	43,216	42,790	43,899	44,370	44,843	45,023	45,255	45,626	45,786	46,109
Domestic Use	177,572	182,973	182,635	182,030	183,719	184,576	185,226	185,348	185,320	185,692	185,935	185,518
Net Trade	-38	99	155	248	231	270	240	270	236	234	227	155

Table 13. Cote d'Ivoire Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	350	350	324	325	326	306	296	281	274	265	262	258
					(Metric Tons per Hectare)							
Yield	1.19	1.14	1.04	1.05	1.06	1.09	1.11	1.13	1.15	1.17	1.19	1.22
					(Thousand Metric Tons)							
Production	416	399	337	341	346	332	329	317	315	309	312	314
Beginning Stocks	50	50	223	77	84	103	115	131	142	153	159	167
Domestic Supply	466	449	561	417	429	435	444	448	457	462	471	481
Consumption	1,242	1,367	1,384	1,418	1,515	1,574	1,655	1,709	1,764	1,796	1,834	1,852
Ending Stocks	50	223	77	84	103	115	131	142	153	159	167	170
Domestic Use	1,292	1,590	1,461	1,501	1,619	1,689	1,786	1,850	1,917	1,956	2,001	2,022
Net Trade	-826	-1,141	-900	-1,084	-1,189	-1,254	-1,342	-1,403	-1,460	-1,493	-1,530	-1,541

Table 14. Egypt Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	450	760	686	673	669	669	672	672	671	670	671	671
					(Metric Tons per Hectares)							
Yield	6.89	5.92	6.45	6.52	6.58	6.64	6.70	6.76	6.82	6.88	6.94	7.00
					(Thousand Metric Tons)							
Production	3,100	4,500	4,421	4,390	4,401	4,444	4,504	4,542	4,578	4,608	4,657	4,696
Beginning Stocks	497	157	311	444	503	527	531	577	608	631	655	668
Domestic Supply	3,597	4,657	4,732	4,834	4,904	4,971	5,035	5,119	5,186	5,239	5,312	5,364
Consumption	3,400	3,801	3,812	3,861	3,916	3,977	4,026	4,090	4,150	4,192	4,251	4,311
Ending Stocks	157	311	444	503	527	531	577	608	631	655	668	670
Domestic Use	3,557	4,112	4,256	4,364	4,443	4,508	4,603	4,698	4,781	4,847	4,919	4,981
Net Trade	40	545	477	470	461	463	432	420	405	391	393	383

Table 15. European Union Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	468	462	465	466	469	469	472	471	472	473	470	473
					(Metric Tons per Hectare)							
Yield	3.99	4.11	4.33	4.34	4.36	4.38	4.40	4.42	4.44	4.47	4.49	4.51
					(Thousand Metric Tons)							
Production	1,867	1,899	2,015	2,022	2,047	2,055	2,079	2,084	2,096	2,110	2,110	2,130
Beginning Stocks	1,120	987	860	821	758	711	673	648	623	603	581	549
Domestic Supply	2,987	2,886	2,875	2,843	2,805	2,766	2,753	2,732	2,718	2,713	2,691	2,680
Consumption	2,900	2,846	2,902	2,940	2,944	2,934	2,964	2,986	3,004	3,024	3,047	3,042
Ending Stocks	987	860	821	758	711	673	648	623	603	581	549	539
Domestic Use	3,887	3,707	3,722	3,698	3,655	3,607	3,612	3,608	3,606	3,605	3,596	3,581
Net Trade	-900	-821	-847	-855	-850	-842	-860	-876	-888	-892	-906	-901

Table 16. Ghana Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	180	170	169	171	173	172	171	169	167	166	166	165
					(Metric Tons per Hectares)							
Yield	1.64	1.62	1.64	1.66	1.67	1.71	1.76	1.80	1.84	1.89	1.91	1.94
					(Thousand Metric Tons)							
Production	295	276	277	284	289	294	301	305	308	313	316	321
Beginning Stocks	75	230	301	327	309	266	221	175	178	181	184	187
Domestic Supply	370	506	579	611	598	560	522	479	485	494	500	508
Consumption	700	757	759	796	828	855	873	888	903	920	936	951
Ending Stocks	230	301	327	309	266	221	175	178	181	184	187	190
Domestic Use	930	1,058	1,086	1,105	1,093	1,076	1,047	1,066	1,084	1,104	1,123	1,141
Net Trade	-560	-552	-508	-494	-495	-517	-525	-587	-598	-611	-624	-633

Table 17. Guinea Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	932	950	952	948	954	971	985	1,006	1,024	1,040	1,053	1,064
					(Metric Tons per Hectares)							
Yield	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.21	1.22
					(Thousand Metric Tons)							
Production	1,040	1,073	1,089	1,093	1,109	1,138	1,163	1,196	1,227	1,255	1,279	1,302
Beginning Stocks	50	75	102	103	104	106	108	110	112	113	114	116
Domestic Supply	1,090	1,148	1,190	1,196	1,213	1,244	1,271	1,306	1,338	1,367	1,393	1,418
Consumption	1,255	1,340	1,367	1,409	1,467	1,510	1,563	1,602	1,629	1,670	1,721	1,718
Ending Stocks	75	102	103	104	106	108	110	112	113	114	116	116
Domestic Use	1,330	1,441	1,470	1,513	1,573	1,618	1,673	1,713	1,741	1,784	1,838	1,834
Net Trade	-240	-293	-279	-317	-361	-374	-402	-407	-403	-417	-444	-416

Table 18. China - Hong Kong Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Metric Tons)							
Production	0	0	0	0	0	0	0	0	0	0	0	0
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Supply	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	410	419	422	428	436	438	442	443	444	444	441	440
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Use	410	419	422	428	436	438	442	443	444	444	441	440
Net Trade	-410	-419	-422	-428	-436	-438	-442	-443	-444	-444	-441	-440

Table 19. India Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	42,700	45,000	45,054	44,999	44,984	44,923	44,930	44,880	44,756	44,728	44,746	44,677
					(Metric Tons per Hectare)							
Yield	2.23	2.27	2.29	2.32	2.37	2.38	2.39	2.41	2.43	2.46	2.48	2.49
					(Thousand Metric Tons)							
Production	95,300	102,000	103,272	104,618	106,484	106,933	107,423	108,234	108,759	109,995	110,944	111,236
Beginning Stocks	20,500	23,000	24,494	24,578	25,234	26,576	27,345	26,781	26,131	25,332	24,469	23,584
Domestic Supply	115,800	125,000	127,766	129,196	131,719	133,508	134,768	135,015	134,889	135,328	135,414	134,820
Consumption	90,000	94,006	95,193	96,404	97,073	98,162	99,196	100,252	101,423	102,412	103,314	104,114
Ending Stocks	23,000	24,494	24,578	25,234	26,576	27,345	26,781	26,131	25,332	24,469	23,584	22,164
Domestic Use	113,000	118,500	119,771	121,639	123,648	125,507	125,976	126,383	126,756	126,882	126,898	126,277
Net Trade	2,800	6,500	7,995	7,557	8,070	8,001	8,791	8,632	8,134	8,446	8,515	8,542

Table 20. Indonesia Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	12,075	12,150	12,143	12,171	12,194	12,197	12,227	12,251	12,262	12,295	12,308	12,300
					(Metric Tons per Hectare)							
Yield	2.94	3.07	3.14	3.19	3.22	3.25	3.28	3.31	3.33	3.36	3.37	3.38
					(Thousand Metric Tons)							
Production	35,500	37,300	38,185	38,785	39,284	39,629	40,156	40,540	40,867	41,330	41,531	41,626
Beginning Stocks	6,577	5,852	4,727	5,287	5,855	6,119	6,229	6,272	6,286	6,290	6,391	6,473
Domestic Supply	42,077	43,152	42,912	44,072	45,139	45,747	46,385	46,812	47,154	47,621	47,922	48,098
Consumption	39,000	39,698	40,053	40,407	40,804	41,069	41,443	41,699	41,851	42,245	42,689	42,946
Ending Stocks	5,852	4,727	5,287	5,855	6,119	6,229	6,272	6,286	6,290	6,391	6,473	6,521
Domestic Use	44,852	44,426	45,340	46,263	46,922	47,298	47,715	47,986	48,142	48,636	49,162	49,467
Net Trade	-2,775	-1,274	-2,428	-2,191	-1,783	-1,551	-1,330	-1,174	-988	-1,016	-1,240	-1,369

Table 21. Iran Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	540	540	534	533	533	535	534	533	532	533	534	533
					(Metric Tons per Hectare)							
Yield	2.78	2.78	2.85	2.87	2.90	2.92	2.95	2.97	3.00	3.02	3.05	3.07
					(Thousand Metric Tons)							
Production	1,500	1,500	1,522	1,531	1,543	1,563	1,574	1,583	1,595	1,612	1,627	1,637
Beginning Stocks	596	496	502	521	540	561	583	602	618	622	635	661
Domestic Supply	2,096	1,996	2,024	2,052	2,083	2,124	2,157	2,185	2,214	2,233	2,262	2,298
Consumption	2,900	3,040	3,134	3,198	3,272	3,347	3,404	3,449	3,416	3,495	3,622	3,691
Ending Stocks	496	502	521	540	561	583	602	618	622	635	661	684
Domestic Use	3,396	3,542	3,655	3,738	3,833	3,930	4,006	4,068	4,037	4,131	4,282	4,374
Net Trade	-1,300	-1,546	-1,631	-1,686	-1,749	-1,806	-1,850	-1,882	-1,823	-1,897	-2,021	-2,076

Table 22. Iraq Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	48	48	59	71	80	86	88	89	89	92	92	92
					(Metric Tons per Hectare)							
Yield	2.31	2.29	2.28	2.31	2.32	2.32	2.34	2.34	2.35	2.36	2.38	2.39
					(Thousand Metric Tons)							
Production	111	110	135	163	185	199	206	208	210	217	220	219
Beginning Stocks	145	106	102	101	111	125	132	144	158	171	183	194
Domestic Supply	256	216	237	264	296	324	337	352	368	387	403	413
Consumption	1,300	1,317	1,398	1,466	1,466	1,534	1,598	1,646	1,693	1,730	1,764	1,798
Ending Stocks	106	102	101	111	125	132	144	158	171	183	194	203
Domestic Use	1,406	1,419	1,499	1,578	1,591	1,666	1,742	1,803	1,864	1,913	1,958	2,001
Net Trade	-1,150	-1,203	-1,262	-1,314	-1,295	-1,341	-1,405	-1,452	-1,496	-1,526	-1,555	-1,589

Table 23. Japan Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	1,628	1,576	1,584	1,564	1,566	1,559	1,548	1,536	1,528	1,533	1,528	1,517
					(Metric Tons per Hectare)							
Yield	4.74	4.85	4.73	4.78	4.80	4.83	4.81	4.81	4.81	4.82	4.82	4.81
					(Thousand Metric Tons)							
Production	7,720	7,646	7,501	7,472	7,521	7,524	7,450	7,393	7,350	7,394	7,361	7,288
Beginning Stocks	2,693	2,788	2,752	2,555	2,400	2,385	2,413	2,363	2,272	2,167	2,214	2,274
Domestic Supply	10,413	10,434	10,253	10,026	9,921	9,909	9,863	9,756	9,621	9,560	9,576	9,562
Consumption	8,125	8,214	8,230	8,159	8,068	8,029	8,033	8,016	7,987	7,878	7,834	7,777
Ending Stocks	2,788	2,752	2,555	2,400	2,385	2,413	2,363	2,272	2,167	2,214	2,274	2,317
Domestic Use	10,913	10,966	10,785	10,558	10,453	10,441	10,395	10,288	10,153	10,092	10,108	10,094
Net Trade	-500	-532	-532	-532	-532	-532	-532	-532	-532	-532	-532	-532

Table 24. Kenya Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	17	17	17	17	18	18	18	18	18	18	18	18
					(Metric Tons per Hectares)							
Yield	1.76	1.94	1.94	1.96	1.99	2.02	2.05	2.07	2.10	2.12	2.15	2.17
					(Thousand Metric Tons)							
Production	30	33	33	34	35	36	37	37	38	39	39	40
Beginning Stocks	103	82	148	147	149	147	139	150	152	155	163	173
Domestic Supply	133	115	181	181	184	183	176	187	190	194	202	213
Consumption	351	394	392	423	443	448	475	505	514	532	556	539
Ending Stocks	82	148	147	149	147	139	150	152	155	163	173	166
Domestic Use	433	542	539	572	590	588	625	656	669	695	729	705
Net Trade	-300	-427	-358	-391	-406	-405	-450	-469	-479	-500	-527	-492

Table 25. Laos Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	870	820	861	871	881	885	893	897	902	907	912	920
					(Metric Tons per Hectares)							
Yield	2.07	2.26	2.30	2.32	2.34	2.36	2.39	2.42	2.44	2.47	2.50	2.52
					(Thousand Metric Tons)							
Production	1,800	1,850	1,979	2,020	2,063	2,088	2,132	2,167	2,204	2,240	2,279	2,323
Beginning Stocks	0	0	1	3	4	6	7	9	10	12	13	15
Domestic Supply	1,800	1,850	1,981	2,023	2,067	2,093	2,140	2,176	2,214	2,252	2,292	2,338
Consumption	1,840	1,905	1,934	1,974	2,016	2,056	2,095	2,138	2,169	2,208	2,252	2,308
Ending Stocks	0	1	3	4	6	7	9	10	12	13	15	17
Domestic Use	1,840	1,907	1,936	1,978	2,021	2,063	2,103	2,148	2,181	2,221	2,267	2,325
Net Trade	40	57	-44	-45	-46	-30	-36	-28	-33	-31	-25	-13

Table 26. Malaysia Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	667	670	677	683	689	694	698	699	700	701	701	701
					(Metric Tons per Hectare)							
Yield	2.41	2.44	2.46	2.49	2.53	2.56	2.59	2.63	2.66	2.69	2.73	2.75
					(Thousand Metric Tons)							
Production	1,610	1,633	1,668	1,704	1,743	1,775	1,808	1,835	1,861	1,887	1,911	1,930
Beginning Stocks	706	690	679	775	770	775	779	783	789	792	796	802
Domestic Supply	2,316	2,323	2,347	2,479	2,513	2,550	2,588	2,618	2,650	2,678	2,707	2,731
Consumption	2,665	2,771	2,798	2,826	2,852	2,878	2,913	2,932	2,960	2,995	3,028	3,060
Ending Stocks	690	679	775	770	775	779	783	789	792	796	802	807
Domestic Use	3,355	3,450	3,573	3,596	3,627	3,657	3,696	3,721	3,752	3,791	3,829	3,867
Net Trade	-1,039	-1,127	-1,226	-1,117	-1,114	-1,107	-1,109	-1,103	-1,102	-1,113	-1,122	-1,136

Table 27. Mali Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	686	700	707	741	757	764	771	773	779	787	800	813
					(Metric Tons per Hectares)							
Yield	2.22	2.26	2.28	2.31	2.36	2.42	2.47	2.53	2.58	2.63	2.66	2.71
					(Thousand Metric Tons)							
Production	1,523	1,584	1,609	1,712	1,789	1,845	1,906	1,952	2,008	2,065	2,129	2,203
Beginning Stocks	86	100	168	169	171	174	177	179	182	184	187	191
Domestic Supply	1,609	1,684	1,776	1,881	1,961	2,020	2,082	2,131	2,190	2,249	2,316	2,394
Consumption	1,634	1,765	1,803	1,852	1,930	1,989	2,060	2,128	2,175	2,253	2,361	2,439
Ending Stocks	100	168	169	171	174	177	179	182	184	187	191	194
Domestic Use	1,734	1,933	1,972	2,023	2,104	2,166	2,240	2,310	2,358	2,440	2,552	2,633
Net Trade	-125	-249	-195	-142	-144	-146	-157	-179	-168	-191	-237	-239

Table 28. Mexico Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	39	32	44	48	51	51	52	53	53	53	53	53
					(Metric Tons per Hectare)							
Yield	3.64	3.27	3.32	3.35	3.35	3.43	3.51	3.49	3.51	3.51	3.49	3.48
					(Thousand Metric Tons)							
Production	142	105	148	159	170	176	184	185	185	185	184	183
Beginning Stocks	138	213	204	214	202	215	217	221	227	227	229	230
Domestic Supply	280	318	352	373	372	391	401	406	412	412	413	413
Consumption	855	886	902	926	944	962	976	992	1,002	1,036	1,059	1,073
Ending Stocks	213	204	214	202	215	217	221	227	227	229	230	233
Domestic Use	1,068	1,089	1,116	1,129	1,159	1,180	1,197	1,219	1,229	1,265	1,290	1,306
Net Trade	-788	-771	-764	-756	-787	-788	-796	-813	-817	-853	-876	-893

Table 29. Mozambique Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	182	182	185	188	191	194	197	200	203	206	208	211
					(Metric Tons per Hectares)							
Yield	0.65	0.69	0.70	0.71	0.71	0.72	0.73	0.74	0.74	0.75	0.76	0.76
					(Thousand Metric Tons)							
Production	119	125	130	133	137	140	144	147	151	154	157	161
Beginning Stocks	0	0	10	16	22	24	25	25	26	26	27	28
Domestic Supply	119	125	140	149	159	164	168	172	176	180	184	189
Consumption	479	525	545	584	614	640	650	666	679	700	730	709
Ending Stocks	0	10	16	22	24	25	25	26	26	27	28	27
Domestic Use	479	535	561	607	637	664	675	691	705	727	758	736
Net Trade	-360	-410	-421	-458	-478	-500	-507	-519	-529	-547	-574	-547

Table 30. Myanmar Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	7,000	6,685	7,001	7,004	7,009	7,018	7,033	7,045	7,058	7,072	7,085	7,096
					(Metric Tons per Hectare)							
Yield	1.54	1.57	1.59	1.62	1.64	1.67	1.70	1.72	1.74	1.76	1.77	1.79
					(Thousand Metric Tons)							
Production	10,750	10,500	11,162	11,354	11,508	11,710	11,923	12,090	12,260	12,431	12,562	12,688
Beginning Stocks	296	396	141	147	176	199	214	246	254	260	250	231
Domestic Supply	11,046	10,896	11,302	11,501	11,683	11,909	12,137	12,336	12,514	12,692	12,812	12,919
Consumption	9,900	10,034	10,121	10,208	10,295	10,357	10,415	10,445	10,450	10,502	10,555	10,633
Ending Stocks	396	141	147	176	199	214	246	254	260	250	231	222
Domestic Use	10,296	10,175	10,268	10,384	10,494	10,572	10,661	10,700	10,710	10,752	10,786	10,855
Net Trade	750	721	1,034	1,117	1,189	1,337	1,477	1,637	1,804	1,940	2,026	2,064

Table 31. Nigeria Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	2,150	2,170	2,164	2,166	2,166	2,178	2,195	2,211	2,228	2,246	2,264	2,280
					(Metric Tons per Hectare)							
Yield	1.16	1.19	1.28	1.32	1.35	1.39	1.42	1.46	1.49	1.52	1.56	1.59
					(Thousand Metric Tons)							
Production	2,490	2,580	2,779	2,855	2,929	3,021	3,120	3,217	3,319	3,422	3,527	3,630
Beginning Stocks	469	469	672	712	720	723	724	725	725	725	726	726
Domestic Supply	2,959	3,049	3,450	3,567	3,649	3,743	3,843	3,941	4,044	4,148	4,252	4,356
Consumption	4,890	4,921	5,175	5,423	5,558	5,665	5,882	6,076	6,268	6,510	6,699	6,751
Ending Stocks	469	672	712	720	723	724	725	725	725	726	726	726
Domestic Use	5,359	5,593	5,886	6,143	6,280	6,389	6,606	6,801	6,993	7,236	7,425	7,477
Net Trade	-2,400	-2,544	-2,436	-2,576	-2,631	-2,646	-2,763	-2,860	-2,950	-3,088	-3,172	-3,122

Table 32. Pakistan Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	2,100	2,750	2,706	2,726	2,740	2,737	2,735	2,734	2,735	2,762	2,767	2,744
					(Metric Tons per Hectare)							
Yield	2.38	2.38	2.38	2.40	2.41	2.42	2.44	2.45	2.46	2.48	2.49	2.50
					(Thousand Metric Tons)							
Production	5,000	6,550	6,451	6,536	6,611	6,633	6,674	6,699	6,735	6,847	6,900	6,866
Beginning Stocks	1,100	500	659	796	847	1,117	1,198	1,322	1,340	1,364	1,364	1,272
Domestic Supply	6,100	7,050	7,110	7,331	7,458	7,751	7,872	8,021	8,075	8,211	8,264	8,138
Consumption	2,450	2,835	2,910	2,982	3,095	3,174	3,226	3,285	3,310	3,367	3,433	3,457
Ending Stocks	500	659	796	847	1,117	1,198	1,322	1,340	1,364	1,364	1,272	1,227
Domestic Use	2,950	3,495	3,705	3,829	4,213	4,372	4,548	4,625	4,674	4,732	4,705	4,684
Net Trade	3,150	3,555	3,404	3,503	3,245	3,379	3,325	3,396	3,401	3,479	3,559	3,454

Table 33. Philippine Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	4,528	4,600	4,626	4,652	4,670	4,688	4,693	4,690	4,690	4,698	4,698	4,691
					(Metric Tons per Hectare)							
Yield	2.33	2.28	2.31	2.36	2.39	2.40	2.42	2.46	2.49	2.51	2.53	2.55
					(Thousand Metric Tons)							
Production	10,539	10,500	10,674	10,971	11,165	11,253	11,368	11,547	11,668	11,804	11,897	11,959
Beginning Stocks	3,520	2,434	1,434	1,628	1,682	1,731	1,776	1,804	1,834	1,860	1,870	1,849
Domestic Supply	14,059	12,934	12,109	12,599	12,847	12,984	13,144	13,351	13,501	13,664	13,767	13,808
Consumption	13,125	13,140	13,292	13,673	14,031	14,213	14,460	14,661	14,709	14,980	15,292	15,456
Ending Stocks	2,434	1,434	1,628	1,682	1,731	1,776	1,804	1,834	1,860	1,870	1,849	1,826
Domestic Use	15,559	14,574	14,920	15,354	15,762	15,989	16,264	16,495	16,569	16,850	17,141	17,282
Net Trade	-1,500	-1,640	-2,811	-2,755	-2,915	-3,005	-3,119	-3,144	-3,068	-3,187	-3,374	-3,474

Table 34. Saudi Arabian Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Metric Tons)							
Production	0	0	0	0	0	0	0	0	0	0	0	0
Beginning Stocks	272	252	253	260	262	263	266	268	272	275	278	281
Domestic Supply	272	252	253	260	262	263	266	268	272	275	278	281
Consumption	1,100	1,155	1,174	1,194	1,222	1,244	1,280	1,313	1,345	1,376	1,397	1,411
Ending Stocks	252	253	260	262	263	266	268	272	275	278	281	283
Domestic Use	1,352	1,408	1,434	1,455	1,485	1,510	1,549	1,585	1,620	1,654	1,677	1,694
Net Trade	-1,080	-1,156	-1,181	-1,196	-1,223	-1,247	-1,283	-1,317	-1,348	-1,379	-1,399	-1,413

Table 35. Senegal Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	147	150	150	153	153	153	153	152	151	150	150	149
					(Metric Tons per Hectares)							
Yield	2.65	2.65	2.66	2.67	2.69	2.70	2.72	2.73	2.74	2.75	2.76	2.77
					(Thousand Metric Tons)							
Production	390	397	400	408	411	413	415	414	413	413	412	413
Beginning Stocks	77	130	234	139	145	151	158	164	170	177	184	191
Domestic Supply	467	527	634	548	556	564	573	578	584	590	596	604
Consumption	1,127	1,169	1,197	1,227	1,256	1,288	1,319	1,352	1,385	1,418	1,455	1,490
Ending Stocks	130	234	139	145	151	158	164	170	177	184	191	198
Domestic Use	1,257	1,403	1,336	1,372	1,408	1,445	1,483	1,522	1,562	1,602	1,646	1,688
Net Trade	-790	-876	-702	-824	-852	-881	-911	-944	-978	-1,012	-1,050	-1,084

Table 36. Sierra Leone Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	660	675	675	676	679	682	686	691	696	703	710	717
					(Metric Tons per Hectares)							
Yield	0.75	0.76	0.78	0.80	0.82	0.84	0.85	0.86	0.87	0.88	0.91	0.92
					(Thousand Metric Tons)							
Production	498	510	525	543	556	570	585	596	607	619	645	658
Beginning Stocks	0	0	15	15	16	17	18	19	20	20	21	22
Domestic Supply	498	510	541	558	572	587	603	614	626	639	666	680
Consumption	618	652	662	678	699	719	744	767	783	807	837	857
Ending Stocks	0	15	15	16	17	18	19	20	20	21	22	23
Domestic Use	618	667	678	694	716	737	763	787	803	828	859	880
Net Trade	-120	-157	-137	-136	-144	-150	-160	-173	-177	-189	-193	-199

Table 37. Singapore Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Metric Tons)							
Production	0	0	0	0	0	0	0	0	0	0	0	0
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Supply	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	310	312	318	324	331	336	342	347	350	357	362	373
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Use	310	312	318	324	331	336	342	347	350	357	362	373
Net Trade	310	312	318	324	331	336	342	347	350	357	362	373

Table 38. South African Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	0	0	0	0	0	0	0	0	0	0	0	0
					(Metric Tons per Hectare)							
Yield	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					(Thousand Metric Tons)							
Production	0	0	0	0	0	0	0	0	0	0	0	0
Beginning Stocks	42	37	154	57	65	70	73	79	84	90	95	98
Domestic Supply	42	37	154	57	65	70	73	79	84	90	95	98
Consumption	740	771	784	824	851	863	896	922	948	973	991	1,014
Ending Stocks	37	154	57	65	70	73	79	84	90	95	98	103
Domestic Use	777	925	841	889	921	936	975	1,006	1,038	1,067	1,090	1,116
Net Trade	-735	-888	-687	-832	-856	-866	-902	-927	-953	-977	-995	-1,018

Table 39. South Korean Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	892	854	853	840	839	837	833	830	827	823	819	813
					(Metric Tons per Hectare)							
Yield	4.82	4.95	5.02	5.02	5.04	5.06	5.08	5.10	5.12	5.14	5.16	5.18
					(Thousand Metric Tons)							
Production	4,295	4,224	4,279	4,223	4,233	4,233	4,236	4,232	4,235	4,226	4,227	4,212
Beginning Stocks	1,453	1,278	1,134	964	798	717	680	662	644	629	646	672
Domestic Supply	5,748	5,502	5,413	5,187	5,031	4,950	4,916	4,894	4,879	4,856	4,873	4,885
Consumption	4,837	4,730	4,816	4,777	4,723	4,679	4,663	4,659	4,658	4,618	4,609	4,629
Ending Stocks	1,278	1,134	964	798	717	680	662	644	629	646	672	664
Domestic Use	6,115	5,864	5,781	5,575	5,440	5,358	5,325	5,303	5,287	5,264	5,282	5,294
Net Trade	-367	-362	-368	-388	-409	-409	-409	-409	-409	-409	-409	-409

Table 40. Taiwanese Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	244	268	255	249	245	242	240	238	236	233	231	229
					(Metric Tons per Hectare)							
Yield	4.16	4.09	4.13	4.15	4.17	4.16	4.16	4.17	4.16	4.18	4.21	4.23
					(Thousand Metric Tons)							
Production	1,016	1,096	1,051	1,032	1,021	1,009	999	992	980	976	973	970
Beginning Stocks	358	333	333	317	306	306	312	316	324	327	332	340
Domestic Supply	1,374	1,429	1,384	1,350	1,327	1,315	1,311	1,308	1,304	1,303	1,305	1,309
Consumption	1,161	1,220	1,173	1,149	1,127	1,109	1,101	1,089	1,083	1,077	1,071	1,067
Ending Stocks	333	333	317	306	306	312	316	324	327	332	340	349
Domestic Use	1,494	1,552	1,490	1,456	1,433	1,421	1,417	1,414	1,410	1,409	1,411	1,415
Net Trade	-120	-123	-106	-106	-106	-106	-106	-106	-106	-106	-106	-106

Table 41. Tanzania Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	700	700	709	719	727	735	743	751	758	765	772	779
					(Metric Tons per Hectares)							
Yield	1.31	1.31	1.33	1.35	1.37	1.38	1.40	1.42	1.44	1.46	1.47	1.49
					(Thousand Metric Tons)							
Production	916	916	941	967	993	1,018	1,043	1,067	1,091	1,115	1,139	1,162
Beginning Stocks	0	0	40	41	43	45	45	47	47	48	49	50
Domestic Supply	916	916	981	1,008	1,036	1,063	1,088	1,114	1,139	1,163	1,187	1,213
Consumption	1,006	1,035	1,066	1,116	1,161	1,172	1,209	1,230	1,241	1,267	1,305	1,289
Ending Stocks	0	40	41	43	45	45	47	47	48	49	50	50
Domestic Use	1,006	1,074	1,107	1,159	1,205	1,217	1,256	1,277	1,289	1,316	1,355	1,338
Net Trade	-90	-158	-126	-151	-169	-154	-168	-163	-150	-153	-168	-126

Table 42. Thai Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	10,667	11,271	11,223	11,172	11,141	11,129	11,105	11,089	11,074	11,058	11,059	11,079
					(Metric Tons per Hectare)							
Yield	1.90	1.90	1.92	1.94	1.96	1.98	2.00	2.02	2.04	2.06	2.08	2.10
					(Thousand Metric Tons)							
Production	20,262	21,453	21,529	21,666	21,819	22,007	22,213	22,393	22,559	22,766	23,001	23,266
Beginning Stocks	6,100	5,562	8,471	11,487	13,142	14,608	16,232	18,058	19,955	22,070	24,310	26,846
Domestic Supply	26,362	27,015	30,000	33,153	34,961	36,614	38,444	40,451	42,515	44,836	47,311	50,113
Consumption	10,500	11,013	11,068	10,935	10,944	10,976	10,994	11,016	10,995	11,045	11,135	11,123
Ending Stocks	5,562	8,471	11,487	13,142	14,608	16,232	18,058	19,955	22,070	24,310	26,846	29,620
Domestic Use	16,062	19,484	22,554	24,077	25,551	27,208	29,053	30,972	33,065	35,356	37,981	40,743
Net Trade	10,300	7,531	7,446	9,076	9,410	9,406	9,392	9,480	9,449	9,480	9,330	9,370

Table 43. Turkish Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	105	105	103	104	103	103	103	102	102	102	101	101
					(Metric Tons per Hectare)							
Yield	4.29	4.29	4.36	4.37	4.46	4.52	4.58	4.64	4.70	4.76	4.82	4.87
					(Thousand Metric Tons)							
Production	450	450	451	452	461	466	471	475	479	483	488	494
Beginning Stocks	316	305	260	306	318	317	317	320	326	329	331	340
Domestic Supply	766	755	711	759	780	783	787	795	804	812	820	834
Consumption	680	700	731	753	765	778	794	812	828	844	866	878
Ending Stocks	305	260	306	318	317	317	320	326	329	331	340	337
Domestic Use	985	960	1,037	1,072	1,082	1,094	1,114	1,137	1,157	1,176	1,207	1,216
Net Trade	-219	-205	-326	-313	-302	-311	-327	-342	-353	-364	-387	-382

Table 44. Uruguayan Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	196	170	163	167	170	170	171	171	171	174	174	173
					(Metric Tons per Hectare)							
Yield	5.87	5.53	5.68	5.73	5.78	5.82	5.87	5.91	5.96	6.00	6.05	6.09
					(Thousand Metric Tons)							
Production	1,150	940	929	958	980	991	1,004	1,012	1,019	1,042	1,055	1,055
Beginning Stocks	46	131	102	102	102	102	102	102	102	102	101	102
Domestic Supply	1,196	1,071	1,030	1,059	1,082	1,092	1,105	1,113	1,121	1,143	1,156	1,156
Consumption	70	71	72	71	71	70	71	71	70	70	70	69
Ending Stocks	131	102	102	102	102	102	102	102	102	101	102	101
Domestic Use	201	173	173	173	172	172	172	172	172	171	172	170
Net Trade	995	898	857	886	909	921	933	941	949	972	984	987

Table 45. Vietnamese Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	7,605	7,555	7,541	7,531	7,526	7,521	7,518	7,515	7,513	7,514	7,513	7,506
					(Metric Tons per Hectare)							
Yield	3.46	3.46	3.66	3.69	3.73	3.77	3.80	3.84	3.87	3.91	3.94	3.96
					(Thousand Metric Tons)							
Production	26,300	26,150	27,580	27,824	28,083	28,334	28,597	28,824	29,097	29,412	29,589	29,761
Beginning Stocks	1,470	1,870	2,132	2,452	2,713	2,664	2,633	2,619	2,639	2,713	2,751	2,582
Domestic Supply	27,770	28,020	29,712	30,276	30,796	30,998	31,230	31,443	31,736	32,125	32,340	32,343
Consumption	19,400	19,751	19,893	20,094	20,304	20,471	20,645	20,803	20,743	20,987	21,168	21,422
Ending Stocks	1,870	2,132	2,452	2,713	2,664	2,633	2,619	2,639	2,713	2,751	2,582	2,681
Domestic Use	21,270	21,883	22,345	22,807	22,968	23,104	23,264	23,442	23,456	23,738	23,750	24,103
Net Trade	6,500	6,137	7,367	7,470	7,828	7,895	7,966	8,001	8,280	8,387	8,590	8,240

Table 46. Rest-of-World Rice Supply and Utilization

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	9,374	9,118	9,139	9,305	9,321	9,353	9,475	9,570	9,637	9,698	9,829	9,852
					(Metric Tons per Hectare)							
Yield	2.27	2.27	2.25	2.25	2.26	2.28	2.31	2.35	2.38	2.40	2.47	2.52
					(Thousand Metric Tons)							
Production	21,296	20,661	20,523	20,912	21,053	21,367	21,916	22,476	22,908	23,307	24,237	24,827
Beginning Stocks	2,316	2,906	3,189	2,843	2,813	2,772	2,816	2,856	2,885	2,894	2,928	2,971
Domestic Supply	23,612	23,567	23,712	23,755	23,866	24,140	24,732	25,332	25,793	26,202	27,165	27,798
Consumption	27,874	30,341	30,937	31,634	32,604	33,193	33,966	34,526	34,954	35,594	36,212	36,511
Ending Stocks	2,906	3,189	2,843	2,813	2,772	2,816	2,856	2,885	2,894	2,928	2,971	2,981
Domestic Use	30,780	33,530	33,780	34,447	35,376	36,008	36,822	37,411	37,849	38,522	39,183	39,491
Net Trade	-7,168	-9,963	-10,068	-10,693	-11,510	-11,869	-12,090	-12,079	-12,056	-12,321	-12,018	-11,693

Table 47. Per Capita Rice Consumption of Selected Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
						(Kilograms)						
Argentina	8.5	8.5	8.6	8.6	8.7	8.8	8.8	8.9	9.0	9.1	9.1	9.2
Australia	14.9	16.0	16.7	17.5	17.5	17.6	17.9	17.9	18.0	17.7	17.7	17.9
Bangladesh	217.8	217.8	215.3	216.1	215.5	212.9	212.7	211.6	211.5	211.3	211.0	210.9
Brazil	41.8	40.1	41.4	41.6	41.7	41.6	41.7	41.7	41.7	41.7	41.6	41.2
Brunei Darussalam	73.4	91.2	90.1	90.1	90.2	89.2	90.4	91.1	91.8	92.1	92.1	91.5
Cambodia	292.0	292.8	288.2	285.2	284.7	284.3	284.2	283.8	283.6	283.4	283.6	283.6
Cameroon	19.4	20.3	20.2	21.6	22.9	23.5	23.9	24.2	24.2	24.4	24.7	24.4
Canada	9.7	10.5	10.4	10.6	11.1	11.8	12.1	12.4	12.7	12.8	13.0	12.9
China	93.0	95.0	95.4	94.8	94.7	94.6	94.3	93.9	93.4	93.1	92.9	92.2
Cote d'Ivoire	59.0	63.6	63.0	63.3	66.3	67.6	69.7	70.6	71.6	71.7	71.9	71.4
Egypt	42.3	46.3	45.6	45.3	45.1	44.9	44.7	44.6	44.5	44.3	44.2	44.1
European Union-27	5.8	5.7	5.8	5.9	5.9	5.8	5.9	5.9	5.9	6.0	6.0	6.0
Ghana	28.8	30.5	30.1	31.0	31.7	32.2	32.3	32.3	32.4	32.5	32.5	32.5
Guinea	121.6	126.4	125.6	126.0	127.9	128.2	129.3	129.0	127.8	127.7	128.3	124.7
China - Hong Kong	57.8	58.8	59.0	59.5	60.5	60.5	60.9	60.8	60.8	60.6	60.2	59.9
India	76.7	79.1	79.0	79.0	78.5	78.4	78.3	78.2	78.2	78.1	77.9	77.7
Indonesia	160.5	161.6	161.4	161.1	161.1	160.6	160.5	160.0	159.2	159.3	159.6	159.2
Iran	37.7	39.0	39.7	40.0	40.5	40.9	41.1	41.2	40.3	40.8	41.8	42.2
Iraq	43.8	43.3	44.9	46.0	45.0	46.1	47.0	47.4	47.7	47.8	47.8	47.8
Japan	63.7	64.4	64.6	64.1	63.5	63.3	63.4	63.4	63.3	62.6	62.4	62.2
Kenya	8.6	9.4	9.1	9.6	9.8	9.8	10.2	10.6	10.6	10.8	11.2	10.7
Laos	288.9	294.1	293.6	294.8	296.3	297.5	298.4	300.0	299.9	300.7	302.4	305.5
Malaysia	94.3	96.4	95.9	95.4	94.8	94.3	94.1	93.4	93.1	92.9	92.7	92.5
Mali	118.4	124.7	124.0	124.1	126.1	126.6	127.7	128.5	128.0	129.2	132.0	132.9
Mexico	7.6	7.8	7.8	8.0	8.0	8.1	8.1	8.2	8.2	8.4	8.5	8.5
Mozambique	21.4	22.9	23.2	24.2	24.9	25.3	25.1	25.1	24.9	25.1	25.5	24.2
Myanmar (Burma)	185.3	185.8	185.4	185.0	184.7	183.9	183.1	181.8	180.1	179.3	178.5	178.2
Nigeria	30.3	29.7	30.4	31.1	31.1	30.9	31.3	31.5	31.7	32.1	32.3	31.7
Pakistan	13.3	15.1	15.3	15.4	15.8	15.9	16.0	16.0	15.9	16.0	16.1	16.0
Philippines	131.4	129.0	128.1	129.3	130.3	129.7	129.6	129.2	127.4	127.6	128.1	127.5
Saudi Arabia	42.7	44.2	44.2	44.3	44.7	44.8	45.5	46.0	46.4	46.8	46.8	46.7
Senegal	91.5	92.4	92.3	92.2	92.1	92.1	92.1	92.1	92.2	92.2	92.4	92.6
Sierra Leone	117.8	121.6	120.7	120.8	121.7	122.4	123.7	124.5	124.1	124.8	126.4	126.2
Singapore	60.3	59.5	59.4	59.4	59.4	59.2	59.1	58.9	58.3	58.5	58.3	59.0
South Africa	15.1	15.7	16.1	17.0	17.6	17.9	18.5	19.1	19.6	20.1	20.4	20.9
South Korea	99.5	97.0	98.6	97.6	96.3	95.3	94.8	94.6	94.5	93.6	93.4	93.7
Taiwan	50.4	52.9	50.7	49.6	48.6	47.8	47.4	46.8	46.6	46.3	46.0	45.8
Tanzania	24.0	24.2	24.4	25.1	25.6	25.4	25.8	25.8	25.6	25.7	26.1	25.4
Thailand	158.3	165.1	165.0	162.1	161.4	161.1	160.7	160.3	159.3	159.4	160.1	159.3
Turkey	8.7	8.9	9.2	9.3	9.4	9.4	9.5	9.6	9.7	9.8	10.0	10.0
United States	14.1	13.2	13.4	13.8	14.1	14.4	14.7	14.9	15.0	15.1	15.2	15.2
Uruguay	21.2	21.5	21.6	21.4	21.2	21.0	21.0	21.0	20.8	20.6	20.7	20.2
Vietnam	216.6	218.1	217.4	217.3	217.3	217.0	216.7	216.3	213.8	214.4	214.4	215.3
Rest of World	21.7	23.2	23.3	23.5	23.9	23.9	24.1	24.1	24.1	24.1	24.2	24.0
World	65.0	66.2	66.2	66.2	66.1	66.0	65.9	65.8	65.5	65.4	65.4	65.0

Table 48. Yield Per Hectare of Selected Countries												
	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
	(Metric Tons per Hectare)											
Argentina	4.4	4.2	4.3	4.4	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
Australia	6.9	6.8	6.8	6.8	6.9	6.9	6.9	7.0	7.1	7.1	7.2	7.2
Bangladesh	2.8	2.8	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	3.0
Brazil	3.3	3.1	3.3	3.3	3.4	3.4	3.5	3.5	3.5	3.6	3.6	3.6
Brunei Darussalam	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cambodia	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
Cameroon	0.8	0.9	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3
Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	4.6	4.7	4.7	4.8	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Egypt	6.9	5.9	6.4	6.5	6.6	6.6	6.7	6.8	6.8	6.9	6.9	7.0
European Union-27	4.0	4.1	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.5	4.5	4.5
Ghana	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9
Guinea	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
China - Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5
Indonesia	2.9	3.1	3.1	3.2	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.4
Iran	2.8	2.8	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.1
Iraq	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4
Cote d'Ivoire	1.2	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Japan	4.7	4.9	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Kenya	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2
Laos	2.1	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5
Malaysia	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.8
Mali	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7
Mexico	3.6	3.3	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.5	3.5	3.5
Mozambique	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Myanmar (Burma)	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8
Nigeria	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6
Pakistan	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5
Philippines	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5
Saudi Arabia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Senegal	2.7	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8
Sierra Leone	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9
Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Korea	4.8	4.9	5.0	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.2	5.2
Taiwan	4.2	4.1	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Tanzania	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5
Thailand	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1
Turkey	4.3	4.3	4.4	4.4	4.5	4.5	4.6	4.6	4.7	4.8	4.8	4.9
United States	5.2	5.6	5.6	5.7	5.7	5.8	5.8	5.8	5.9	5.9	6.0	6.0
Uruguay	5.9	5.5	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.0	6.0	6.1
Vietnam	3.5	3.5	3.7	3.7	3.7	3.8	3.8	3.8	3.9	3.9	3.9	4.0
Rest of World	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5
World	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1

WORLD REGIONAL RICE SUPPLY AND UTILIZATION

Table 49a. Africa Rice Supply and Utilization-Sum of Modeled and Other Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	9,392	9,682	9,672	9,877	9,944	9,980	10,092	10,177	10,275	10,372	10,519	10,583
					(Metric Tons per Hectare)							
Yield	1.66	1.74	1.79	1.81	1.83	1.85	1.87	1.90	1.92	1.95	1.98	2.01
					(Thousand Metric Tons)							
Production	15,559	16,837	17,299	17,832	18,149	18,462	18,889	19,286	19,749	20,212	20,852	21,220
Beginning Stocks	1,499	1,402	2,497	2,368	2,461	2,499	2,495	2,549	2,620	2,682	2,748	2,808
Domestic Supply	17,058	18,239	19,796	20,199	20,610	20,961	21,383	21,835	22,369	22,894	23,600	24,029
Consumption	25,361	26,895	27,448	28,463	29,467	30,185	31,183	32,042	32,806	33,685	34,604	35,057
Ending Stocks	1,402	2,497	2,368	2,461	2,499	2,495	2,549	2,620	2,682	2,748	2,808	2,828
Domestic Use	26,763	29,392	29,816	30,924	31,966	32,679	33,732	34,662	35,488	36,433	37,413	37,886
Net Trade	-9,705	-11,153	-10,020	-10,725	-11,357	-11,718	-12,349	-12,827	-13,119	-13,539	-13,813	-13,857

Table 49b. Africa Rice Supply and Utilization-Modeled Countries

					(Thousand Hectares)							
Area Harvested	6,519	6,889	6,804	6,845	6,878	6,909	6,956	6,990	7,038	7,084	7,143	7,197
					(Metric Tons per Hectare)							
Yield	1.67	1.81	1.85	1.88	1.90	1.93	1.96	1.98	2.01	2.03	2.06	2.08
					(Thousand Metric Tons)							
Production	10,871	12,454	12,607	12,835	13,073	13,331	13,628	13,872	14,139	14,398	14,700	14,990
Beginning Stocks	1,449	1,330	2,393	2,262	2,349	2,371	2,352	2,400	2,466	2,523	2,584	2,639
Domestic Supply	12,320	13,784	15,001	15,096	15,422	15,702	15,980	16,272	16,604	16,921	17,285	17,629
Consumption	17,816	18,896	19,352	20,053	20,717	21,203	21,875	22,472	22,985	23,602	24,258	24,501
Ending Stocks	1,330	2,393	2,262	2,349	2,371	2,352	2,400	2,466	2,523	2,584	2,639	2,655
Domestic Use	19,146	21,289	21,614	22,402	23,088	23,555	24,275	24,938	25,508	26,186	26,897	27,156
Net Trade	-6,826	-7,505	-6,613	-7,306	-7,666	-7,853	-8,295	-8,665	-8,904	-9,265	-9,613	-9,527

Table 49c. Africa Rice Supply and Utilization-Other Countries

					(Thousand Hectares)							
Area Harvested	2,873	2,793	2,868	3,032	3,066	3,071	3,136	3,186	3,237	3,288	3,376	3,385
					(Metric Tons per Hectare)							
Yield	1.63	1.63	1.64	1.65	1.66	1.67	1.68	1.70	1.73	1.77	1.82	1.84
					(Thousand Metric Tons)							
Production	4,688	4,562	4,692	4,997	5,076	5,130	5,260	5,413	5,610	5,814	6,151	6,231
Beginning Stocks	50	72	104	106	112	128	143	149	154	159	164	169
Domestic Supply	4,738	4,634	4,796	5,103	5,187	5,259	5,403	5,562	5,764	5,973	6,315	6,400
Consumption	7,545	7,999	8,097	8,410	8,750	8,982	9,308	9,570	9,821	10,083	10,347	10,557
Ending Stocks	72	104	106	112	128	143	149	154	159	164	169	173
Domestic Use	7,617	8,103	8,202	8,522	8,878	9,124	9,457	9,724	9,980	10,247	10,516	10,730
Net Trade	-2,879	-3,469	-3,406	-3,419	-3,691	-3,866	-4,054	-4,162	-4,215	-4,274	-4,201	-4,330

Table 50a. Americas Rice Supply and Utilization-Sum of Modeled and Other Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	7,292	6,612	6,799	6,852	6,896	6,934	6,978	7,050	7,062	7,100	7,153	7,198
					(Metric Tons per Hectare)							
Yield	3.65	3.43	3.62	3.66	3.70	3.75	3.80	3.84	3.87	3.91	3.94	3.98
					(Thousand Metric Tons)							
Production	26,621	22,680	24,636	25,096	25,539	25,990	26,492	27,082	27,345	27,733	28,212	28,653
Beginning Stocks	3,583	4,397	4,372	4,121	4,010	4,024	4,049	4,235	4,428	4,620	4,752	4,856
Domestic Supply	30,204	27,077	29,008	29,217	29,549	30,014	30,541	31,317	31,773	32,352	32,964	33,510
Consumption	23,475	23,792	24,383	24,916	25,362	25,738	26,152	26,506	26,731	27,059	27,411	27,461
Ending Stocks	4,397	4,372	4,121	4,010	4,024	4,049	4,235	4,428	4,620	4,752	4,856	4,910
Domestic Use	27,872	28,165	28,503	28,925	29,386	29,787	30,387	30,934	31,350	31,811	32,268	32,371
Net Trade	2,332	-1,088	504	292	162	226	154	383	423	542	696	1,139

Table 50b. Americas Rice Supply and Utilization-Modeled Countries

					(Thousand Hectares)							
Area Harvested	4,775	4,104	4,242	4,272	4,308	4,339	4,379	4,427	4,433	4,466	4,479	4,514
					(Metric Tons per Hectare)							
Yield	4.04	3.94	4.04	4.10	4.15	4.20	4.24	4.28	4.31	4.35	4.39	4.42
					(Thousand Metric Tons)							
Production	19,278	16,166	17,137	17,505	17,862	18,210	18,558	18,944	19,127	19,432	19,659	19,942
Beginning Stocks	1,993	2,836	2,300	2,227	2,080	2,161	2,161	2,319	2,490	2,675	2,783	2,856
Domestic Supply	21,271	19,002	19,437	19,733	19,943	20,372	20,719	21,262	21,617	22,107	22,442	22,798
Consumption	14,360	13,933	14,415	14,769	15,047	15,296	15,568	15,815	16,010	16,216	16,407	16,426
Ending Stocks	2,836	2,300	2,227	2,080	2,161	2,161	2,319	2,490	2,675	2,783	2,856	2,903
Domestic Use	17,196	16,233	16,642	16,849	17,208	17,456	17,886	18,305	18,685	18,999	19,262	19,330
Net Trade	4,075	2,769	2,795	2,883	2,735	2,915	2,833	2,957	2,932	3,108	3,180	3,468

Table 50c. Americas Rice Supply and Utilization-Other Countries

					(Thousand Hectares)							
Area Harvested	2,517	2,508	2,557	2,580	2,589	2,594	2,600	2,623	2,629	2,633	2,673	2,684
					(Metric Tons per Hectare)							
Yield	2.92	2.92	2.93	2.94	2.97	3.00	3.05	3.10	3.13	3.15	3.20	3.25
					(Thousand Metric Tons)							
Production	7,343	7,322	7,499	7,591	7,677	7,779	7,933	8,138	8,218	8,301	8,553	8,711
Beginning Stocks	1,590	1,561	2,072	1,894	1,929	1,863	1,889	1,917	1,938	1,944	1,969	2,001
Domestic Supply	8,933	8,883	9,571	9,484	9,606	9,642	9,822	10,055	10,156	10,245	10,522	10,712
Consumption	9,115	9,860	9,968	10,147	10,315	10,443	10,584	10,691	10,721	10,843	11,005	11,034
Ending Stocks	1,561	2,072	1,894	1,929	1,863	1,889	1,917	1,938	1,944	1,969	2,001	2,007
Domestic Use	10,676	11,932	11,861	12,076	12,178	12,331	12,501	12,629	12,665	12,811	13,006	13,041
Net Trade	-1,743	-3,049	-2,291	-2,592	-2,572	-2,689	-2,679	-2,574	-2,509	-2,567	-2,484	-2,329

Table 51a. Asia Rice Supply and Utilization-Sum of Modeled and Other Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	139,800	143,111	142,583	142,434	142,630	142,437	142,420	142,194	142,011	142,136	142,219	141,961
					(Metric Tons per Hectare)							
Yield	2.90	2.88	2.95	2.99	3.03	3.04	3.06	3.08	3.10	3.13	3.15	3.16
					(Thousand Metric Tons)							
Production	405,922	412,277	421,113	425,412	431,532	433,323	436,167	438,503	440,808	444,508	447,560	448,938
Beginning Stocks	87,821	90,904	94,730	96,912	99,438	103,877	107,005	108,950	110,428	112,037	114,049	115,807
Domestic Supply	493,743	503,181	515,842	522,324	530,969	537,200	543,172	547,454	551,236	556,545	561,609	564,745
Consumption	392,768	404,587	408,493	411,518	414,966	417,806	421,107	423,673	425,636	428,675	431,837	433,569
Ending Stocks	90,904	94,730	96,912	99,438	103,877	107,005	108,950	110,428	112,037	114,049	115,807	117,652
Domestic Use	483,672	499,317	505,405	510,955	518,843	524,811	530,057	534,100	537,673	542,724	547,644	551,221
Net Trade	10,071	3,864	10,438	11,368	12,126	12,389	13,115	13,353	13,563	13,821	13,965	13,524

Table 51b. Asia Rice Supply and Utilization-Modeled Countries

					(Thousand Hectares)							
Area Harvested	136,067	139,533	139,100	138,971	139,194	138,976	138,907	138,658	138,464	138,583	138,662	138,400
					(Metric Tons per Hectare)							
Yield	2.92	2.96	2.97	3.01	3.05	3.06	3.08	3.10	3.12	3.15	3.17	3.18
					(Thousand Metric Tons)							
Production	397,554	412,763	413,641	417,953	424,097	425,732	428,316	430,452	432,606	436,195	438,912	439,944
Beginning Stocks	87,276	89,834	94,020	96,343	98,915	103,345	106,469	108,408	109,882	111,488	113,495	115,250
Domestic Supply	484,830	502,597	507,660	514,296	523,012	529,077	534,785	538,861	542,487	547,684	552,407	555,193
Consumption	382,952	393,652	397,111	399,929	402,923	405,530	408,527	410,901	412,694	415,480	418,464	420,131
Ending Stocks	89,834	94,020	96,343	98,915	103,345	106,469	108,408	109,882	111,488	113,495	115,250	117,094
Domestic Use	472,786	487,672	493,454	498,844	506,268	511,999	516,935	520,783	524,182	528,975	533,714	537,225
Net Trade	12,044	14,925	14,206	15,451	16,744	17,078	17,850	18,078	18,306	18,709	18,694	17,969

Table 51c. Asia Rice Supply and Utilization-Other Countries

					(Thousand Hectares)							
Area Harvested	3,733	3,578	3,483	3,462	3,437	3,461	3,513	3,536	3,547	3,553	3,557	3,561
					(Metric Tons per Hectare)							
Yield	2.24	2.21	2.15	2.15	2.16	2.19	2.23	2.28	2.31	2.34	2.43	2.53
					(Thousand Metric Tons)							
Production	8,368	7,916	7,472	7,459	7,434	7,591	7,851	8,051	8,203	8,312	8,648	8,995
Beginning Stocks	545	1,070	710	569	523	532	536	542	546	549	554	557
Domestic Supply	8,913	8,986	8,182	8,028	7,957	8,123	8,387	8,593	8,749	8,861	9,202	9,552
Consumption	9,816	10,935	11,382	11,588	12,044	12,276	12,580	12,772	12,942	13,196	13,373	13,438
Ending Stocks	1,070	710	569	523	532	536	542	546	549	554	557	558
Domestic Use	10,886	11,645	11,951	12,111	12,575	12,812	13,122	13,318	13,491	13,750	13,930	13,997
Net Trade	-1,973	-2,659	-3,768	-4,083	-4,618	-4,689	-4,735	-4,725	-4,743	-4,888	-4,728	-4,445

Table 52a. Europe Rice Supply and Utilization-Sum of Modeled and Other Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	702	696	694	694	696	694	697	694	693	693	690	693
					(Metric Tons per Hectare)							
Yield	3.79	3.93	4.12	4.14	4.16	4.19	4.22	4.24	4.27	4.29	4.32	4.34
					(Thousand Metric Tons)							
Production	2,663	2,735	2,859	2,872	2,900	2,908	2,938	2,943	2,959	2,977	2,980	3,007
Beginning Stocks	1,246	1,138	1,156	1,089	1,001	954	915	890	863	838	816	786
Domestic Supply	3,909	3,873	4,015	3,962	3,901	3,861	3,853	3,833	3,821	3,815	3,796	3,794
Consumption	3,983	4,023	4,065	4,097	4,103	4,086	4,113	4,128	4,117	4,135	4,168	4,152
Ending Stocks	1,138	1,156	1,089	1,001	954	915	890	863	838	816	786	775
Domestic Use	5,121	5,179	5,154	5,098	5,056	5,001	5,003	4,990	4,955	4,951	4,955	4,927
Net Trade	-1,212	-1,306	-1,139	-1,136	-1,156	-1,139	-1,150	-1,157	-1,134	-1,137	-1,158	-1,133

Table 52b. Europe Rice Supply and Utilization-Modeled Countries

					(Thousand Hectares)							
Area Harvested	468	462	465	466	469	469	472	471	472	473	470	473
					(Metric Tons per Hectare)							
Yield	3.99	4.11	4.33	4.34	4.36	4.38	4.40	4.42	4.44	4.47	4.49	4.51
					(Thousand Metric Tons)							
Production	1,867	1,899	2,015	2,022	2,047	2,055	2,079	2,084	2,096	2,110	2,110	2,130
Beginning Stocks	1,120	987	860	821	758	711	673	648	623	603	581	549
Domestic Supply	2,987	2,886	2,875	2,843	2,805	2,766	2,753	2,732	2,718	2,713	2,691	2,680
Consumption	2,900	2,846	2,902	2,940	2,944	2,934	2,964	2,986	3,004	3,024	3,047	3,042
Ending Stocks	987	860	821	758	711	673	648	623	603	581	549	539
Domestic Use	3,887	3,707	3,722	3,698	3,655	3,607	3,612	3,608	3,606	3,605	3,596	3,581
Net Trade	-900	-821	-847	-855	-850	-842	-860	-876	-888	-892	-906	-901

Table 52c. Europe Rice Supply and Utilization-Other Countries

					(Thousand Hectares)							
Area Harvested	234	234	229	228	227	225	224	223	222	221	220	220
					(Metric Tons per Hectare)							
Yield	3.40	3.58	3.69	3.72	3.76	3.79	3.83	3.86	3.89	3.93	3.96	3.99
					(Thousand Metric Tons)							
Production	796	836	844	850	853	853	858	859	863	866	870	877
Beginning Stocks	126	151	296	269	243	243	242	241	240	236	235	237
Domestic Supply	922	987	1,140	1,119	1,096	1,096	1,100	1,101	1,103	1,102	1,105	1,114
Consumption	1,083	1,176	1,163	1,157	1,158	1,151	1,149	1,142	1,113	1,111	1,121	1,111
Ending Stocks	151	296	269	243	243	242	241	240	236	235	237	235
Domestic Use	1,234	1,472	1,432	1,400	1,401	1,393	1,390	1,382	1,349	1,346	1,358	1,346
Net Trade	-312	-485	-292	-281	-306	-298	-290	-281	-246	-245	-253	-232

Table 53a. Oceania Rice Supply and Utilization-Sum of Modeled and Other Countries

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
					(Thousand Hectares)							
Area Harvested	92	108	111	115	117	119	120	119	119	119	121	123
					(Metric Tons per Hectare)							
Yield	6.78	6.73	6.75	6.80	6.85	6.90	6.92	6.98	7.04	7.10	7.14	7.16
					(Thousand Metric Tons)							
Production	621	723	753	780	803	821	829	832	838	848	862	880
Beginning Stocks	51	97	41	76	126	182	243	304	351	384	405	431
Domestic Supply	672	820	794	856	929	1,003	1,072	1,136	1,188	1,232	1,266	1,312
Consumption	635	719	695	721	732	741	758	768	779	780	791	803
Ending Stocks	97	41	76	126	182	243	304	351	384	405	431	457
Domestic Use	732	760	772	847	914	983	1,062	1,118	1,163	1,185	1,222	1,260
Net Trade	-60	60	22	9	15	19	11	17	26	47	44	51

Table 53b. Oceania Rice Supply and Utilization-Modeled Countries

					(Thousand Hectares)							
Area Harvested	75	101	109	112	115	116	117	117	116	117	118	120
					(Metric Tons per Hectare)							
Yield	6.92	6.76	6.79	6.83	6.88	6.93	6.94	7.01	7.07	7.13	7.17	7.19
					(Thousand Metric Tons)							
Production	519	683	737	765	789	807	816	818	824	834	848	866
Beginning Stocks	46	45	34	70	120	176	236	297	344	377	398	424
Domestic Supply	565	728	771	836	909	983	1,052	1,115	1,168	1,211	1,245	1,291
Consumption	320	348	367	389	395	400	412	416	423	419	425	432
Ending Stocks	45	34	70	120	176	236	297	344	377	398	424	450
Domestic Use	365	382	437	508	571	636	709	760	800	817	849	882
Net Trade	200	346	333	327	338	347	343	355	368	394	396	409

Table 53c. Oceania Rice Supply and Utilization-Other Countries

					(Thousand Hectares)							
Area Harvested	17	5	3	3	3	2	2	2	2	2	2	2
					(Metric Tons per Hectare)							
Yield	6.17	5.36	5.45	5.45	5.47	5.48	5.51	5.53	5.56	5.58	5.58	5.60
					(Thousand Metric Tons)							
Production	102	24	16	14	14	14	14	14	14	14	14	14
Beginning Stocks	5	52	7	6	6	6	7	7	7	7	7	7
Domestic Supply	107	76	23	21	20	20	20	20	20	21	21	21
Consumption	315	371	328	332	337	341	346	351	356	361	366	371
Ending Stocks	52	7	6	6	6	7	7	7	7	7	7	7
Domestic Use	367	378	334	339	343	348	352	358	363	368	373	378
Net Trade	-260	-302	-311	-318	-323	-328	-332	-338	-343	-348	-353	-357

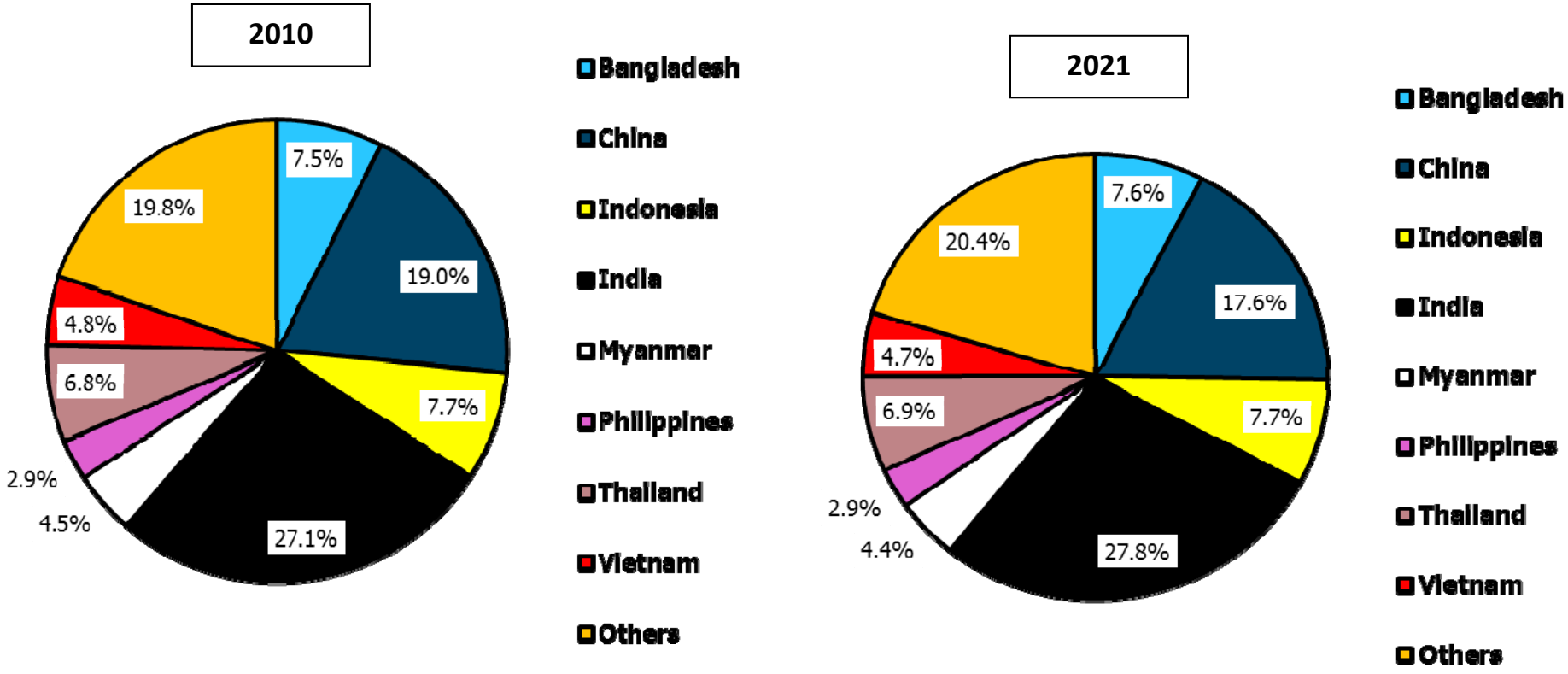


Fig. a1. World Rice Area Harvested Shares, 2010 and 2021

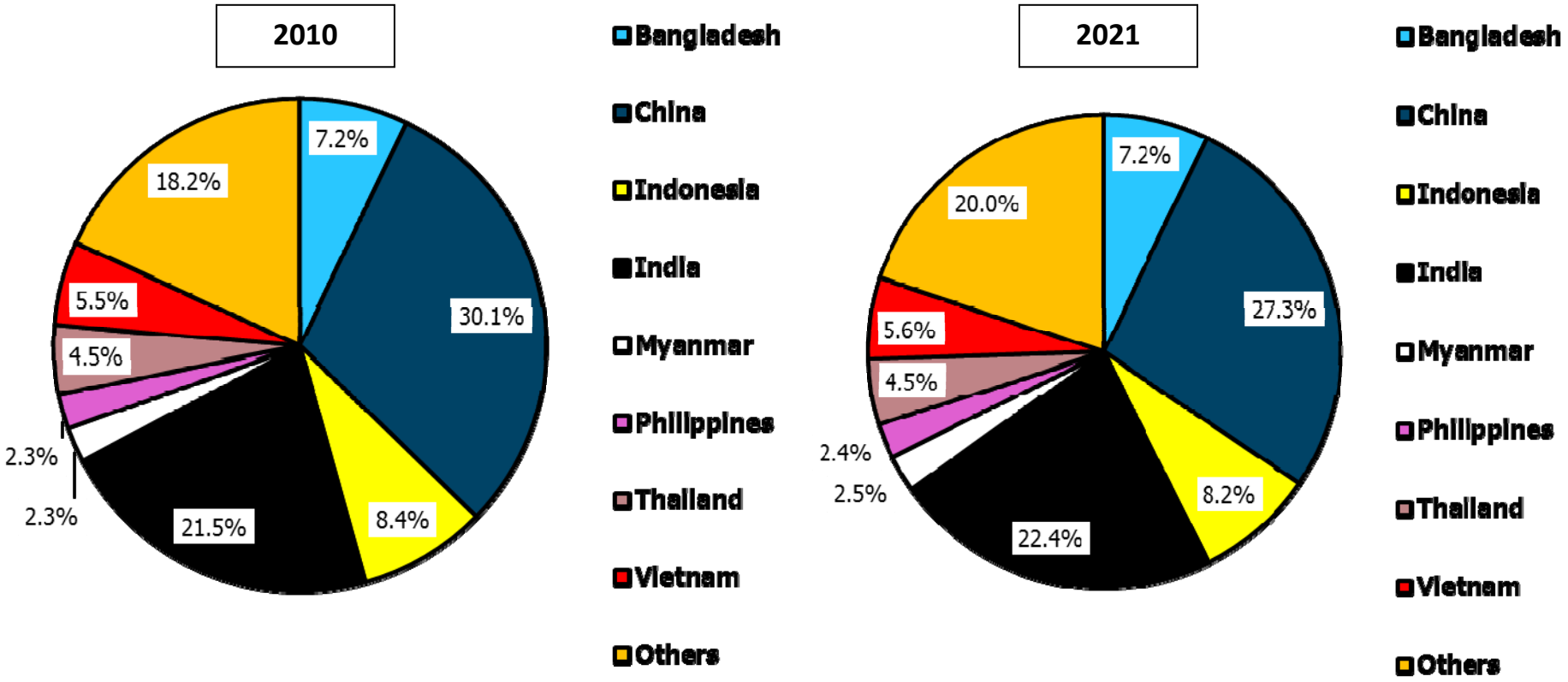


Fig. a2. World Rice Milled Production Shares, 2010 and 2021

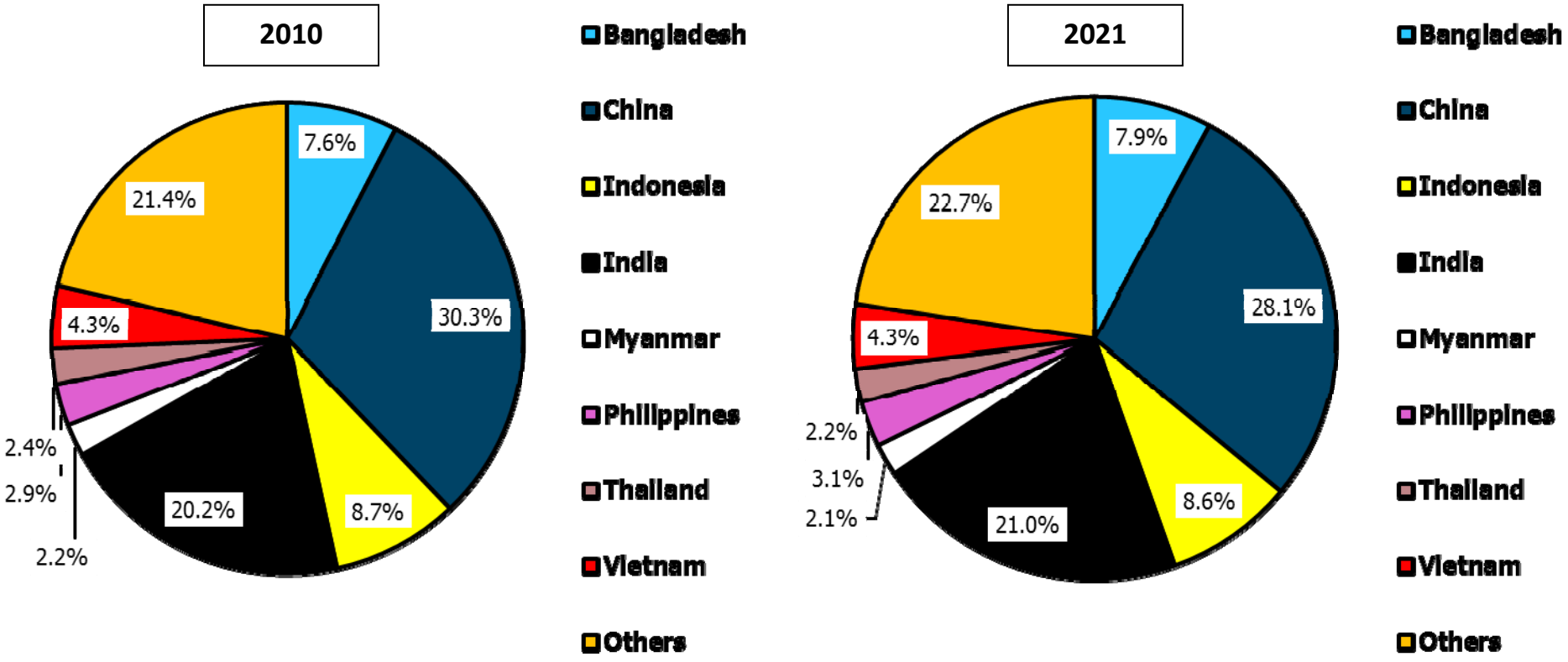


Fig. a3. World Rice Domestic Consumption Shares, 2010 and 2021

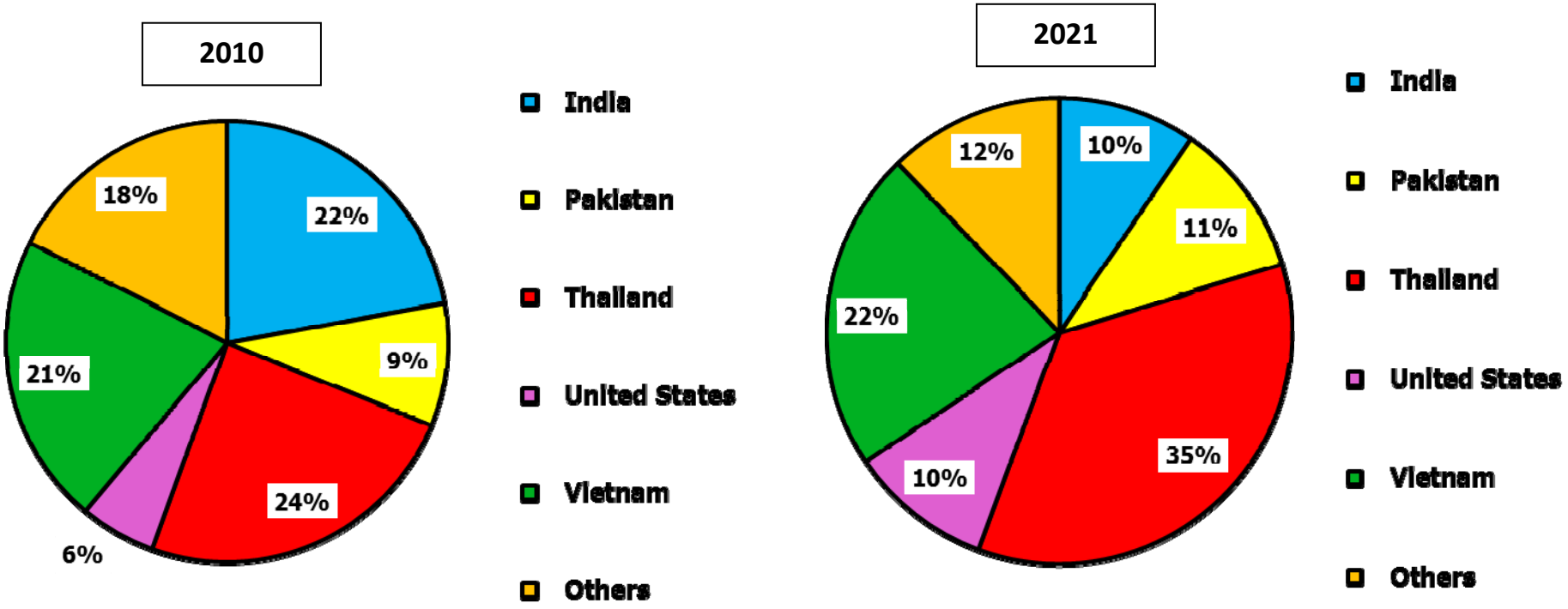


Fig. a4. World Rice Net Export Shares, 2010 and 2021

Figure a4. World Rice Net Export Shares, 2010 and 2021

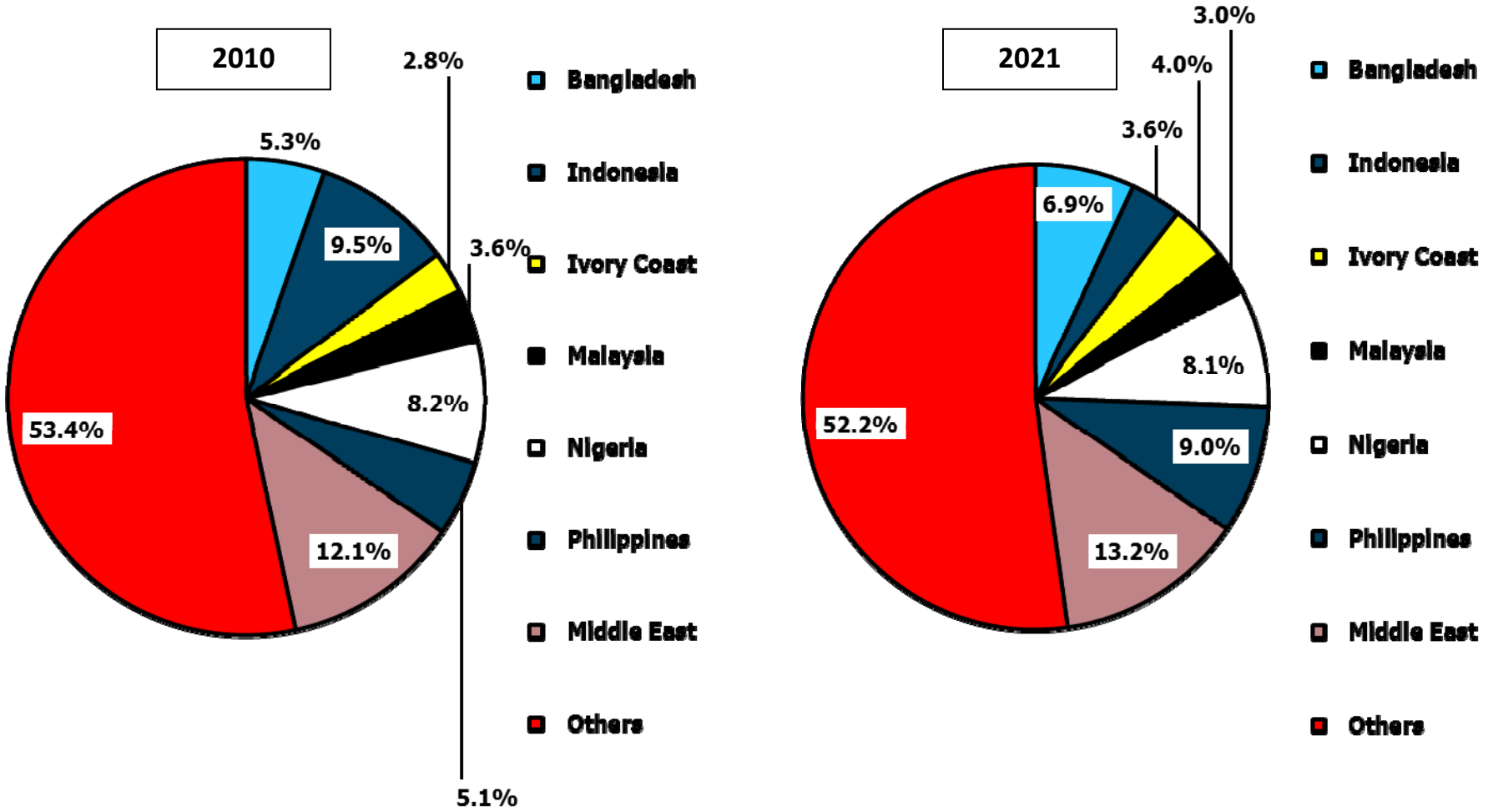


Fig. a5. World Rice Net Import Shares, 2010 and 2021

Stochastic Results

International and U.S. Rice Prices

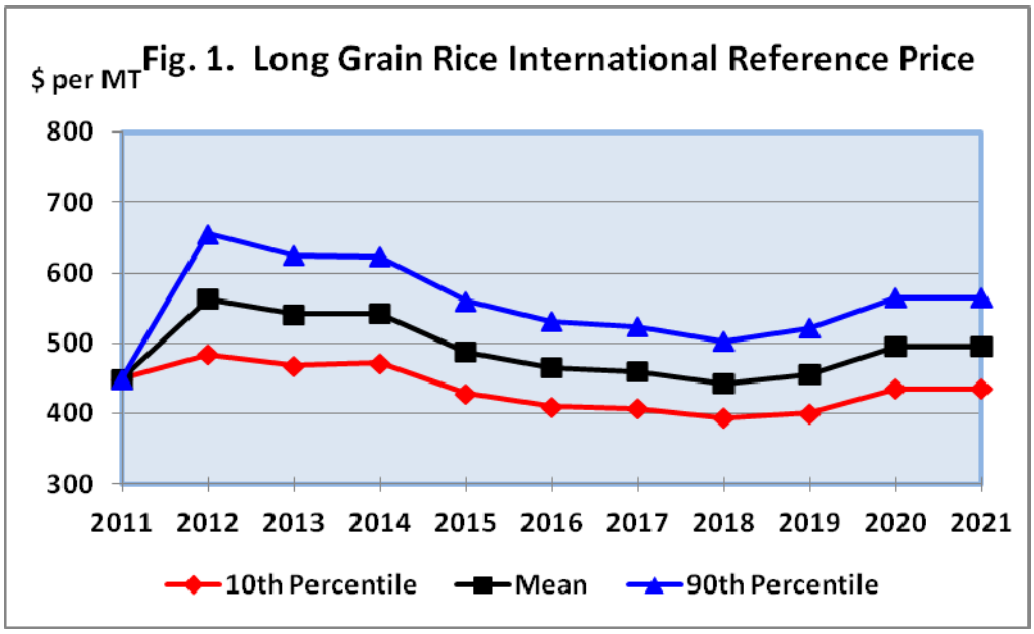
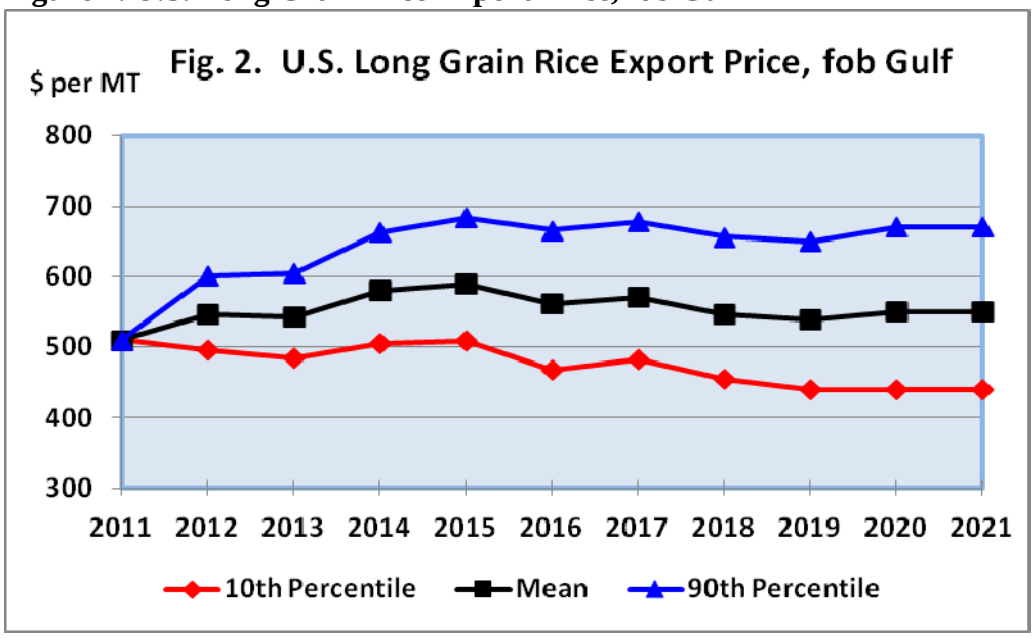


Figure 2. U.S. Long Grain Rice Export Price, fob Gulf



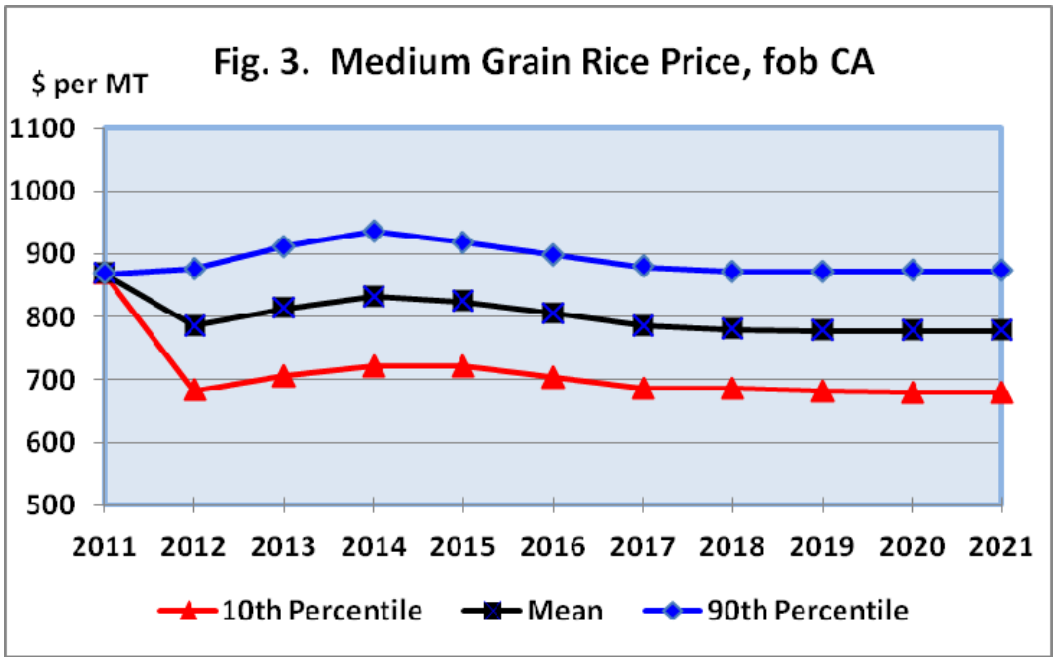


Fig. 3. Medium Grain Rice Price, fob CA
$ per MT
1100
1000
900
800
700
600
500
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

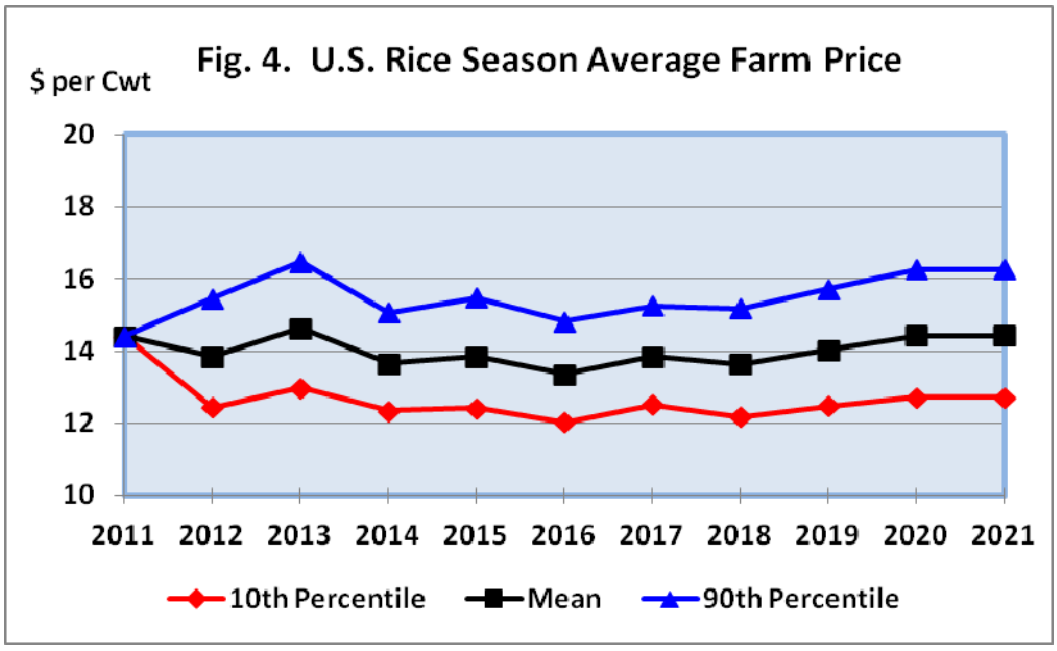


Fig. 4. U.S. Rice Season Average Farm Price
$ per Cwt
20
18
16
14
12
10
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

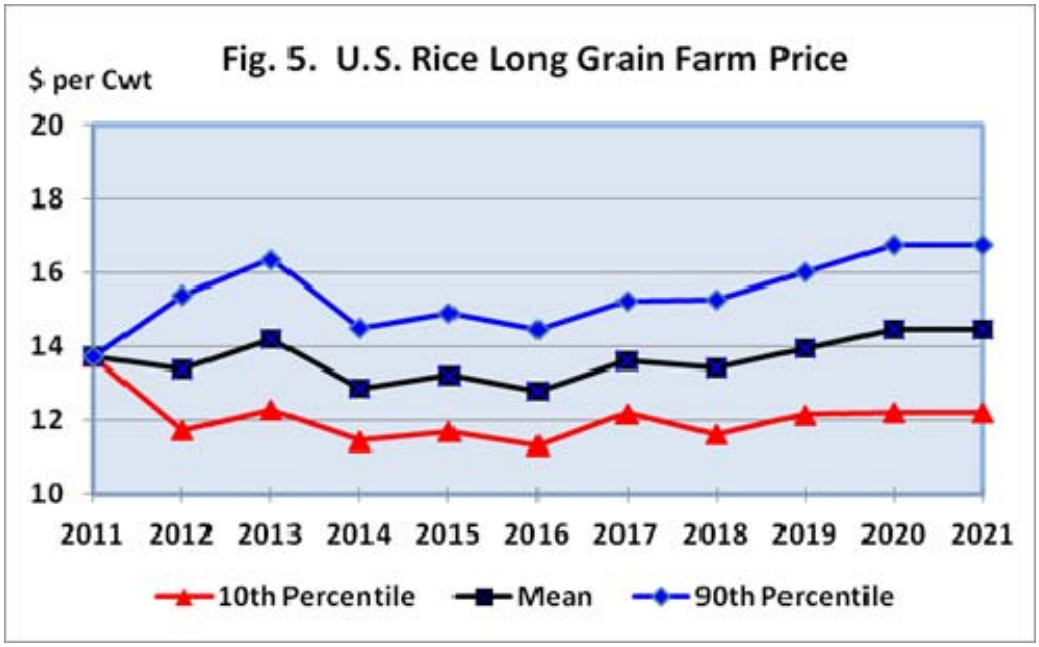


Fig. 5. U.S. Rice Long Grain Farm Price
$ per Cwt
20
18
16
14
12
10
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

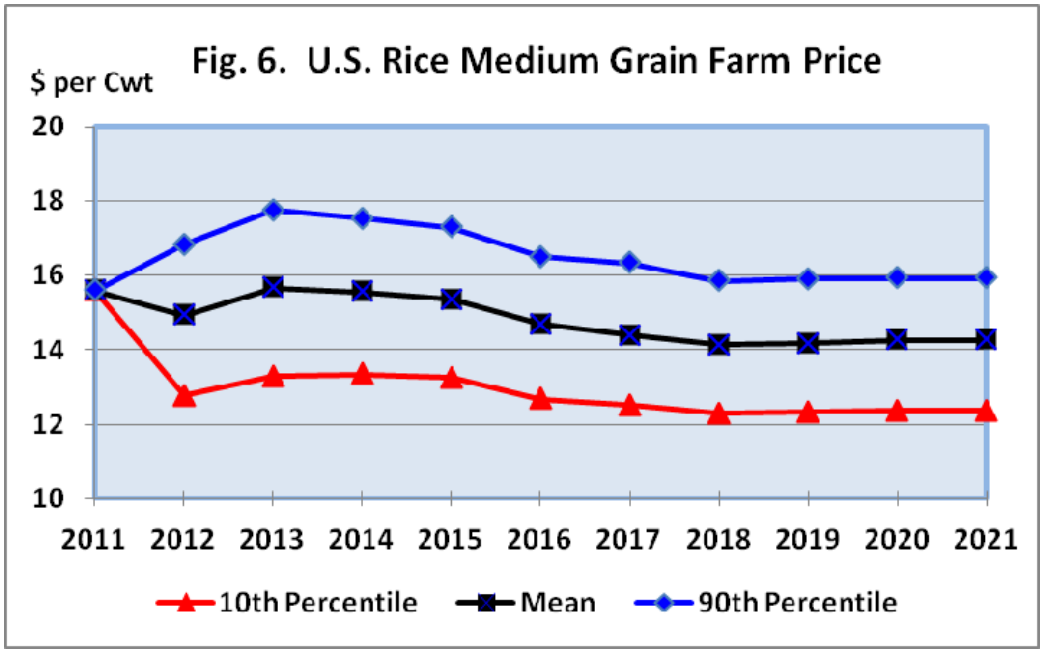
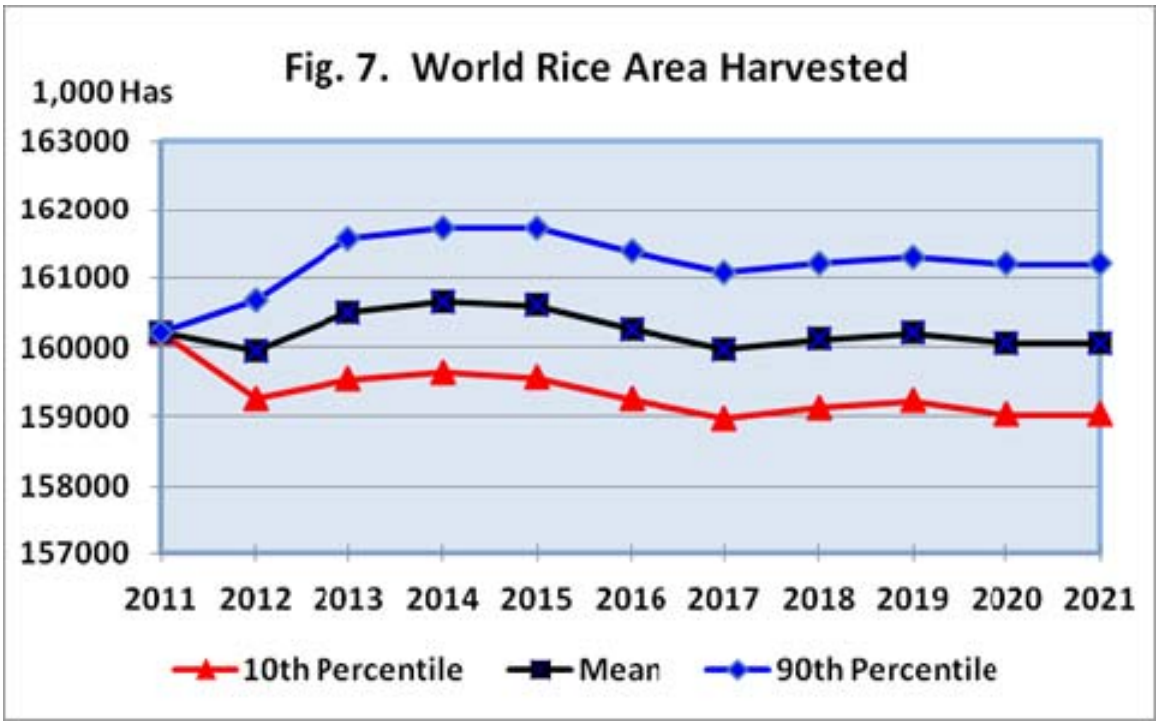
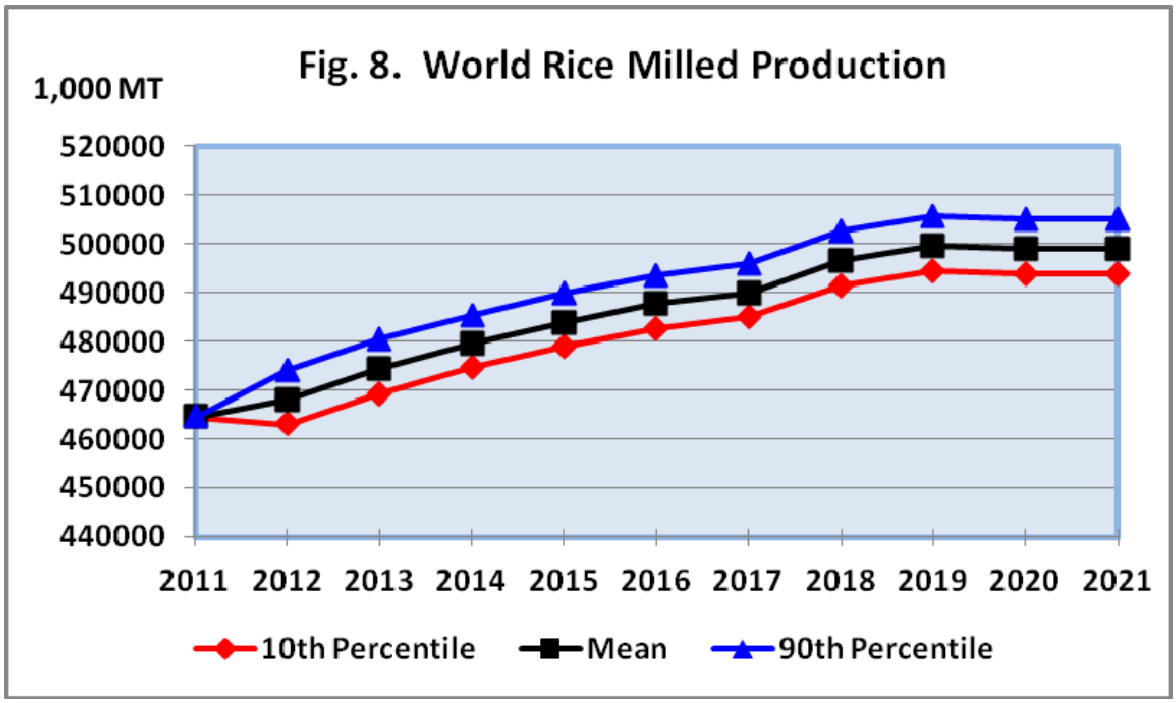


Fig. 6. U.S. Rice Medium Grain Farm Price
$ per Cwt
20
18
16
14
12
10
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

World Rice Supply and Demand





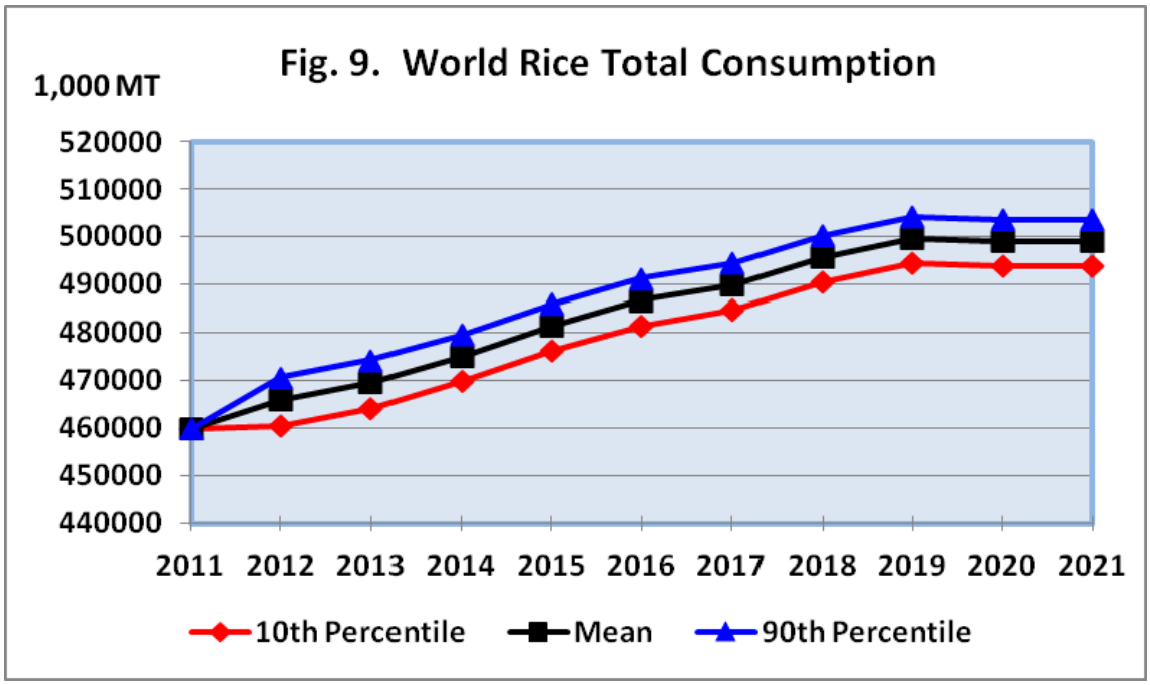


Fig. 9. World Rice Total Consumption
1,000 MT
520000
510000
500000
490000
480000
470000
460000
450000
440000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

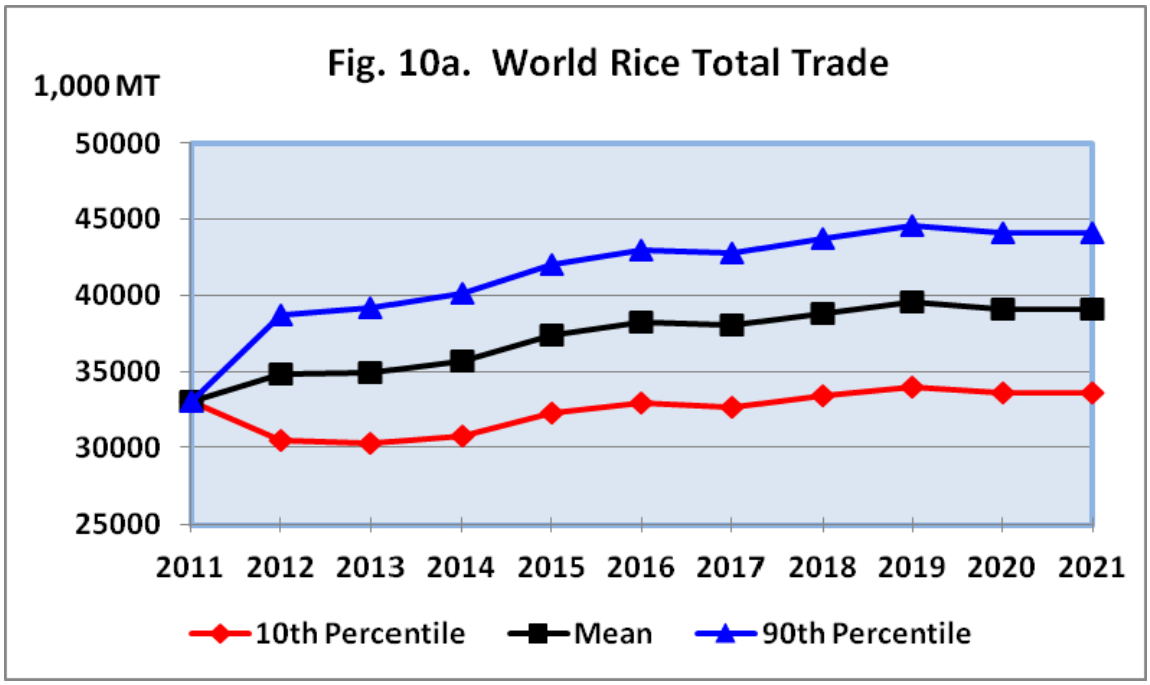


Fig. 10a. World Rice Total Trade
1,000 MT
50000
45000
40000
35000
30000
25000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

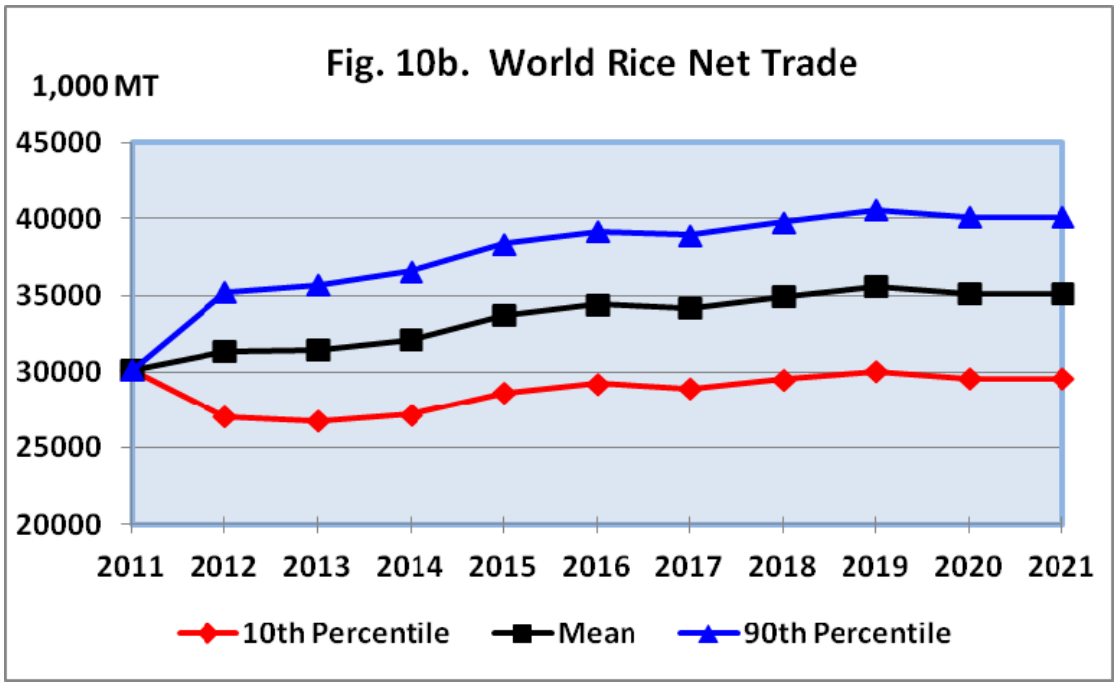


Fig. 10b. World Rice Net Trade
1,000 MT
45000
40000
35000
30000
25000
20000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

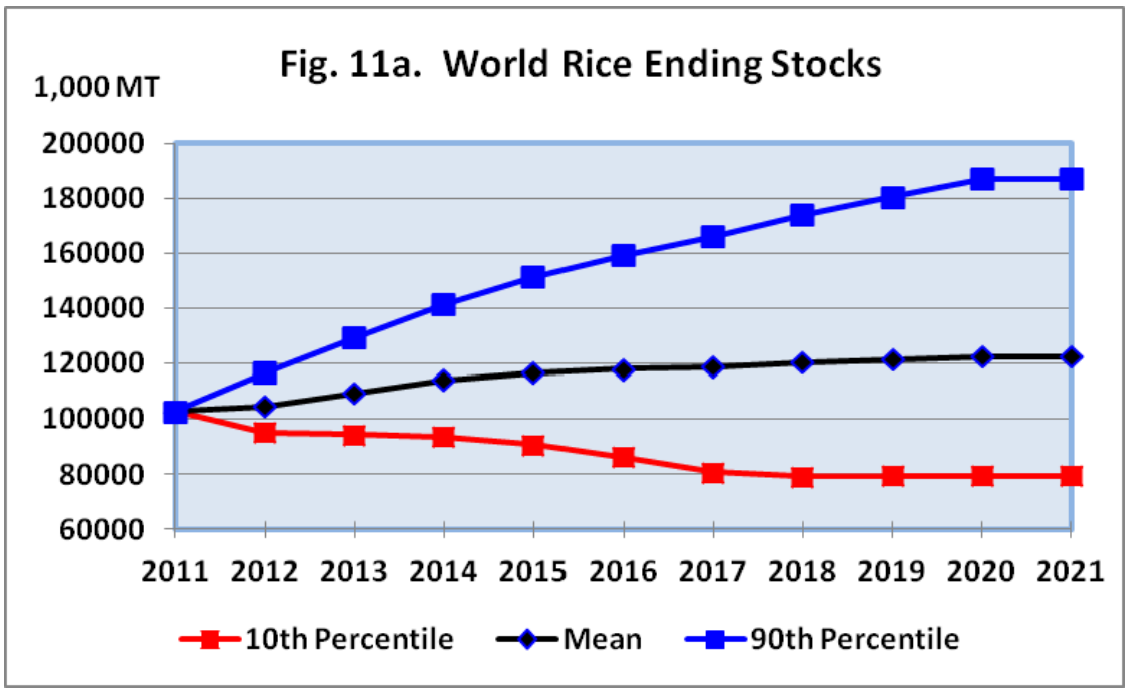
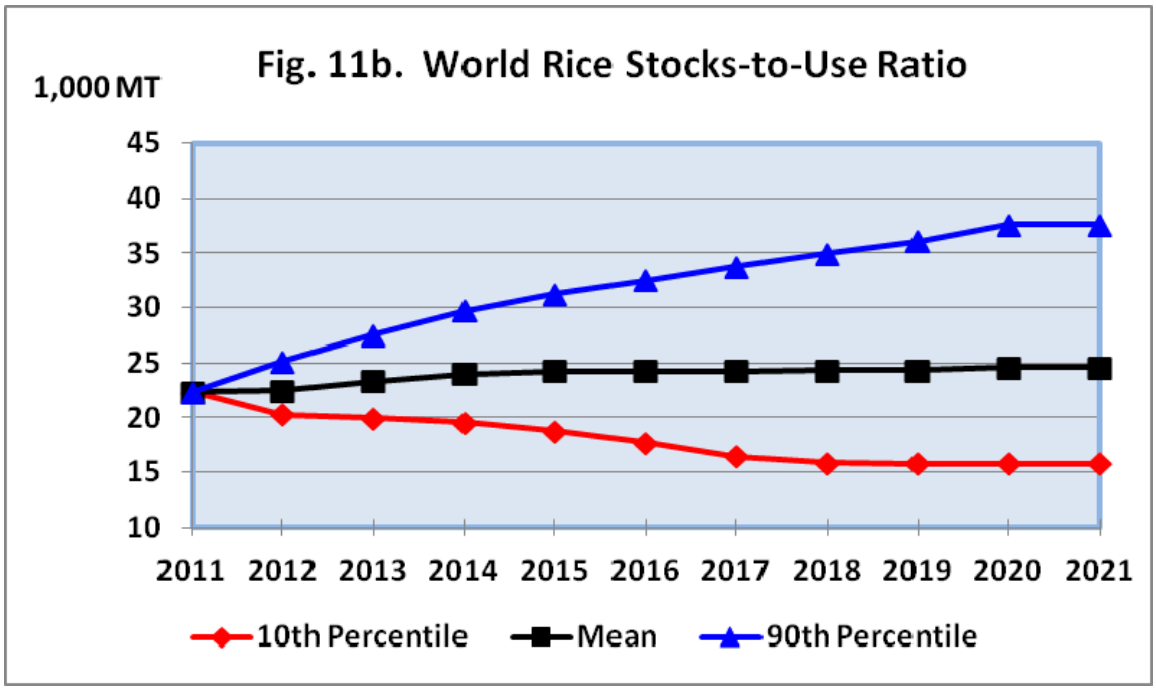
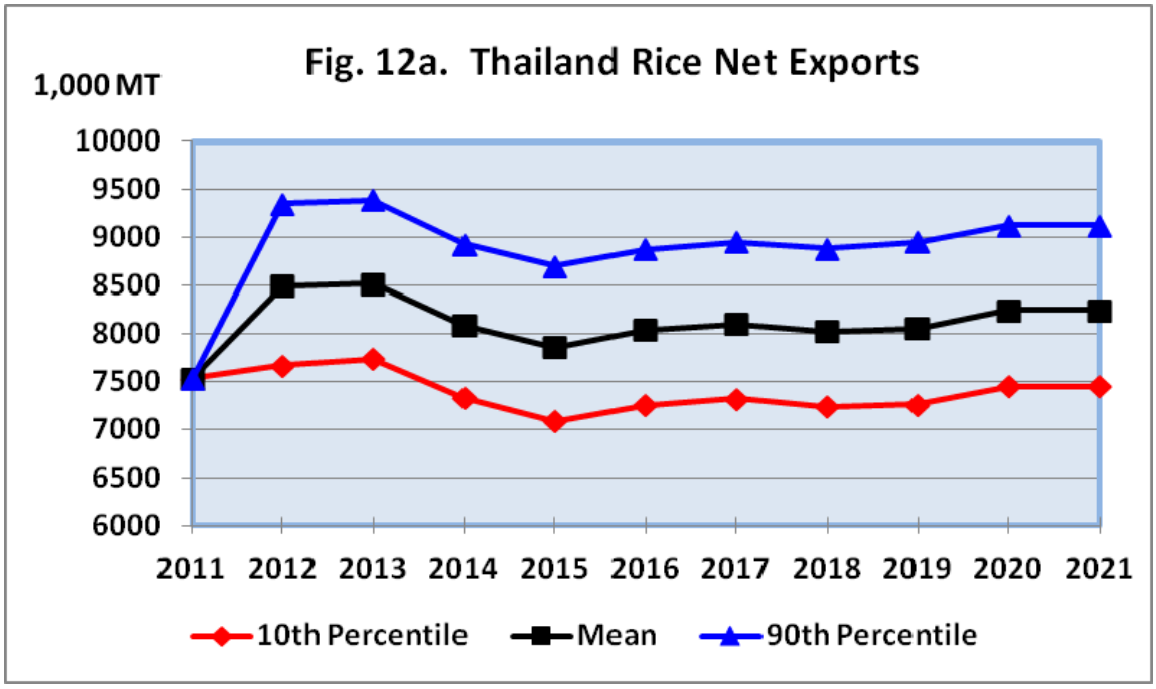


Fig. 11a. World Rice Ending Stocks
1,000 MT
200000
180000
160000
140000
120000
100000
80000
60000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile



Rice Exporters



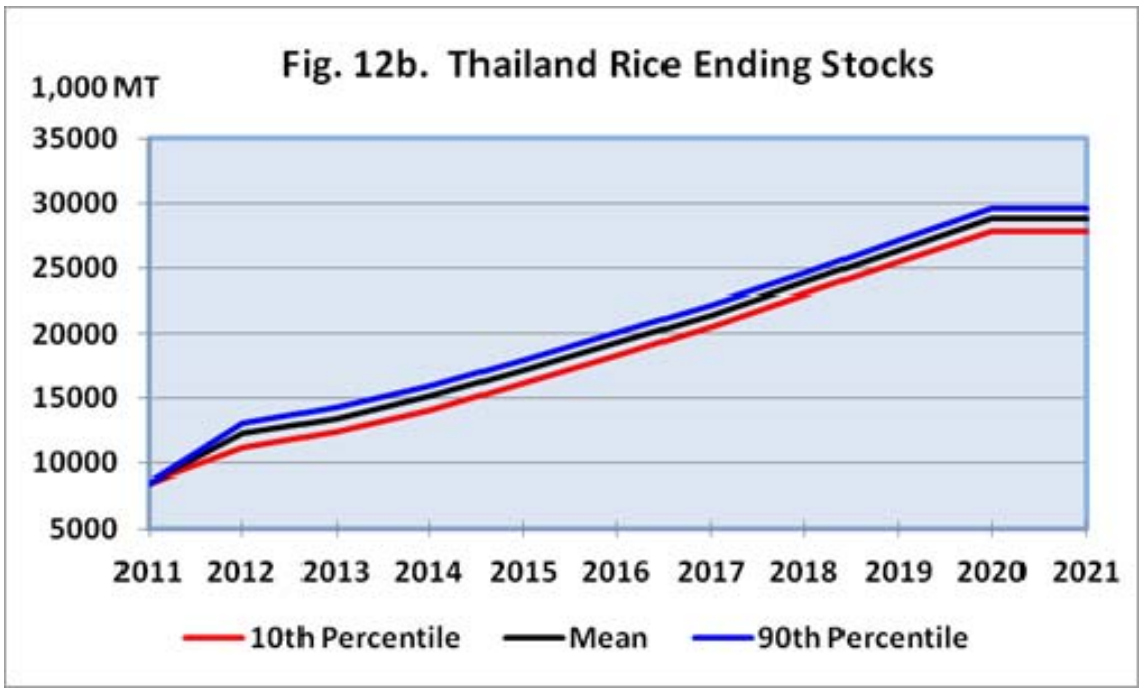


Fig. 12b. Thailand Rice Ending Stocks
1,000 MT
35000
30000
25000
20000
15000
10000
5000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

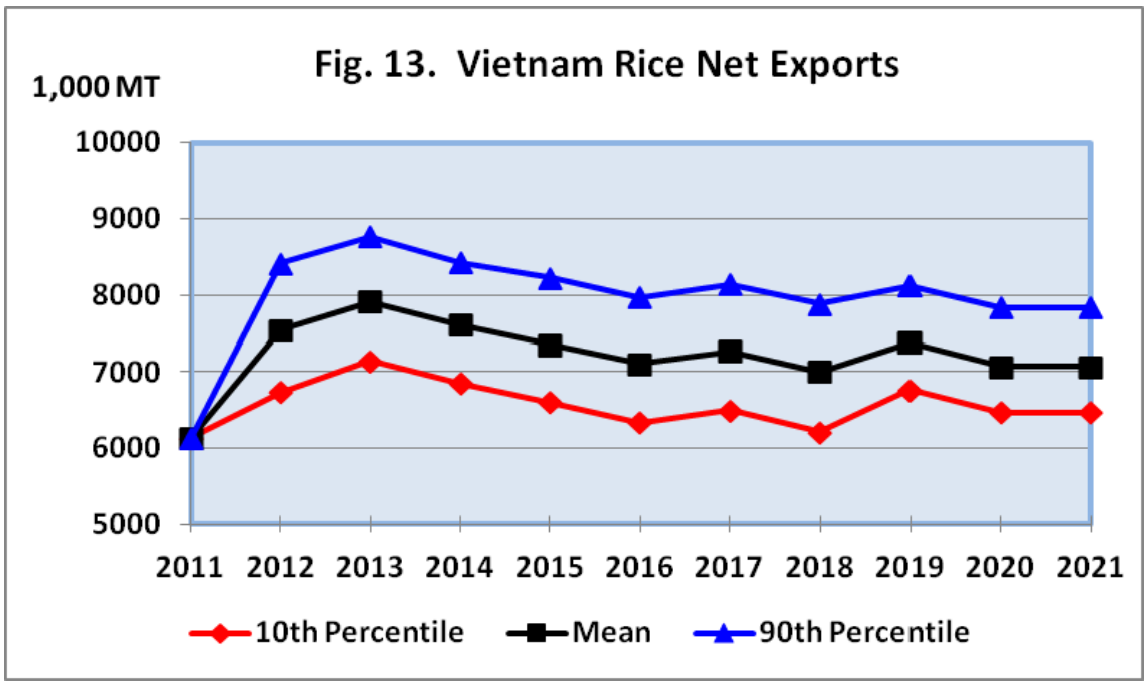


Fig. 13. Vietnam Rice Net Exports
1,000 MT
10000
9000
8000
7000
6000
5000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

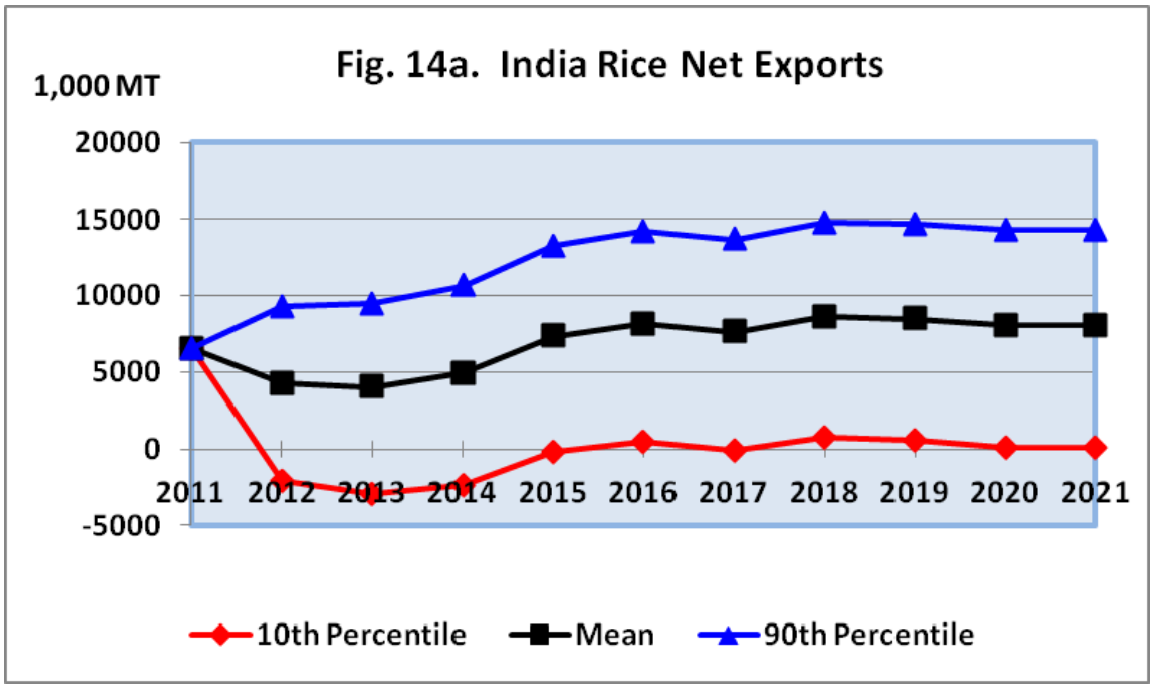


Fig. 14a. India Rice Net Exports
1,000 MT
20000
15000
10000
5000
0
-5000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

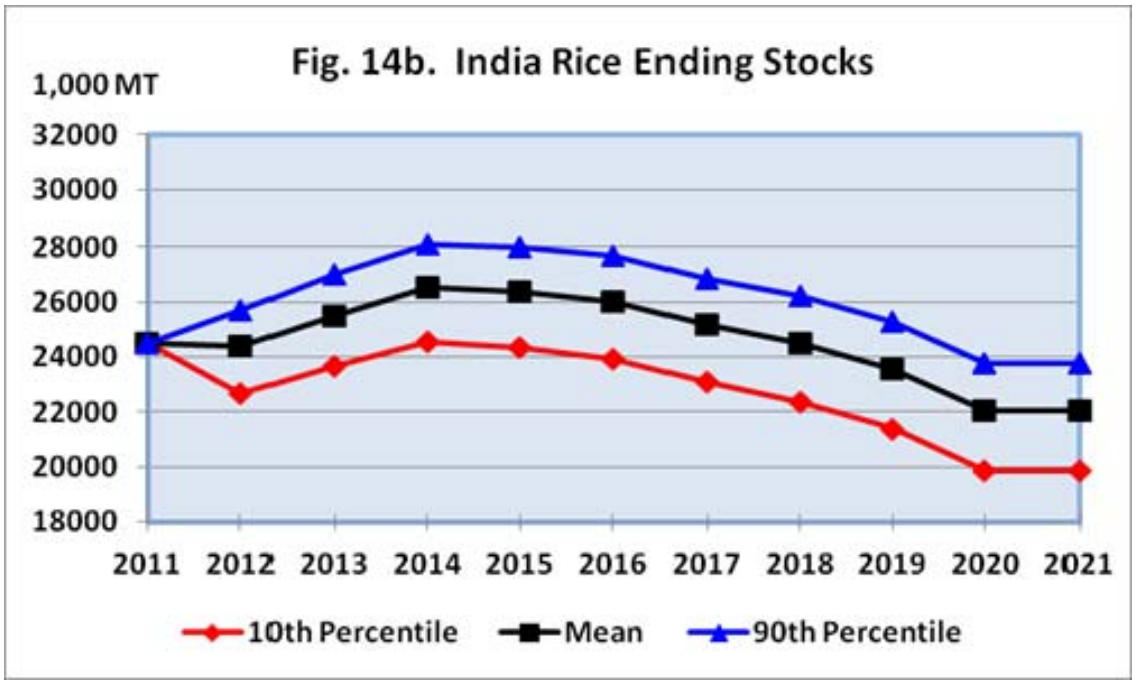


Fig. 14b. India Rice Ending Stocks
1,000 MT
32000
30000
28000
26000
24000
22000
20000
18000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

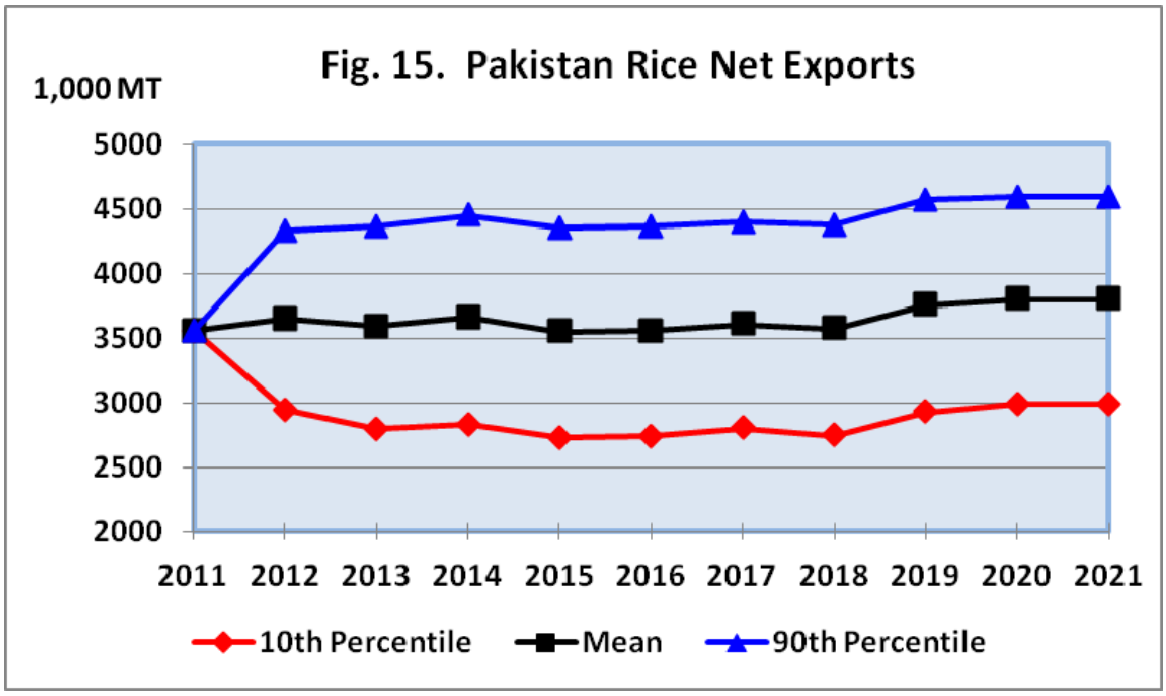


Fig. 15. Pakistan Rice Net Exports
1,000 MT
5000
4500
4000
3500
3000
2500
2000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

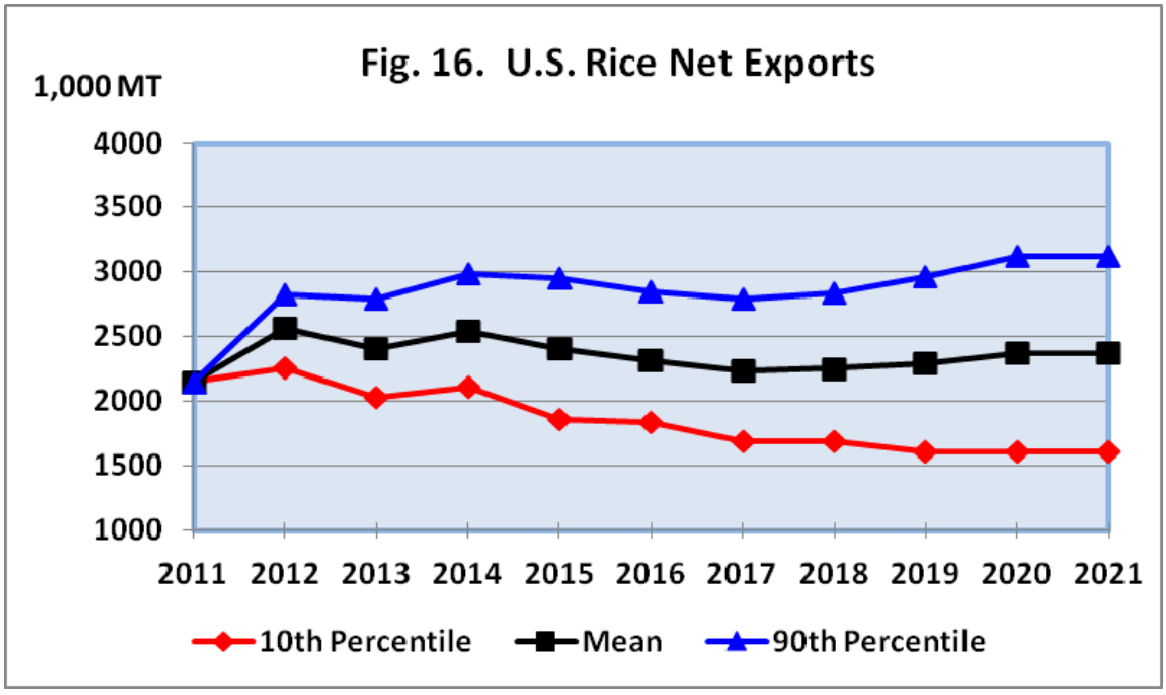


Fig. 16. U.S. Rice Net Exports
1,000 MT
4000
3500
3000
2500
2000
1500
1000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

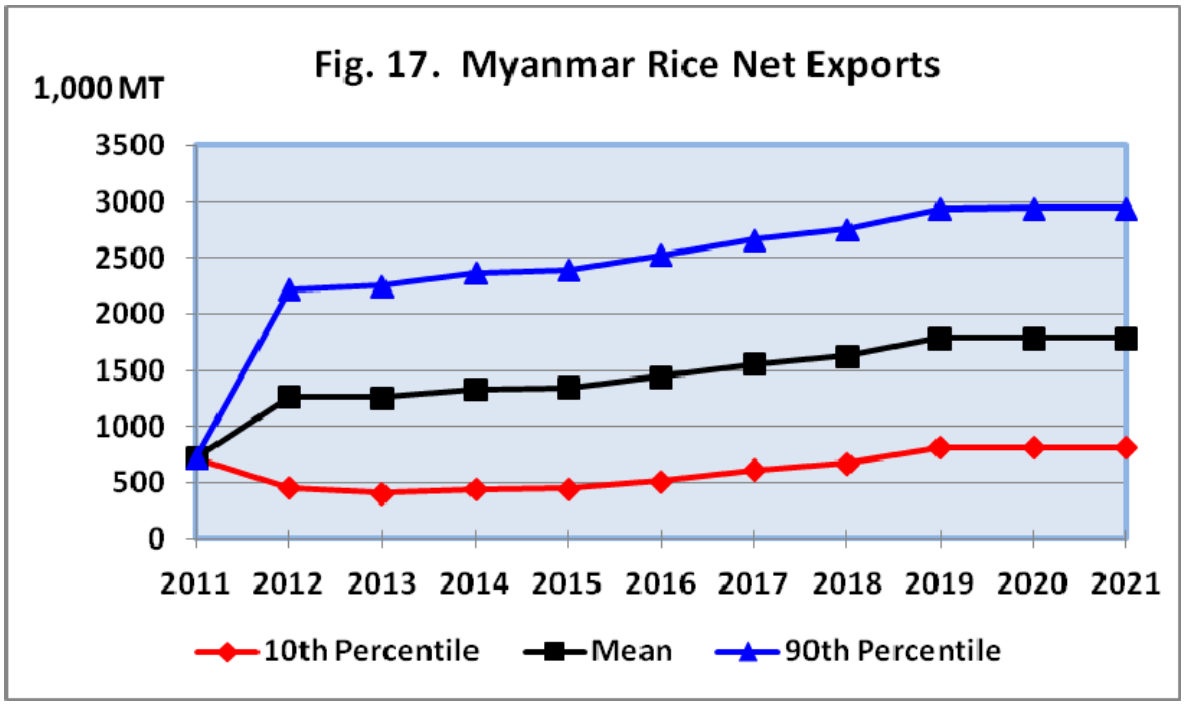


Fig. 17. Myanmar Rice Net Exports
1,000 MT
3500
3000
2500
2000
1500
1000
500
0
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

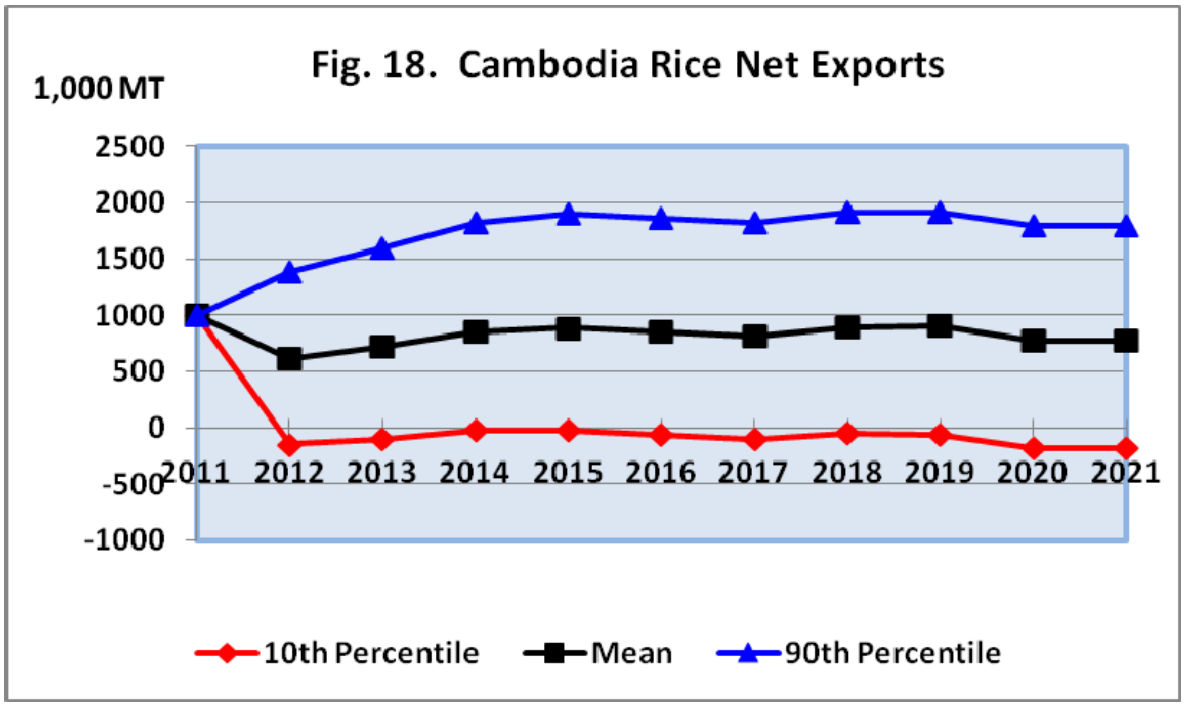


Fig. 18. Cambodia Rice Net Exports
1,000 MT
2500
2000
1500
1000
500
0
-500
-1000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

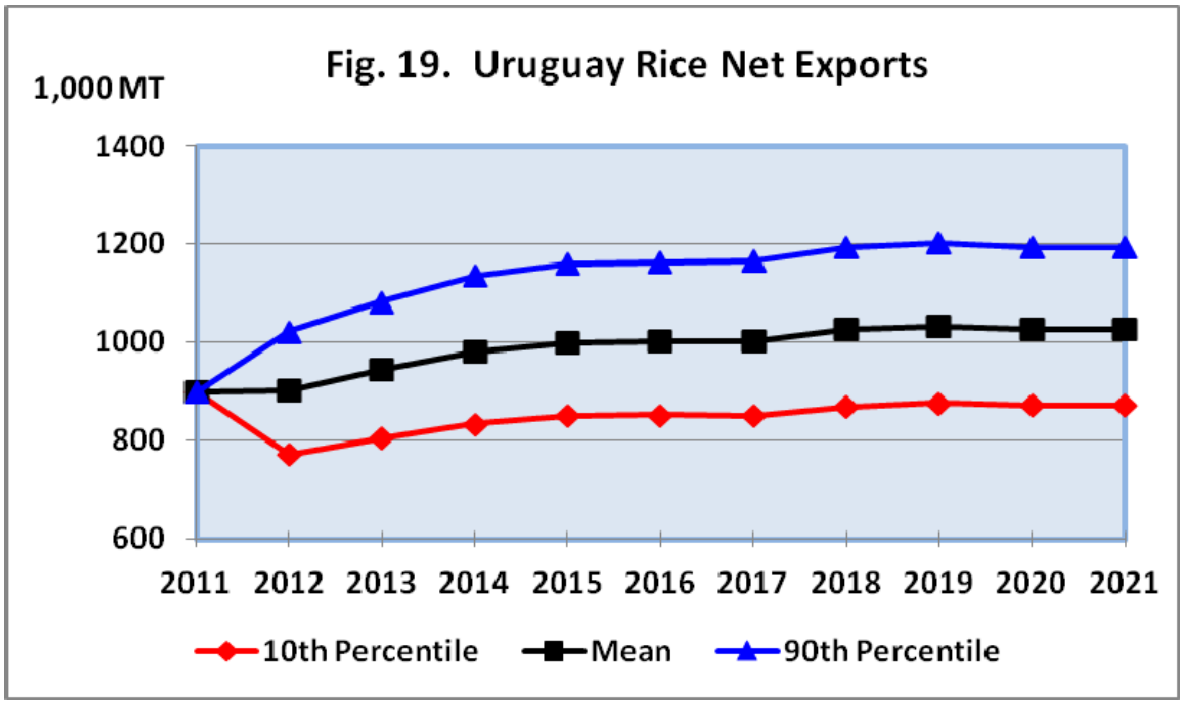


Fig. 19. Uruguay Rice Net Exports
1,000 MT
1400
1200
1000
800
600
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

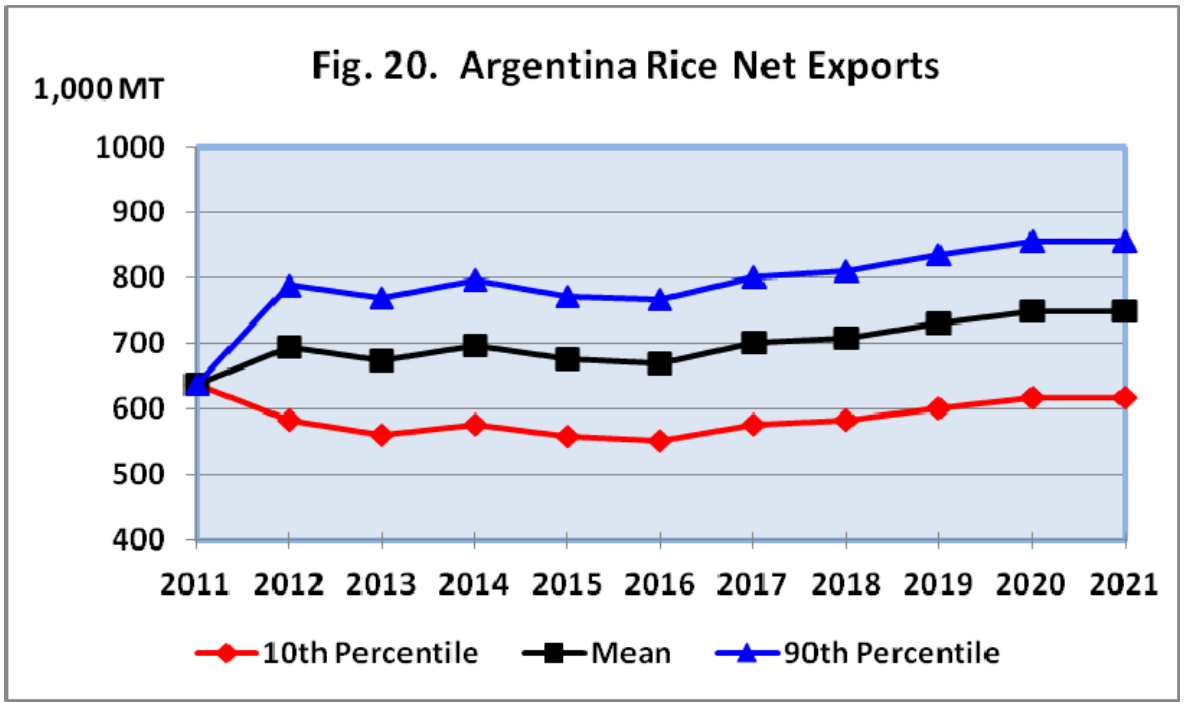


Fig. 20. Argentina Rice Net Exports
1,000 MT
1000
900
800
700
600
500
400
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

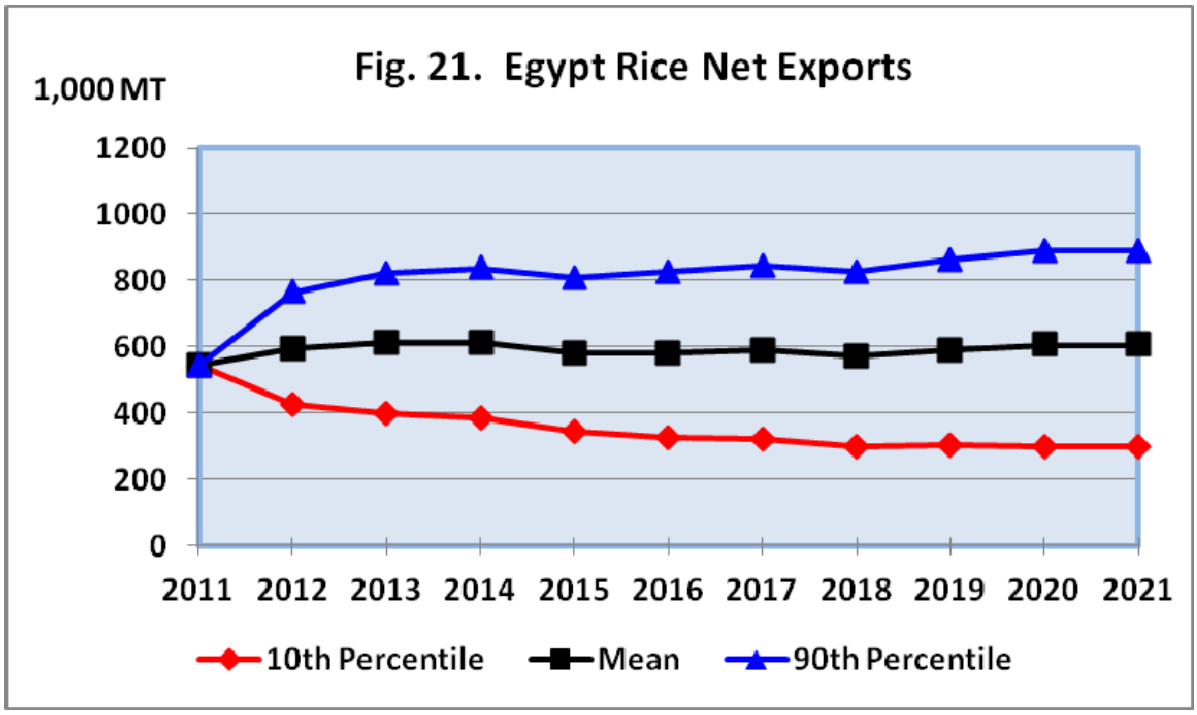


Fig. 21. Egypt Rice Net Exports
1,000 MT
1200
1000
800
600
400
200
0
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

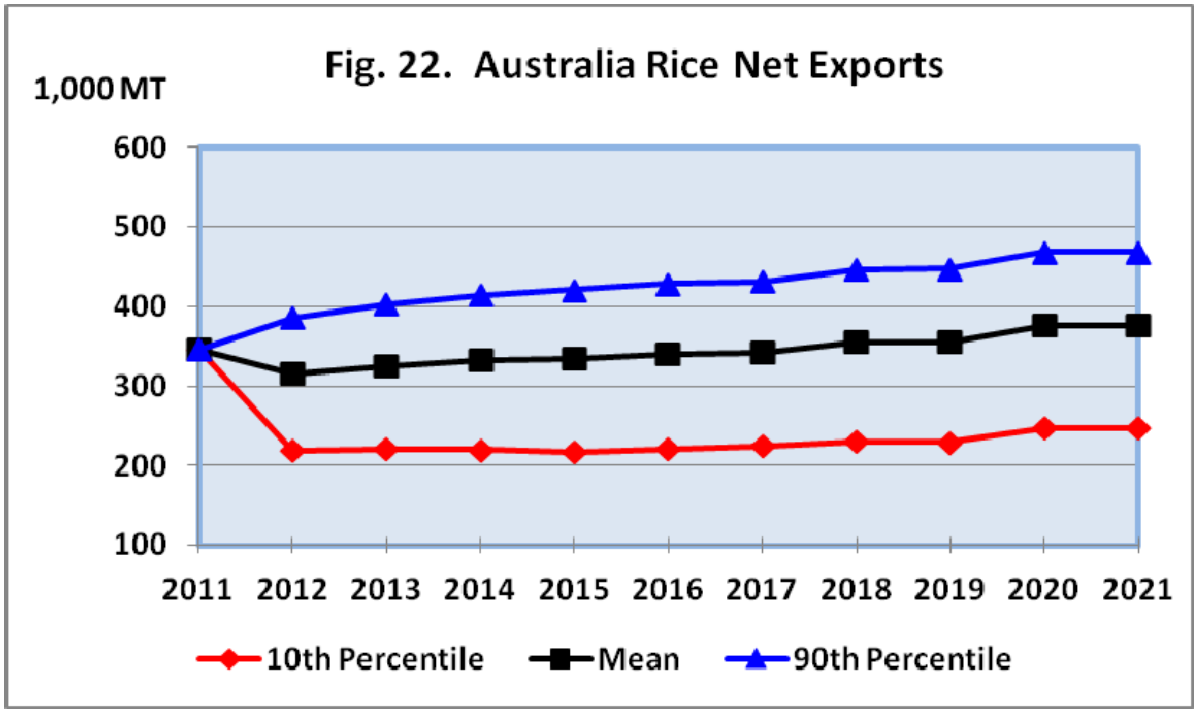


Fig. 22. Australia Rice Net Exports
1,000 MT
600
500
400
300
200
100
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

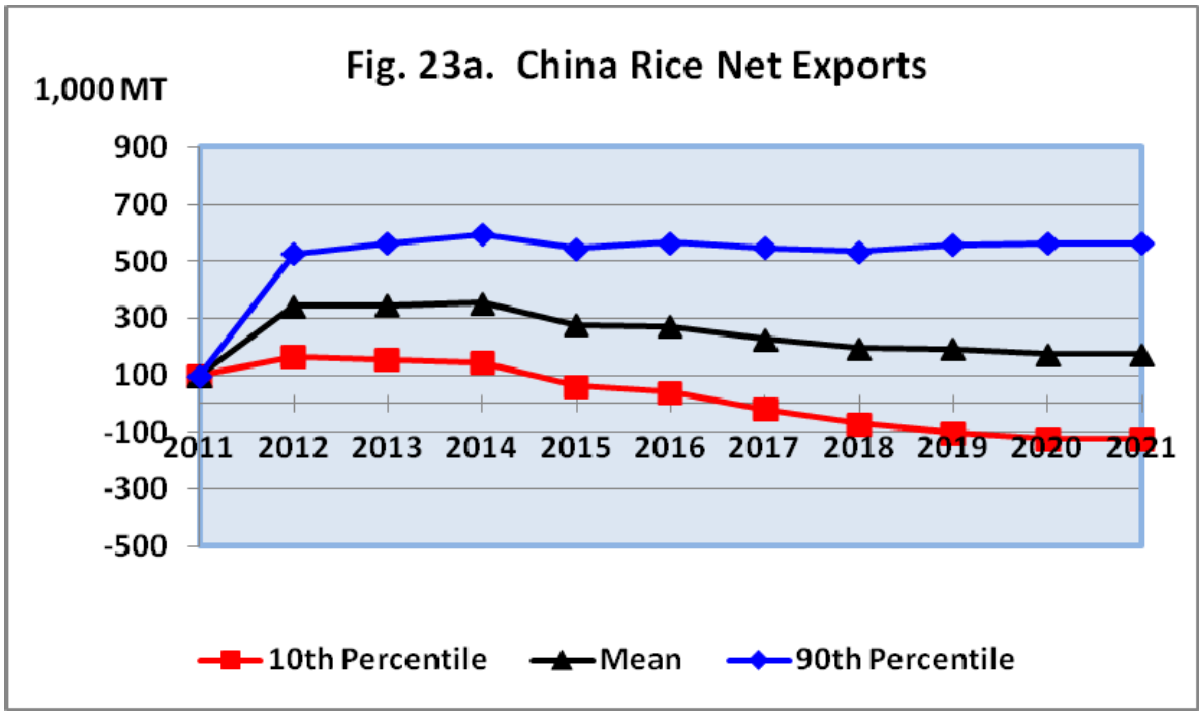


Fig. 23a. China Rice Net Exports
1,000 MT
900
700
500
300
100
-100
-300
-500
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

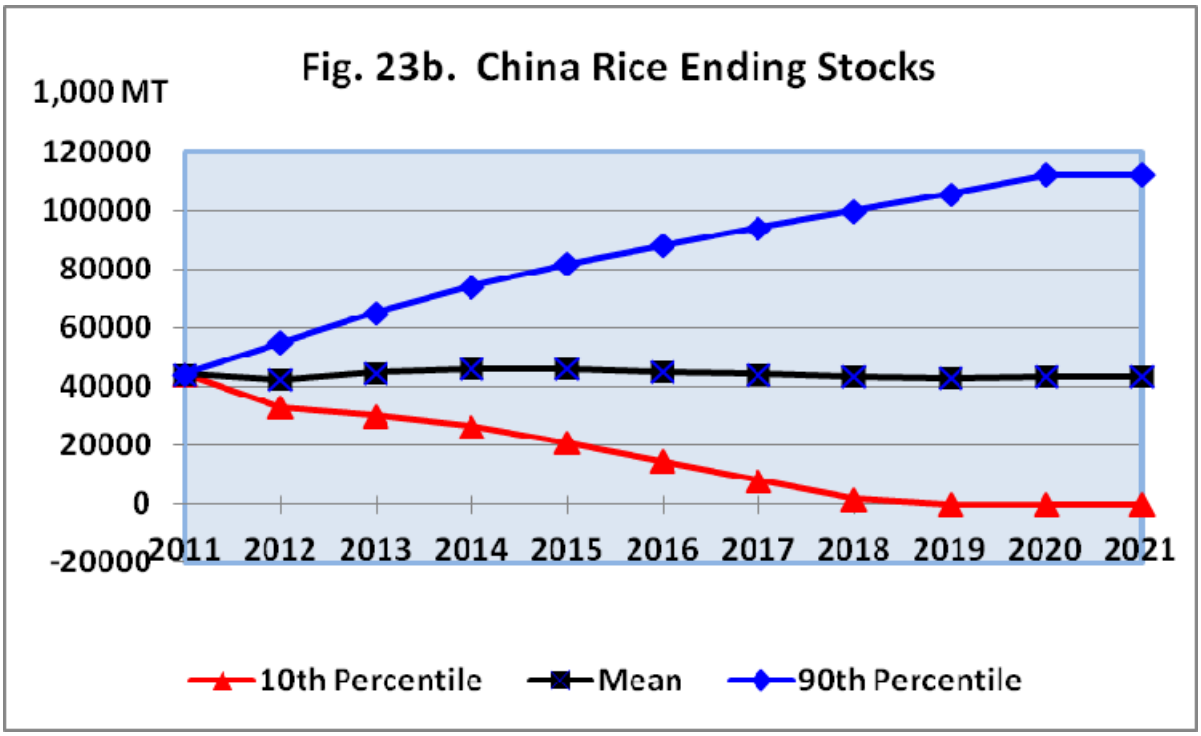


Fig. 23b. China Rice Ending Stocks
1,000 MT
120000
100000
80000
60000
40000
20000
0
-20000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

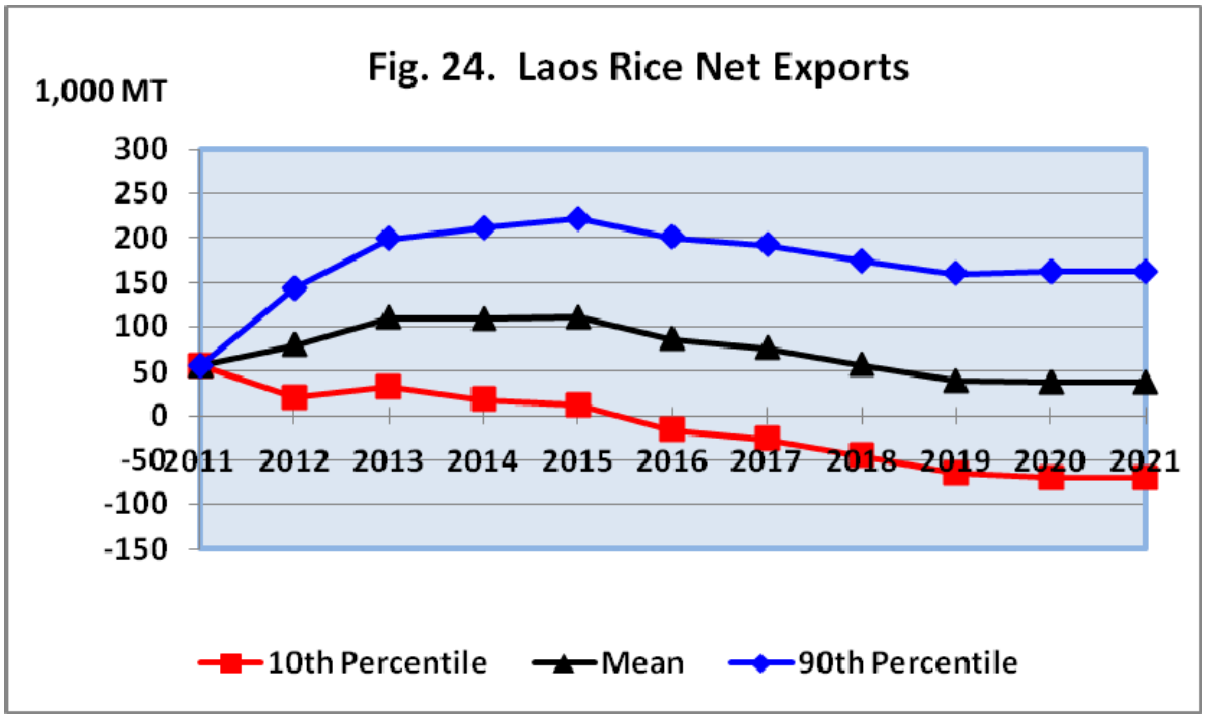


Fig. 24. Laos Rice Net Exports
1,000 MT
300
250
200
150
100
50
0
-50
-100
-150
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

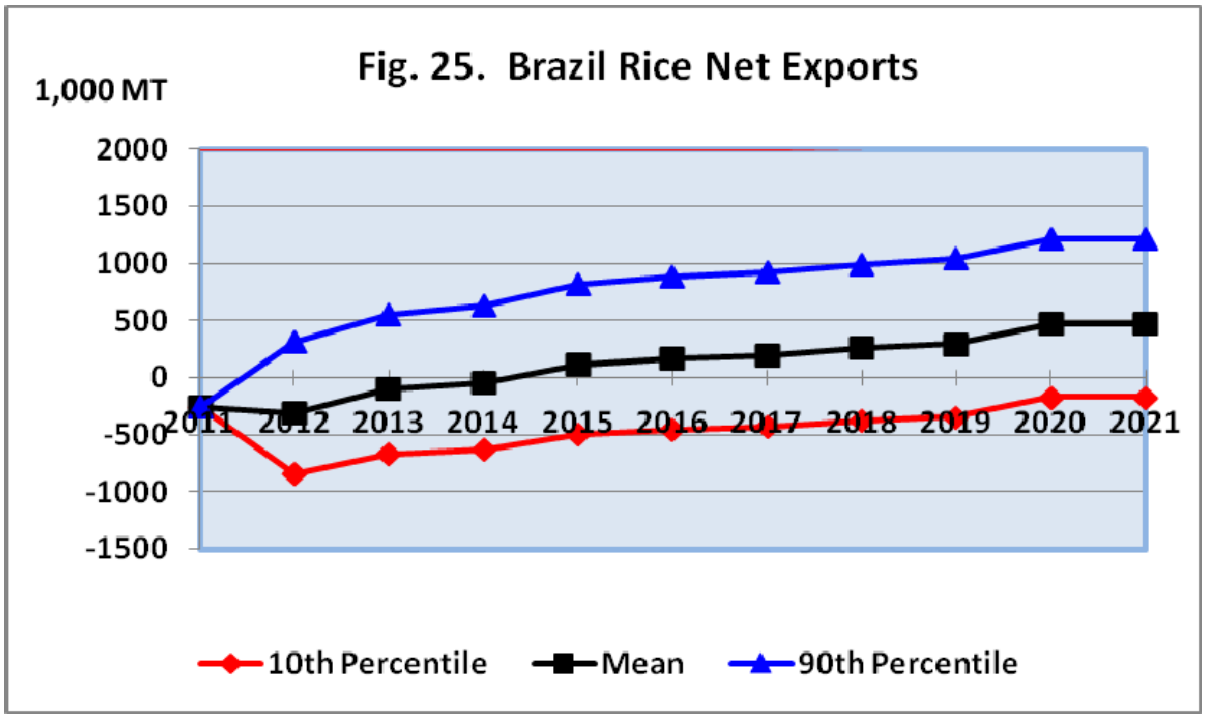


Fig. 25. Brazil Rice Net Exports
1,000 MT
2000
1500
1000
500
0
-500
-1000
-1500
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

Rice Importers

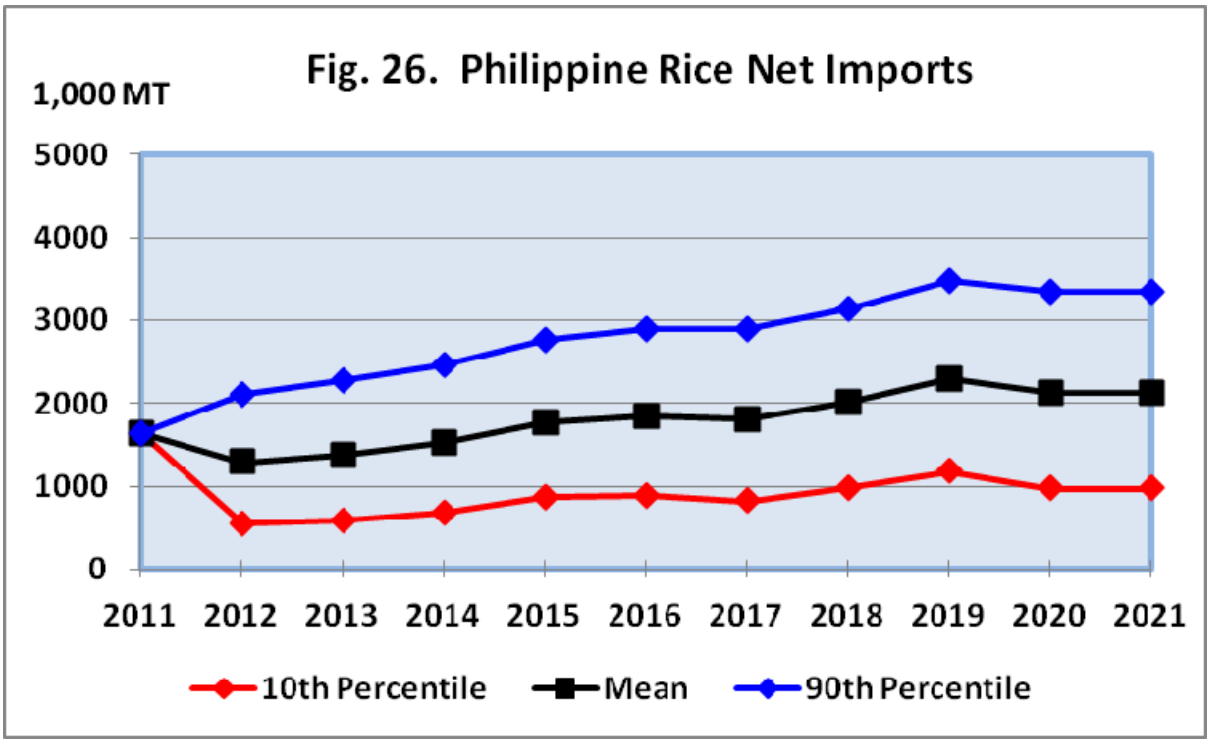
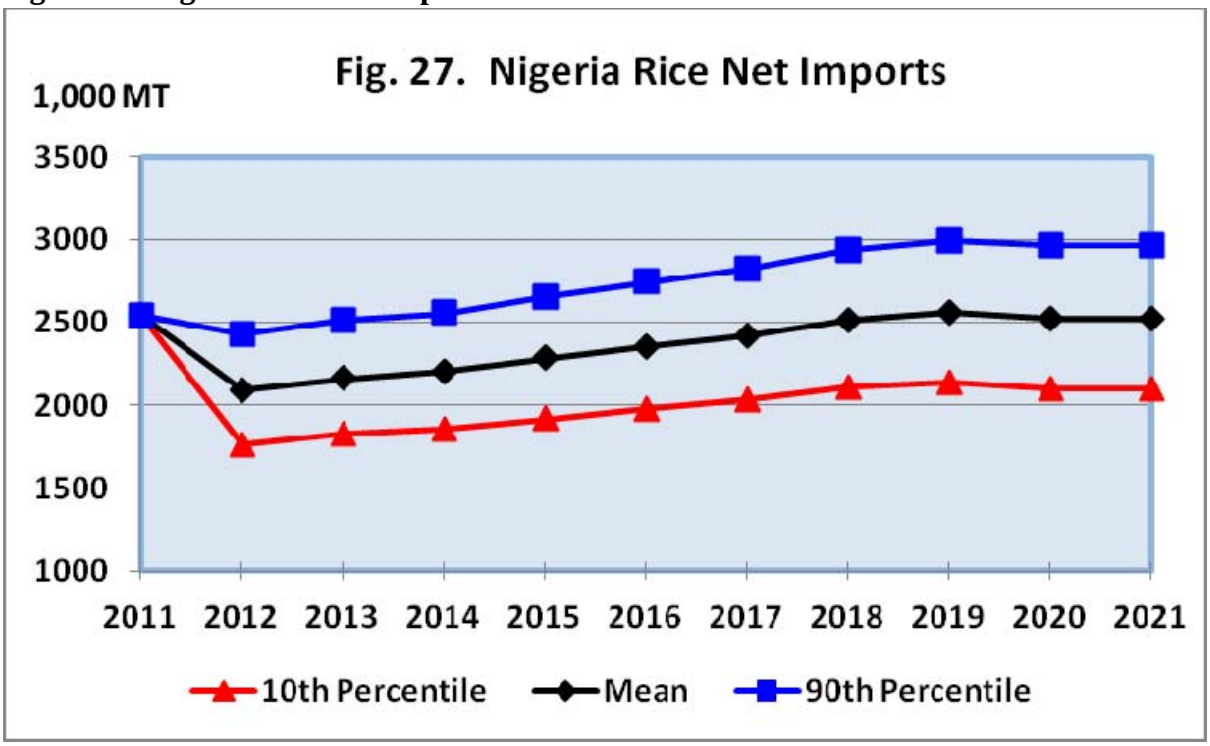


Figure 27. Nigeria Rice Net Imports



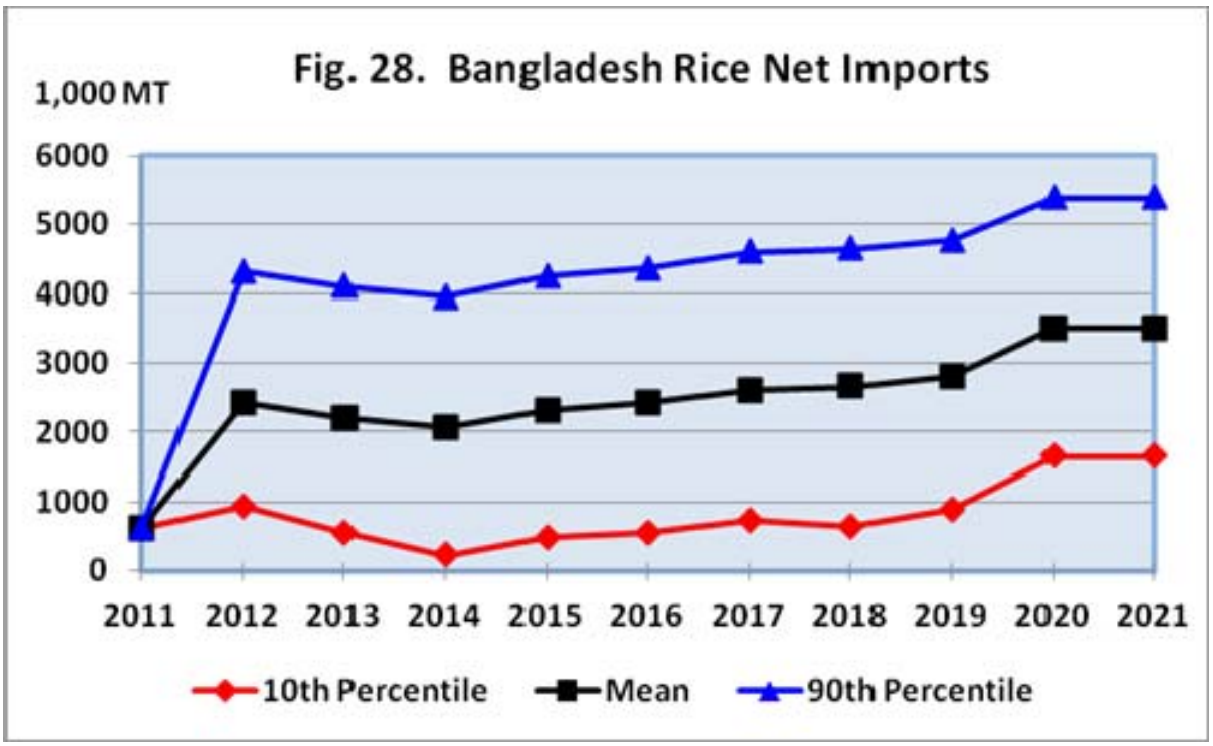


Fig. 28. Bangladesh Rice Net Imports
1,000 MT
6000
5000
4000
3000
2000
1000
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

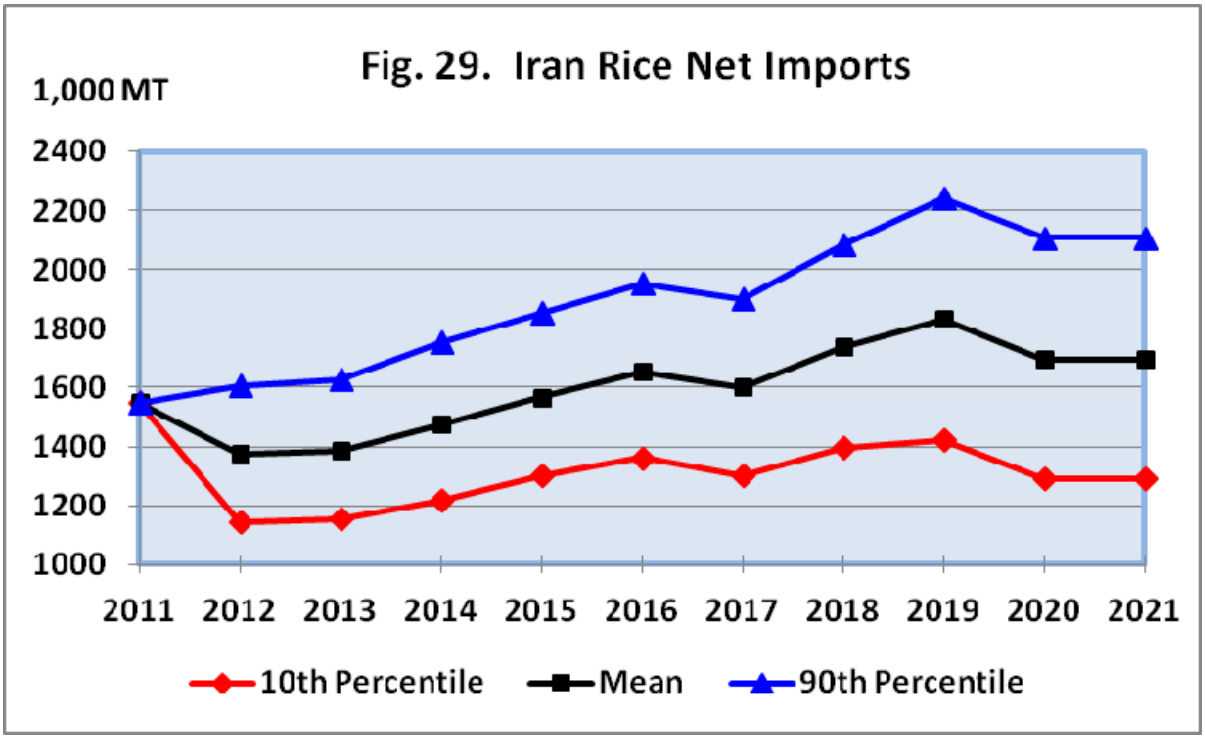


Fig. 29. Iran Rice Net Imports
1,000 MT
2400
2200
2000
1800
1600
1400
1200
1000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

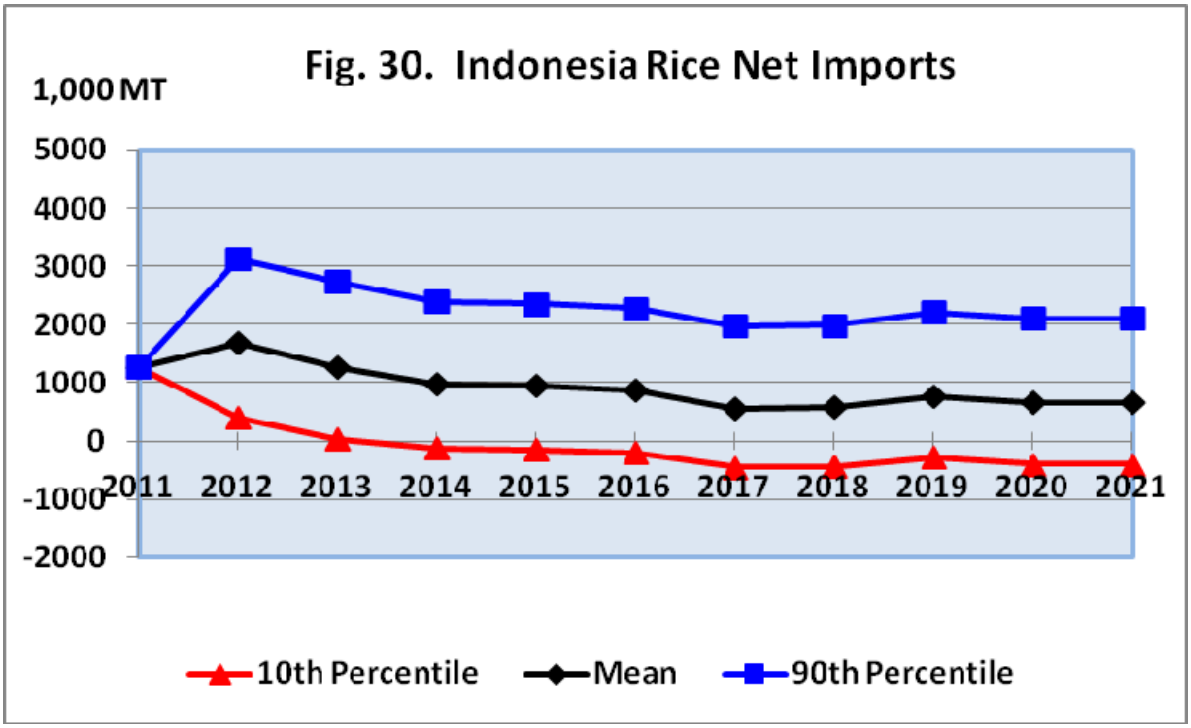


Fig. 30. Indonesia Rice Net Imports
1,000 MT
5000
4000
3000
2000
1000
0
-1000
-2000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

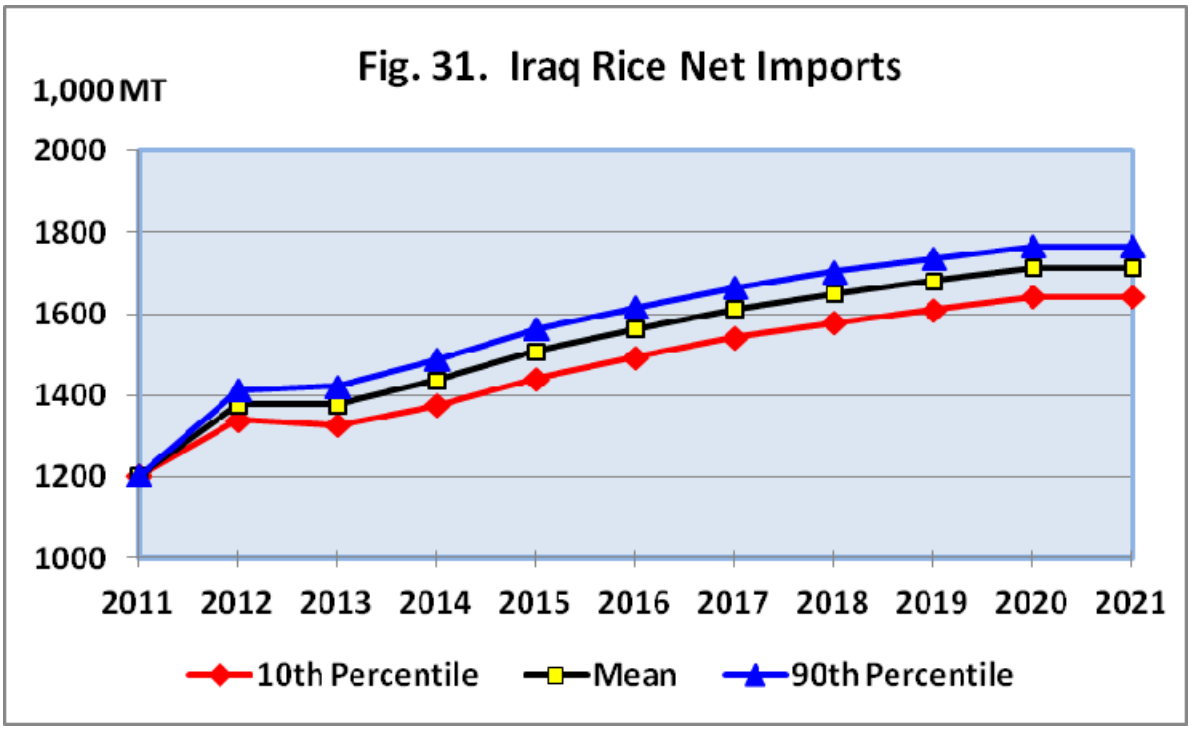


Fig. 31. Iraq Rice Net Imports
1,000 MT
2000
1800
1600
1400
1200
1000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

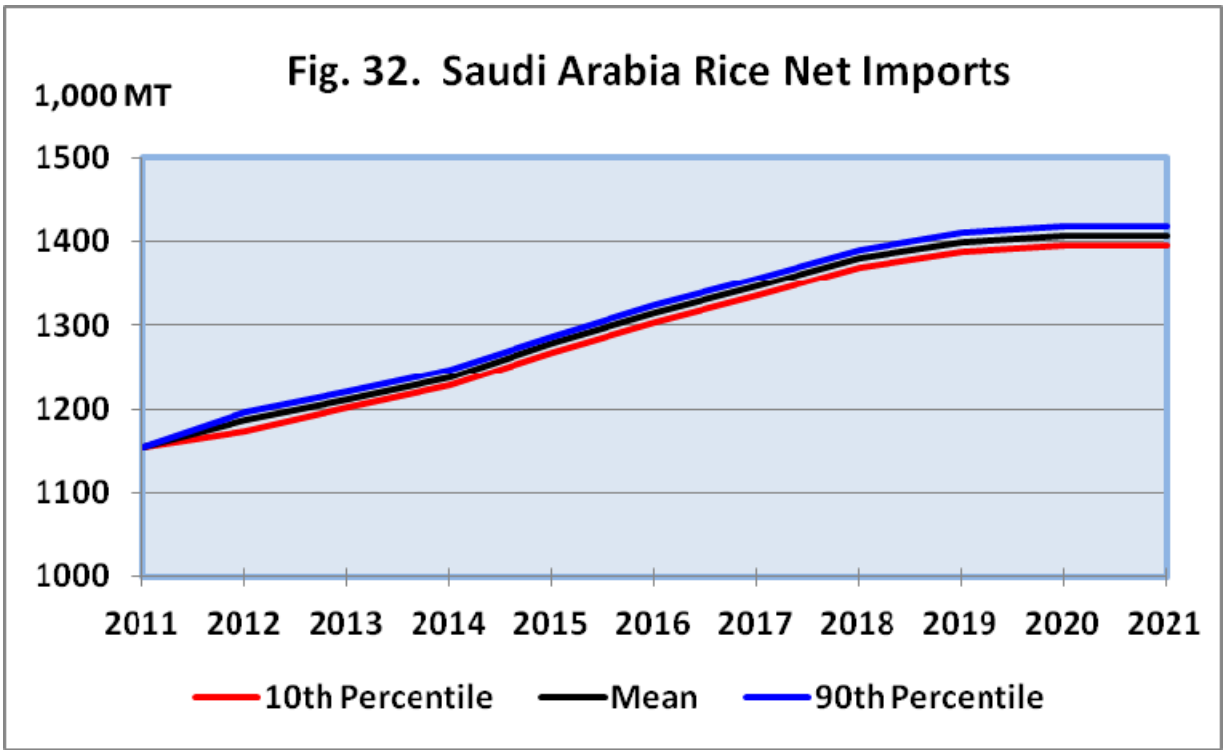


Fig. 32. Saudi Arabia Rice Net Imports
1,000 MT
1500
1400
1300
1200
1100
1000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

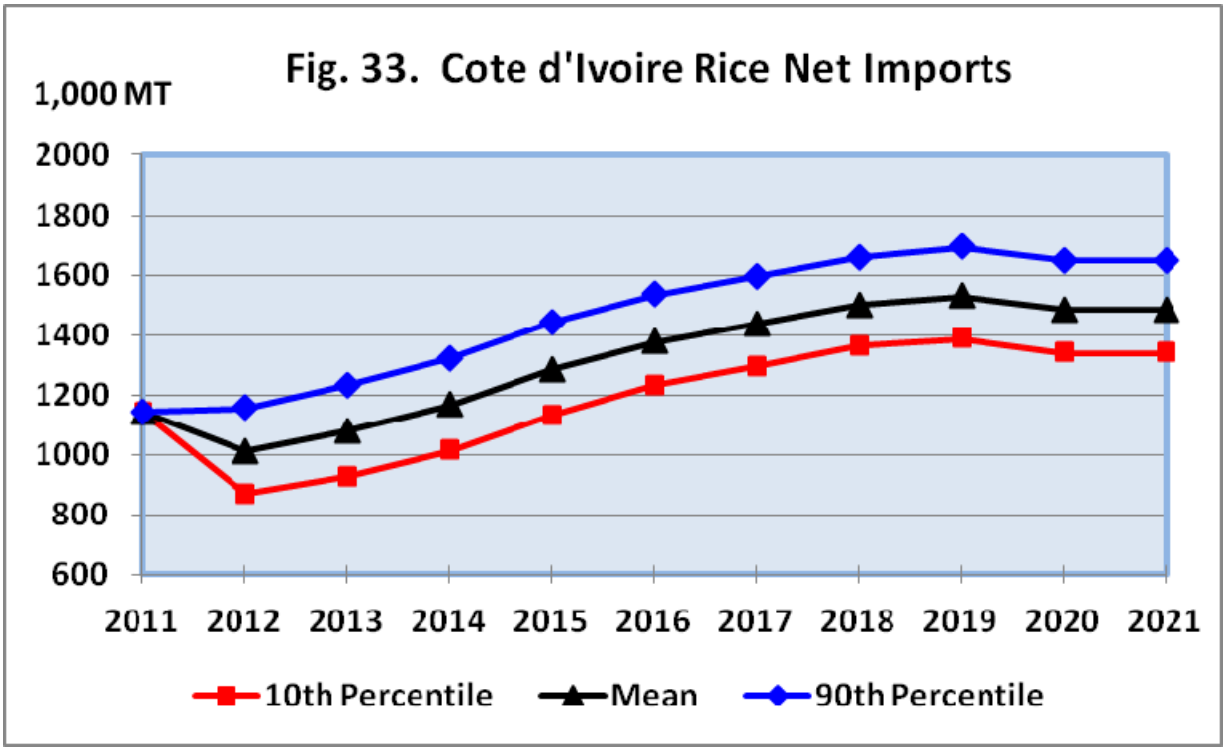


Fig. 33. Cote d'Ivoire Rice Net Imports
1,000 MT
2000
1800
1600
1400
1200
1000
800
600
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

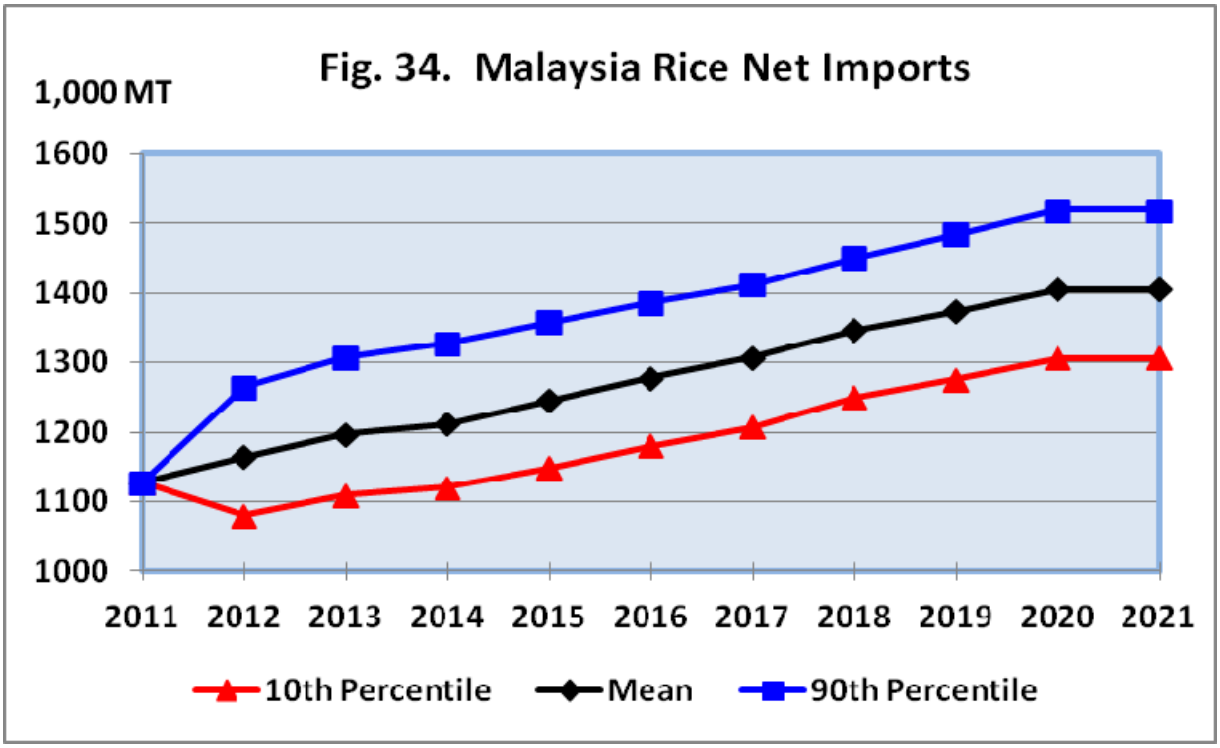


Fig. 34. Malaysia Rice Net Imports
1,000 MT
1600
1500
1400
1300
1200
1100
1000
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

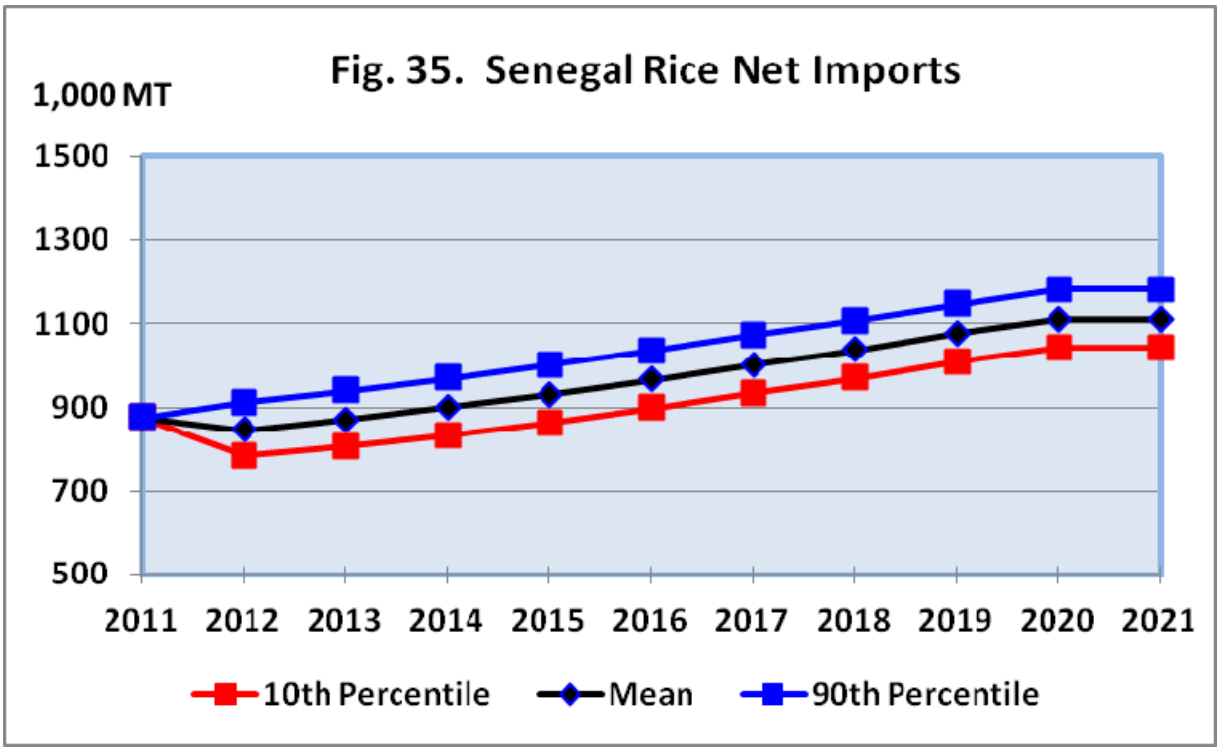


Fig. 35. Senegal Rice Net Imports
1,000 MT
1500
1300
1100
900
700
500
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

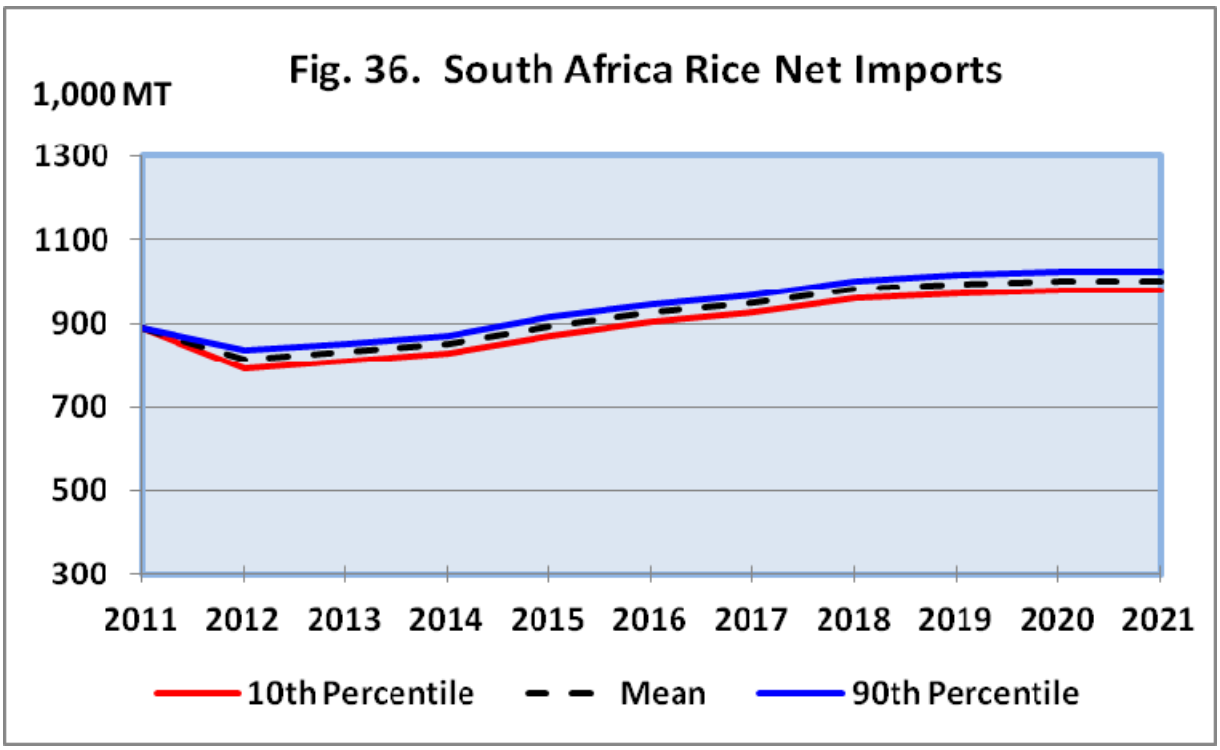


Fig. 36. South Africa Rice Net Imports
1,000 MT
1300
1100
900
700
500
300
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

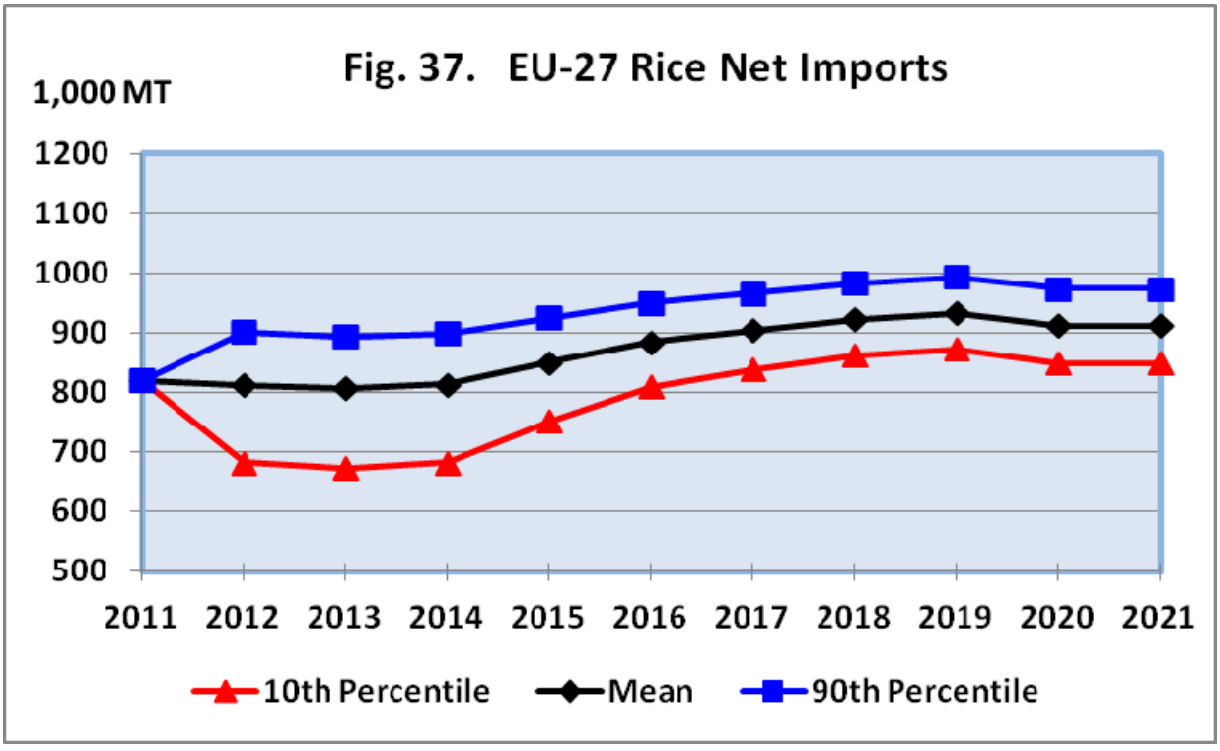


Fig. 37. EU-27 Rice Net Imports
1,000 MT
1200
1100
1000
900
800
700
600
500
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

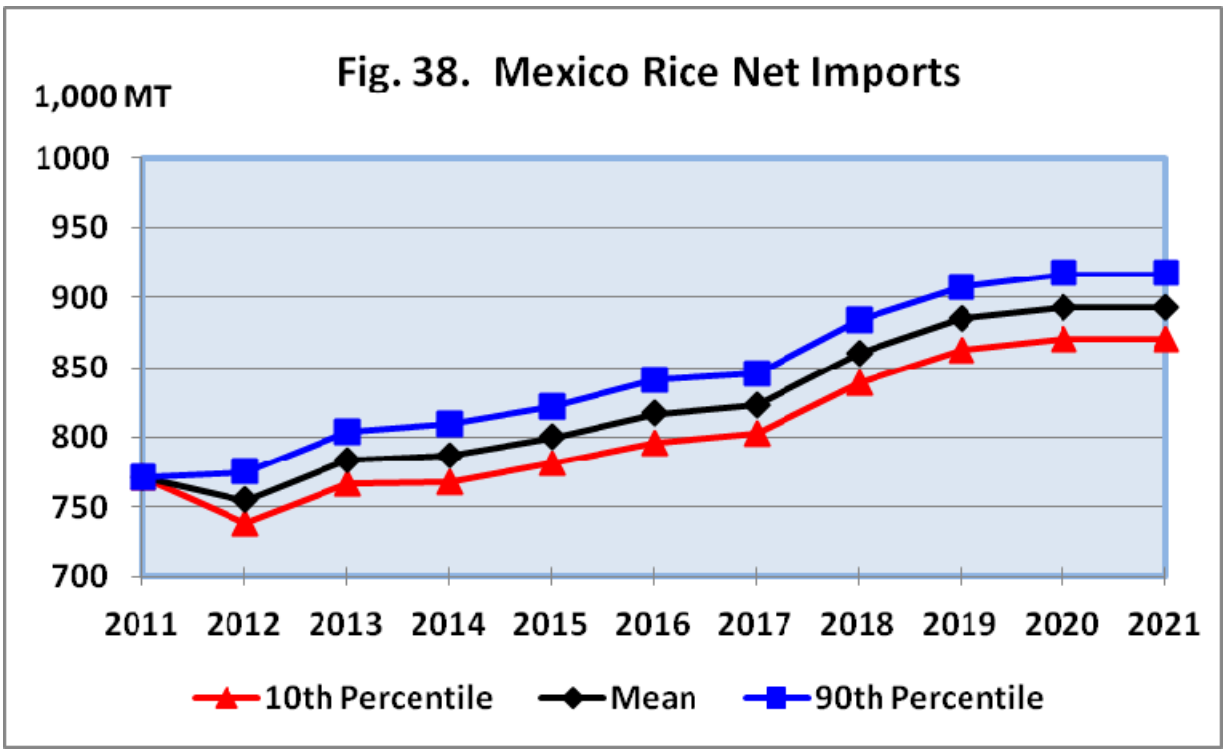


Fig. 38. Mexico Rice Net Imports
1,000 MT
1000
950
900
850
800
750
700
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

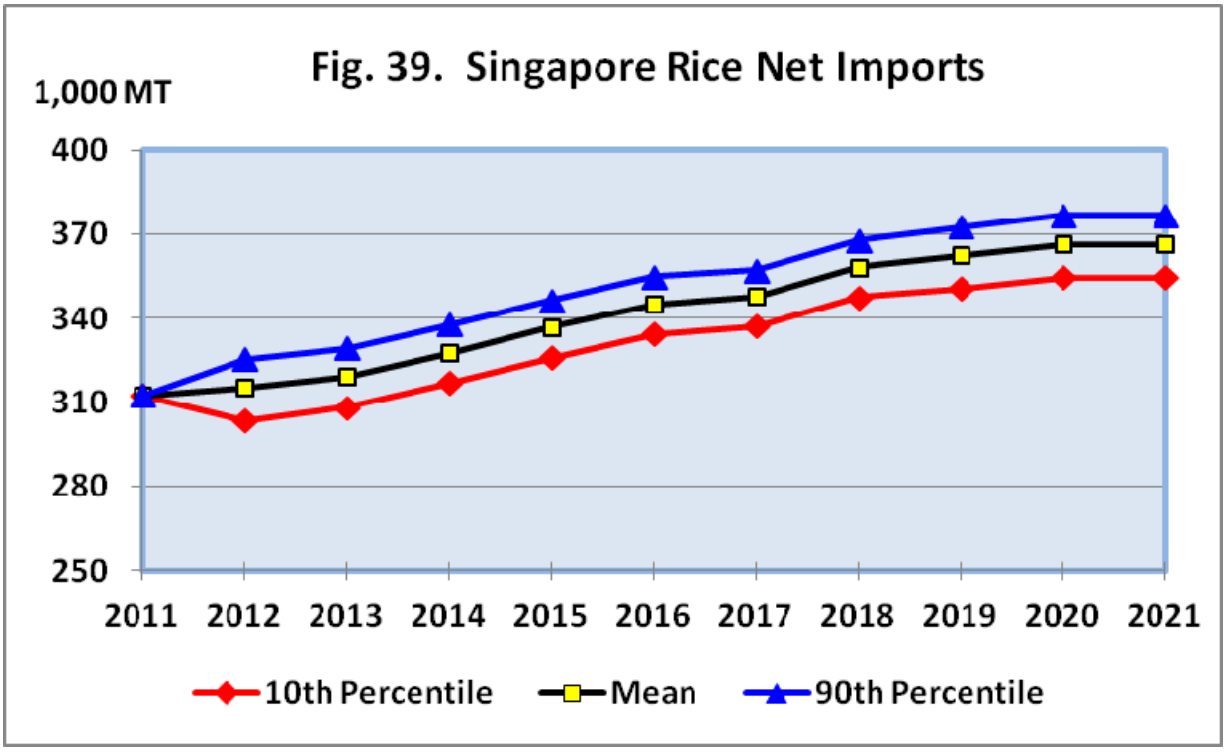


Fig. 39. Singapore Rice Net Imports
1,000 MT
400
370
340
310
280
250
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
10th Percentile
Mean
90th Percentile

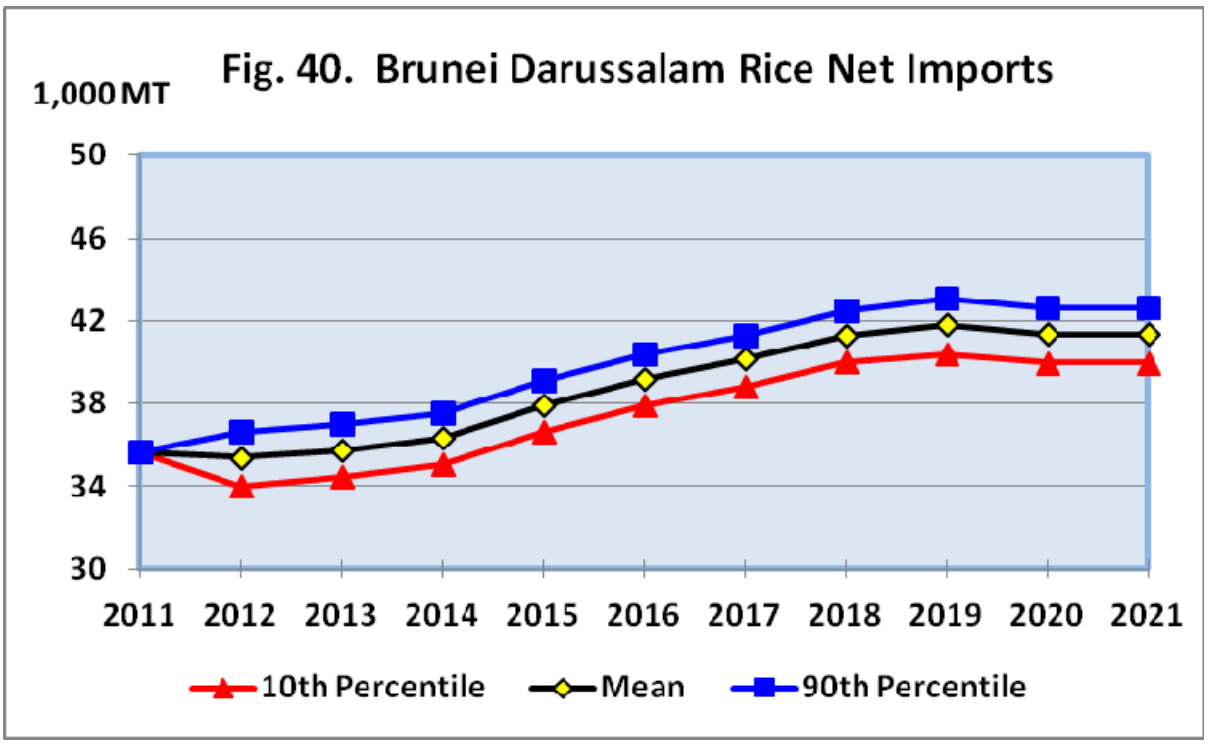


Fig. 40. Brunei Darussalam Rice Net Imports
1,000 MT
50
46
42
38
34
30
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
10th Percentile
Mean
90th Percentile

Appendix Table 1. Rice Policy Assumptions by Country

Country	Units	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
ARGENTINA													
Import Tariff (MFN)	Percent	12.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
BANGLADESH													
Import Tariff	Percent	0.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other taxes levied on imports	Percent	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
BRAZIL													
Import Tariff	Percent	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
CAMBODIA													
Import Tax (milled)	Percent	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Value Added Tax	Percent	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
CHINA													
Japonica Rice TRQ	1000 mt	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660
Indica Rice TRQ	1000 mt	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660	2660
Rice In-quota tariff rate	Percent	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Rice Over-Quota tariff rate	Percent	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Rice Value added Tax	Percent	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
COTE D' VOIRE													
Import Tariff--MFN--Ordinary Rice	Percent	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
EGYPT													
Import Tariff--MFN	Percent	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
EU-15													
Brown (husked) Rice TRQ--ACP/OCT	1000 mt	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
Broken Rice TRQ--ACP/OCT	1000 mt	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Milled Rice TRQ--Everything But Arms (EBA)	1000 mt	625.0	650.0	675.0	700.0	725.0	750.0	775.0	800.0	825.0	850.0	875.0	900.0
Average Applied Tariff	Euro/mt	17.0	15.8	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
Milled Rice In-quota Tariff-- (EBA)	Euro/mt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brown (husked) Rice--General Import Tariff	Euro/mt	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5
Milled Rice--General Import Tariff	Euro/mt	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0
INDIA													
Import Tariff (MFN)	Percent	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
INDONESIA													
Rice Import Tariff	Rp/kg	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0	450.0

Appendix Table 1. Rice Policy Assumptions by Country, continued

Country	Units	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
JAPAN													
Import markup or margin	Yen/mt	131516	132500	141446	134248	128444	127107	131366	133346	133261	131202	131498	134099
Special Safeguard duty	Yen/mt	328809	328809	328809	328809	328809	328809	328809	328809	328809	328809	328809	328809
Specific import tariff	Yen/mt	247225	247225	247225	247225	247225	247225	247225	247225	247225	247225	247225	247225
Minimum Access Import Level	1000 mt	682.0	682.0	682.0	682.0	682.0	682.0	682.0	682.0	682.0	682.0	682.0	682.0
KOREA, REPUBLIC OF													
In-Quota tariff Rate	Percent	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Access Import Level	1000 mt	327.3	347.7	368.0	388.4	408.7	408.7	408.7	408.7	408.7	408.7	408.7	408.7
MALAYSIA													
Milled Rice--Applied Tariff	Percent	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Milled Rice--Most Favored Nation Tariff	Percent	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
NIGERIA													
Import Tariff (MFN)	Percent	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Other import tax and surcharge	Percent	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
PAKISTAN													
Import Tariff (MFN)	Percent	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Value added tax	Percent	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
PHILIPPINES													
TRQ import quantity	1000 mt	238.94	238.94	238.94	238.94	238.94	238.94	238.94	238.94	238.94	238.94	238.94	238.94
Milled Rice In-quota Tariff	Percent	40.00	40.00	40.00	40.00	40.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
TAIWAN													
Minimum Access	1000 mt	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0
THAILAND													
Target Price for 5% Paddy	Baht/mt	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600
Loan Price for 5% Paddy	Baht/mt	5040	5040	5040	5040	5040	5040	5040	5040	5040	5040	5040	5040
TURKEY													
Import Tariff (MFN), paddy	Percent	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
SOUTH AFRICA													
Import Tariff (MFN)	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table 1. Rice Policy Assumptions by Country, continued

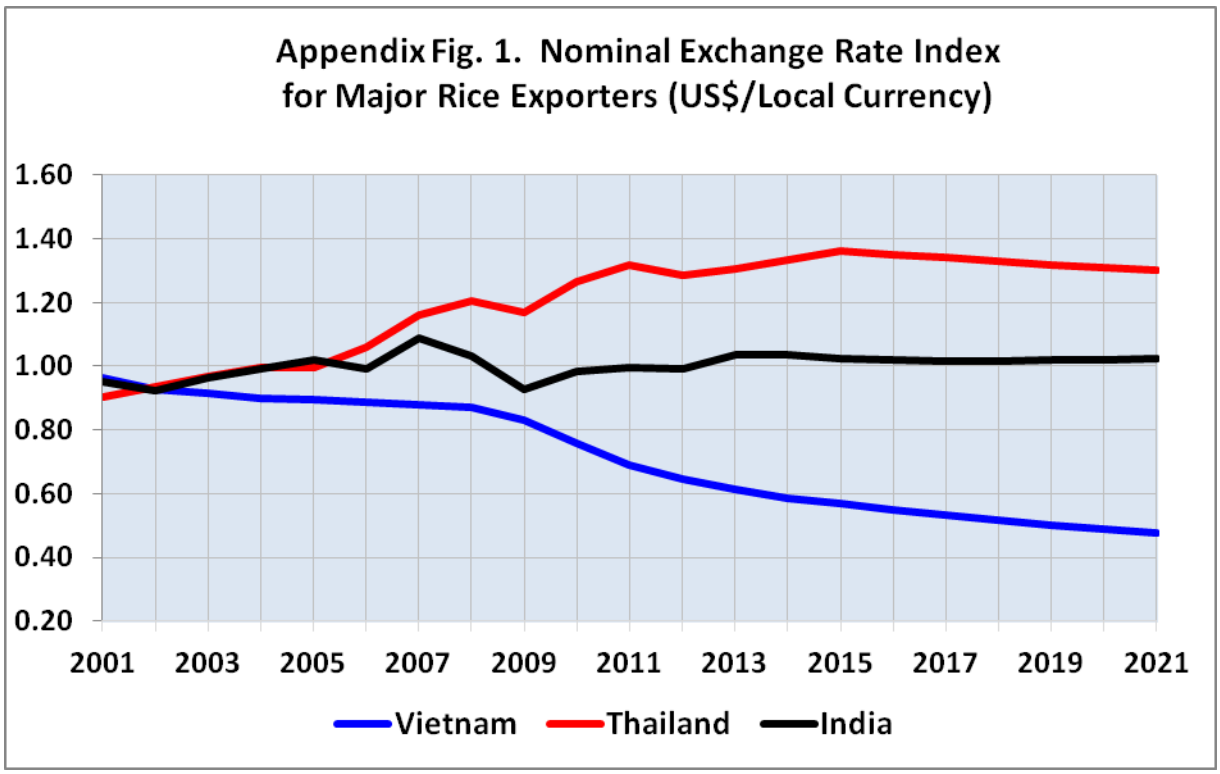
Country	Units	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
UNITED STATES													
Base Area	1000 ac	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
MFN tariff	%	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Direct Payment Rare	$/cwt	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Rice Target Price	$/cwt	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Loan rate	$/cwt	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Program Yield Direct Payment	lbs/acre	4818	4818	4818	4818	4818	4818	4818	4818	4818	4818	4818	4818
Program Yield CC Payment	lbs/acre	5131	5131	5131	5131	5131	5131	5131	5131	5131	5131	5131	5131
SENEGAL													
Import Tax/Ad Valorem	Percent	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Add'l Import Tax for Broken Rice	Percent	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Add'l Import Tax for Whole Rice	Percent	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
Import Tax for Broken & All Rice	CFA/mt	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000
GHANA													
Import Tax	Percent	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
VAT	Percent	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Other taxes levied on imports	Percent	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Total Duties	Percent	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4
CAMEROON													
Import Tax	Percent	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
MOZAMBIQUE													
Import Tax for Broken Rice	Percent	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Import Tax for Whole Rice	Percent	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
GUINEA													
Import Tax	Percent	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
KENYA													
Import Tax	Percent	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
TANZANIA													
Import Tax	Percent	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
SIERRA LEONE													
Import Tax	Percent	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
MALI													
Import Tax	Percent	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

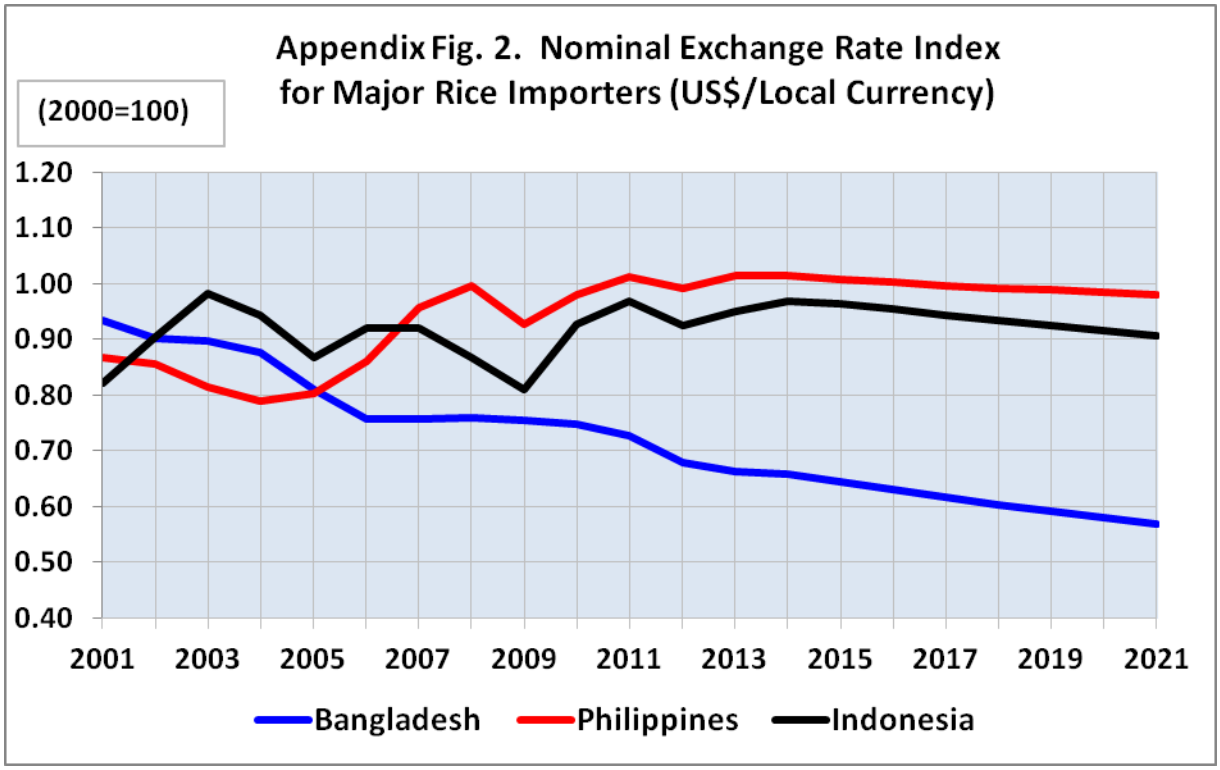
Appendix Table 2. Percent Annual Changes in Real GDP

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Argentina	9.16	6.95	3.60	5.29	5.03	4.95	4.61	4.49	4.43	4.40	4.36	4.32	**4.76%**
Australia	2.75	1.66	3.19	3.03	3.30	3.14	3.27	3.00	2.90	2.72	2.60	2.64	**2.86%**
Bangladesh	5.83	6.60	6.12	6.00	6.24	6.32	6.22	6.11	6.01	5.91	5.81	5.71	**6.09%**
Brazil	7.49	3.56	3.90	5.20	5.74	4.64	5.07	4.57	4.53	4.53	4.51	4.51	**4.61%**
Canada	3.07	2.17	1.90	2.60	2.80	2.75	2.62	2.52	2.54	2.40	2.23	2.29	**2.44%**
China	9.44	9.28	8.13	8.57	8.54	8.20	7.89	7.51	7.33	7.11	6.90	6.82	**7.84%**
Cote d'Ivoire	4.40	4.99	4.96	4.92	5.00	4.97	4.75	4.57	4.50	4.53	4.46	4.51	**4.74%**
Egypt	5.14	0.27	2.60	5.50	5.51	4.19	3.99	3.97	3.95	3.94	3.92	3.91	**3.79%**
European Union 27	1.11	1.13	1.11	1.10	1.09	1.07	1.06	1.04	1.02	1.00	0.98	0.96	**1.05%**
Hong Kong	6.81	5.20	4.53	5.08	5.21	4.05	3.76	3.68	3.63	3.59	3.56	3.53	**4.16%**
India	10.37	7.51	7.70	8.55	8.75	8.97	9.05	8.88	8.72	8.48	8.31	7.70	**8.42%**
Cambodia	5.78	6.54	5.64	7.02	8.77	7.20	6.42	6.33	6.25	6.16	6.08	6.00	**6.58%**
Laos	8.37	8.34	6.85	7.09	7.30	9.00	6.95	6.84	6.73	6.62	6.52	6.41	**7.15%**
Singapore	14.47	4.51	4.42	5.93	5.07	4.73	4.46	4.29	4.14	4.01	3.79	3.67	**4.46%**
Brunei Darussalam	2.00	1.80	1.60	1.77	1.87	1.88	1.86	1.80	1.73	1.64	1.52	1.52	**1.73%**
Indonesia	6.10	6.31	5.65	6.38	6.64	5.82	5.72	5.54	4.96	4.73	4.57	4.65	**5.54%**
Iran	2.39	3.22	4.43	3.37	4.60	3.86	3.35	2.77	2.74	2.62	2.52	3.42	**3.35%**
Iraq	3.41	9.76	8.09	7.17	6.27	6.00	5.71	5.60	5.48	5.37	5.27	5.16	**6.34%**
Japan	4.02	-0.60	2.66	2.78	2.06	1.55	1.20	0.76	0.54	0.52	0.48	0.40	**1.12%**
Mexico	5.29	3.89	2.54	3.57	4.55	3.89	3.96	3.70	3.69	3.72	3.61	3.70	**3.71%**
Malaysia	7.15	3.96	3.66	5.10	5.75	5.16	4.87	4.71	4.52	4.32	4.08	3.86	**4.54%**
Myanmar	5.60	7.75	4.98	4.68	4.20	4.41	4.24	4.17	4.11	4.04	3.98	3.90	**4.58%**
Nigeria	6.95	7.10	5.98	5.87	6.12	5.49	4.53	4.32	4.02	4.15	3.84	4.27	**5.06%**
Pakistan	4.36	2.41	3.87	4.45	5.04	5.03	5.16	5.08	4.28	4.13	4.06	4.09	**4.32%**
Philippines	6.37	4.62	5.02	5.05	4.82	4.91	4.86	4.72	4.63	4.63	4.63	4.57	**4.77%**
Saudi Arabia	3.76	5.76	4.88	4.89	4.84	4.59	4.30	4.08	3.85	3.66	3.56	3.58	**4.36%**
South Africa	2.84	3.16	3.31	3.98	4.10	4.61	5.13	5.14	4.82	4.79	4.85	4.72	**4.42%**
Senegal	4.10	4.00	4.43	4.72	4.81	4.73	4.60	4.53	4.46	4.40	4.33	4.27	**4.48%**
Ghana	5.20	6.92	7.79	8.65	8.13	7.87	7.60	7.34	7.19	7.05	6.77	6.50	**7.43%**
Cameroon	3.00	3.50	4.50	4.80	4.70	3.80	3.80	3.80	3.80	3.70	3.70	3.70	**3.98%**
Mozambique	6.47	7.32	7.21	6.50	6.57	6.45	5.51	5.22	5.13	5.40	5.40	5.22	**5.99%**
Guinea	2.85	3.52	3.73	4.01	3.95	3.87	3.79	3.71	3.64	3.57	3.50	3.43	**3.70%**
Kenya	5.60	3.80	4.30	5.40	5.80	5.55	5.32	5.09	4.87	4.67	4.65	4.64	**4.92%**
Tanzania	7.00	5.91	6.81	6.51	6.15	5.99	6.00	6.00	5.97	5.94	5.91	5.88	**6.10%**
Sierra Leone	4.75	5.00	5.51	5.94	5.99	5.84	5.72	5.49	5.38	5.27	5.12	4.96	**5.47%**
Mali	5.40	5.10	5.32	5.13	5.04	4.92	4.80	4.78	4.75	4.73	4.59	4.45	**4.87%**
South Korea	6.16	3.46	1.59	3.33	4.04	4.28	3.96	3.81	3.69	3.46	3.32	3.19	**3.46%**
Taiwan	10.88	4.61	4.43	5.01	5.47	4.41	4.00	3.82	3.68	3.55	3.43	3.21	**4.14%**
Thailand	7.80	3.07	3.57	4.86	5.35	4.97	4.86	4.66	4.44	4.26	4.13	4.24	**4.40%**
Turkey	8.95	7.63	4.22	4.31	4.72	4.88	4.77	4.17	3.98	3.99	4.37	4.18	**4.65%**
United States	2.85	1.68	1.38	2.36	3.54	3.36	2.85	2.54	2.34	2.47	2.60	2.40	**2.50%**
Uruguay	8.38	5.15	3.70	3.54	3.41	3.24	3.29	3.31	3.32	3.33	3.31	3.28	**3.53%**
Vietnam	6.92	5.91	5.82	6.64	7.05	7.17	7.17	6.63	6.46	6.33	6.23	6.35	**6.52%**
Rest of World	3.87	3.19	3.86	4.19	4.20	4.05	3.92	3.87	3.78	3.75	3.69	3.58	**3.82%**
World	4.15	2.75	2.96	3.55	3.93	3.73	3.52	3.32	3.23	3.25	3.27	3.20	**3.34%**

Appendix Table 3. Percent Annual Changes in Population

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Argentina	1.05	1.03	1.01	0.99	0.97	0.95	0.92	0.90	0.88	0.86	0.84	0.82	**0.92%**
Australia	1.19	1.17	1.14	1.12	1.10	1.08	1.06	1.04	1.02	1.00	0.98	0.96	**1.06%**
Bangladesh	1.57	1.57	1.58	1.60	1.60	1.61	1.62	1.63	1.63	1.62	1.61	1.61	**1.61%**
Brazil	1.19	1.16	1.12	1.09	1.06	1.03	1.00	0.98	0.95	0.92	0.89	0.87	**1.01%**
Canada	0.81	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.72	0.71	0.69	0.68	**0.75%**
China	0.49	0.49	0.49	0.47	0.45	0.43	0.40	0.37	0.34	0.30	0.26	0.22	**0.39%**
Cote d'Ivoire	2.14	2.11	2.08	2.04	2.00	1.95	1.91	1.87	1.83	1.79	1.74	1.70	**1.91%**
Egypt	2.04	2.00	1.96	1.92	1.88	1.83	1.79	1.74	1.70	1.65	1.61	1.57	**1.79%**
European Union 27	0.17	0.17	0.17	0.16	0.16	0.16	0.15	0.13	0.11	0.10	0.08	0.07	**0.13%**
Hong Kong	0.49	0.46	0.44	0.41	0.38	0.35	0.32	0.29	0.26	0.22	0.19	0.15	**0.32%**
India	1.40	1.37	1.34	1.31	1.27	1.24	1.21	1.19	1.16	1.14	1.11	1.08	**1.22%**
Cambodia	1.74	1.72	1.71	1.69	1.66	1.62	1.58	1.55	1.51	1.47	1.41	1.37	**1.57%**
Laos	1.78	1.71	1.68	1.65	1.62	1.59	1.56	1.53	1.51	1.48	1.45	1.42	**1.56%**
Singapore	2.07	2.08	2.03	2.00	1.96	1.93	1.89	1.85	1.82	1.78	1.75	1.71	**1.89%**
Brunei Darussalam	1.76	1.74	1.72	1.70	1.67	1.65	1.62	1.60	1.57	1.55	1.52	1.49	**1.62%**
Indonesia	1.12	1.09	1.06	1.03	1.00	0.97	0.95	0.93	0.90	0.88	0.86	0.84	**0.96%**
Iran	1.26	1.26	1.25	1.25	1.24	1.22	1.19	1.17	1.13	1.09	1.05	1.00	**1.17%**
Iraq	2.51	2.45	2.40	2.34	2.28	2.22	2.17	2.12	2.06	2.01	1.96	1.91	**2.17%**
Japan	-0.10	-0.09	-0.08	-0.09	-0.12	-0.14	-0.17	-0.20	-0.22	-0.25	-0.27	-0.30	**-0.18%**
Mexico	1.13	1.12	1.10	1.08	1.07	1.05	1.03	1.01	0.99	0.96	0.94	0.92	**1.02%**
Malaysia	1.64	1.61	1.57	1.54	1.50	1.46	1.43	1.40	1.36	1.33	1.30	1.27	**1.43%**
Myanmar	1.11	1.10	1.08	1.07	1.05	1.03	1.01	1.00	0.98	0.96	0.94	0.92	**1.01%**
Nigeria	2.62	2.61	2.59	2.58	2.56	2.54	2.53	2.52	2.50	2.49	2.48	2.47	**2.53%**
Pakistan	1.62	1.59	1.57	1.55	1.52	1.48	1.46	1.45	1.43	1.41	1.39	1.37	**1.48%**
Philippines	1.96	1.94	1.91	1.87	1.84	1.81	1.78	1.74	1.71	1.68	1.65	1.62	**1.78%**
Saudi Arabia	1.59	1.55	1.54	1.53	1.51	1.49	1.47	1.46	1.45	1.44	1.42	1.40	**1.48%**
South Africa	0.12	-0.21	-0.40	-0.43	-0.46	-0.18	0.11	0.11	0.10	0.10	0.09	0.08	**-0.10%**
Senegal	2.62	2.60	2.58	2.55	2.52	2.49	2.46	2.43	2.40	2.37	2.34	2.31	**2.46%**
Ghana	1.89	1.85	1.82	1.78	1.74	1.70	1.67	1.64	1.61	1.57	1.53	1.50	**1.67%**
Cameroon	2.20	2.16	2.12	2.08	2.04	2.00	1.96	1.92	1.88	1.84	1.80	1.76	**1.96%**
Mozambique	2.26	2.37	2.47	2.47	2.47	2.47	2.48	2.48	2.48	2.48	2.48	2.48	**2.47%**
Guinea	2.65	2.68	2.68	2.67	2.67	2.66	2.66	2.65	2.64	2.63	2.62	2.61	**2.65%**
Kenya	2.86	2.69	2.55	2.38	2.21	2.03	1.88	1.76	1.64	1.54	1.46	1.39	**1.96%**
Tanzania	2.06	2.04	2.00	1.96	1.90	1.82	1.75	1.69	1.63	1.56	1.49	1.43	**1.75%**
Sierra Leone	2.21	2.25	2.28	2.31	2.33	2.36	2.38	2.40	2.42	2.44	2.46	2.48	**2.37%**
Mali	2.63	2.64	2.64	2.64	2.65	2.65	2.65	2.64	2.63	2.61	2.59	2.56	**2.63%**
South Korea	0.26	0.24	0.22	0.19	0.17	0.15	0.13	0.12	0.10	0.08	0.07	0.05	**0.14%**
Taiwan	0.22	0.20	0.18	0.16	0.14	0.12	0.10	0.08	0.06	0.03	0.01	-0.01	**0.10%**
Thailand	0.60	0.58	0.56	0.53	0.51	0.48	0.46	0.44	0.42	0.40	0.38	0.35	**0.46%**
Turkey	1.30	1.26	1.22	1.18	1.15	1.11	1.07	1.04	1.01	0.97	0.94	0.91	**1.08%**
United States	0.42	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.88	0.88	0.87	0.86	**0.89%**
Uruguay	0.22	0.23	0.24	0.25	0.26	0.27	0.27	0.27	0.27	0.27	0.27	0.27	**0.26%**
Vietnam	1.12	1.09	1.07	1.05	1.02	0.99	0.97	0.94	0.92	0.88	0.84	0.81	**0.96%**
Rest of World	1.54	1.57	1.54	1.53	1.55	1.55	1.54	1.54	1.53	1.52	1.51	1.49	**1.53%**
World	1.41	1.75	1.45	1.43	1.42	1.41	1.40	1.38	1.36	1.33	1.31	1.30	**1.41%**


Appendix Fig. 1. Nominal Exchange Rate Index
for Major Rice Exporters (US$/Local Currency)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
Vietnam
Thailand
India


Appendix Fig. 2. Nominal Exchange Rate Index
for Major Rice Importers (US$/Local Currency)
(2000=100)
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
Bangladesh
Philippines
Indonesia

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