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Exploring Potential of Rice Exports from Pakistan



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Exploring Potential of Rice Exports from Pakistan

Executive Summary

Rice is one of the most traded cereal commodities in the world. The global demand of rice keeps on increasing. In 2021/2022 about 510.25 million metric tons of rice was consumed globally. In the last decade, the global consumption of rice has spiraled by 87%. The demand of global rice resulted in export of rice worth USD 26.5 billion in the global market. The top 5 importers of rice include China, Philippines, Saudi Arabia, United States, and Bangladesh. These 5 top importers have a share of 23% in the global rice imports.

Pakistan is one of the top producers of rice. The Basmati rice of Pakistan due to its long grain size and aroma is the most sought-after type of rice. It exports to China, Kenya, Afghanistan, KSA, UAE, and some of the African countries. This report throws light on the status of existing markets and proposes some of the potential markets for increasing Pakistan's rice trade potential.

IRRI is the most exported category of rice in Pakistan. In 2021, IRRI worth USD 875 million was exported. Pakistan faces competition in this category from India, Thailand, Vietnam, and USA. It exports to China, Malaysia, Afghanistan, Kenya, and Madagascar. However, if Pakistan increases its exports to other potential markets such as Philippines, Bangladesh, USA, Iraq, Mauritius, Morocco and Ivory Coast, then the trade flows will increase significantly.

The second most exported type of rice is Basmati. Pakistan and India together export 85% of world's Basmati. Pakistan exports to UAE, Kazakhstan, Kenya, Somalia, and KSA. The report identifies potential markets such as KSA, Iran, Yemen, Kuwait, Canada, and Jordan.

Broken rice is the third type of rice which is exported from Pakistan. The competitors in this category are Thailand, India, Myanmar, and Vietnam.

This report gives a detailed analysis on market opportunities among the important competitors. It concludes by giving certain recommendations such as need for investment in R&D, market diversification opportunities, trade negotiations with friendly countries and moving up the ladder in the rice value chain.

Global Overview of Rice

Introduction

Rice is one of the most traded cereals in the world. With an annual consumption of 510 million metric tons, it is also one of the most consumed cereals in the world.

According to estimates provided by FAO the global rice production in 2022 is around 520 million tons. The global rice production has slumped by 1.4 million tons as compared to 2021. The positive production figures of rice are pegged to an encouraging Asian harvest season coupled with an uptick in the African production. Australia also posted a promising production outcome. However, expectations are a bit gloomy in American sphere due to water constraints and high input costs.

International trade in rice has peaked by 3% reaching 53.1 million tons. The increase in demand from all regions has sustained the expansion of global trade in rice. The rise in demand will benefit rice producing countries such as India, Thailand, Brazil, China, Uruguay, and Pakistan. As a result of increase in demand, international prices have risen steadily. The rise in prices is attributed to supply side constraints in the Japonica and Fragrant segments. However, according to FAO's estimates, the international rice price has remained 1.2% lower than the previous year levels. The supply side contractions of Japonica and fragrant varieties are offset by the abundance of Indica varieties.

The price of rice has been kept stable by rise in production levels of world's rice bowl- Asia. Although the price hike has exposed the region to fierce competition for alternate crops but due to hike in production levels of India, Vietnam, Malaysia, Indonesia and Thailand, the overall world production level has largely remain unscathed. According to FAO, the production outlook for Pakistan appears a bit gloomy largely due to water availability constraints. Africa also posted a positive production outlook for cropping season 2021/2022. Rice production expanded by 1.4%. The rise in increase is attributed to surge in production levels of Sub-Saharan Africa. The countries such as Cote d'Ivoire, Guinea, Nigeria, Senegal and Sierra Leone show a promising trend. However, production in Europe, Americas and Russia has nose-dived.

Pakistan is the 9th largest producer of world's rice with annual volumes surpassing 8 million tons. In the year 2021/2022, Pakistan's annual rice production stood at 9.3 million metric tons according

to PBS projections. In terms of exports, Pakistan is the 4th largest exporter of semi-milled rice. Among the major categories of rice, Pakistan is the leading

Overview

Global rice consumption has increased significantly during the last decade. The consumption of rice in the 2021/2022 cropping season surpassed 500 million metric tons. As compared to 2010/2011, the annual consumption levels have increased by 65.26 million metric tons. A graphical illustration of the consumption, population and production figures indicate that global rice production and consumption nearly remain equal and both are directly proportional to the world population.

Figure 1 Global Population, Production & Consumption

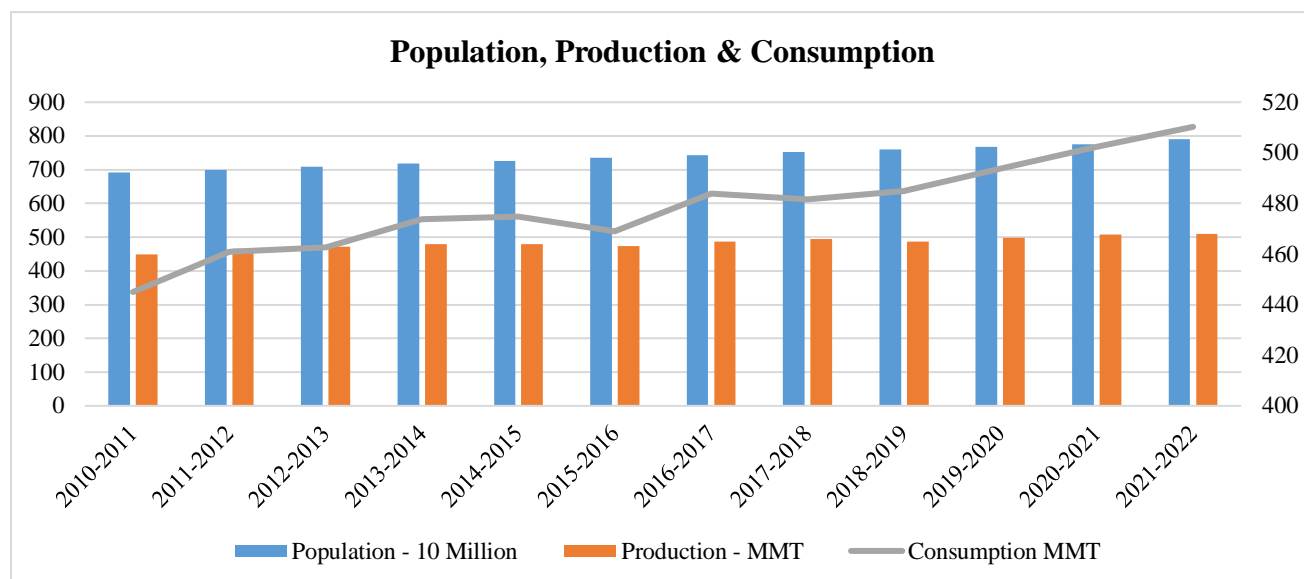
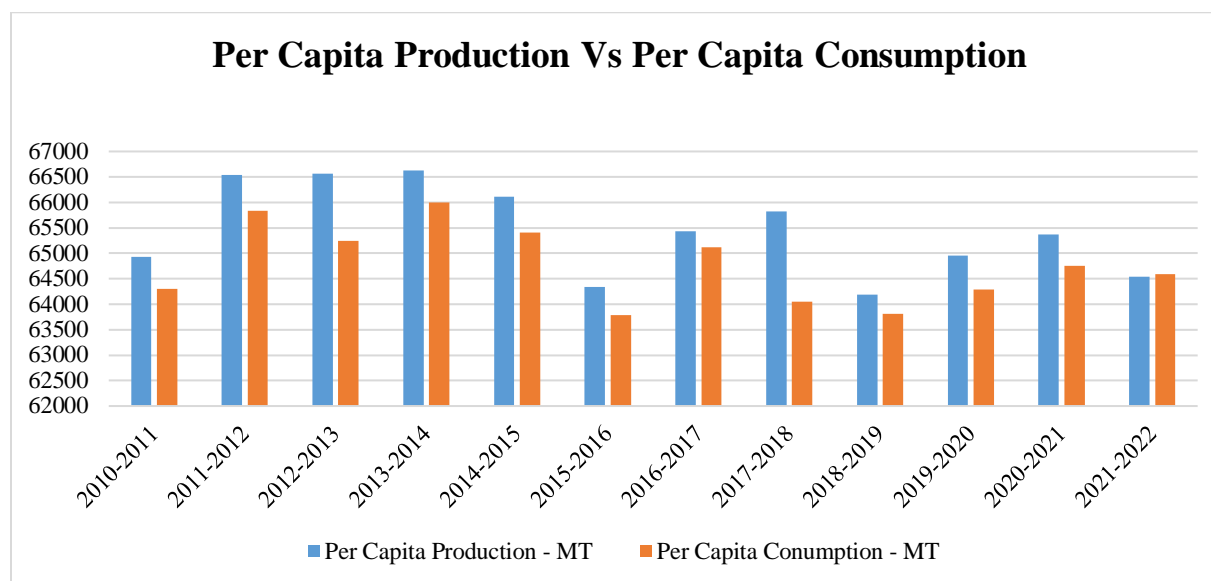


Figure 2 shows that global per capita production and per capita consumption has remained constant over the last 10 years, however with few fluctuations which might have occurred due to shortage of any other staple food.¹

¹ (Statista, 2021)

Figure 2 Comparison b/w Global Per Capita Production & Consumption



Imports and Top Importing Markets

The global demand for imported rice resulted in exports worth USD 26.5 billion in 2021. The data of the last 5 years reflects an expansion of 30.4% in global rice exports. An appreciation of 1.3% has been witnessed in the global rice imports. The top importers of rice include China, Philippines, Saudi Arabia, United States, and Bangladesh. These top importers of rice together constitute 23.5% of the global demand. Asia is the largest consumer of world’s rice accounting for 45.7% of total imports. Africa trails behind Asia in terms of consumption constituting 25.3% of world rice imports.

Table 1 Top Rice Importing Markets

Importers	Value of rice imports in 2021 (Million USD)	Quantity imported in 2021 (Tons)	Share in world imports (%)
World	26,491.81	-	100
China	1,927.89	4,348,028	7.3
Philippines	1,196.91	2,976,015	4.5
Saudi Arabia	1,087.31	882,013	4.1
United States of America	1,017.75	957,350	3.8
Bangladesh	938.97	2,485,763	3.5
Iraq	716.54	1,122,926	2.7

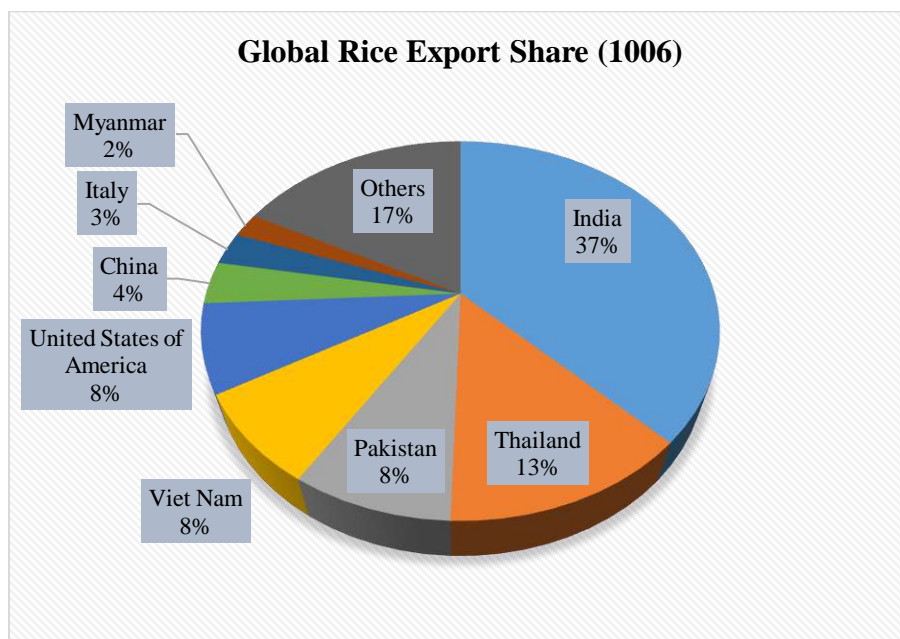
Ethiopia	686.54	1,401,333	2.6
Iran, Islamic Republic of	667.47	878,575	2.5
Benin	640.85	1,399,956	2.4
France	573.52	589,493	2.2
Malaysia	575.63	1,154,186	2.2
United Kingdom	574.71	651,803	2.2
Japan	520.43	662,685	2
Côte d'Ivoire	514.31	1,384,214	1.9
South Africa	504.46	1,005,415	1.9

Among the top importers, the fastest-growing markets for rice since 2019 were: Malaysia (up 30.2%), South Africa (up 21.5%), Germany (up 18.8%), United States (up 18.2%), United Kingdom (up 16.8%) and China (up 16.4%). Year over year, those countries that experienced declines in their imported rice purchases were: Iran (down -40%), Iraq (down -25.2%), Philippines (down -14.6%) and Saudi Arabia (down -0.8%).²

² (Workman, Rice Imports by Country, n.d.)

Exports and Top Exporting Markets

Figure 3 Global Rice Export Share



Exports of rice has increased by 0.5% during the year 2021 as compared to 2020 when value of total exports was USD 25.5 billion. Over last five years, export value of rice increased by 5.4%. The top five rice exporting countries include India, Thailand, Pakistan, Vietnam and the United States.

India is the leading exporter of rice in the world. It holds a massive share of 37% in the global rice market. Thailand, with a share of 13%, is the second largest exporter of rice.

Table 2 Top Exporting Markets

Exporters	Value exported in 2021 (Million USD)	Quantity exported in 2021	Share in world exports (%)
World	25,688.02	50,432,057	100
India	9,623.56	21,279,907	37.5
Thailand	3,352.22	6,075,759	13
Pakistan	2,158.84	3,985,944	8.4
Viet Nam	1,989.72	4,377,145	7.7
United States of America	1,928.55	3,385,399	7.5
China	932.96	2,219,920	3.6
Italy	721.34	715,106	2.8
Myanmar	535.77	1,342,644	2.1

Cambodia	423.21	636,175	1.6
Belgium	397.84	431,704	1.5
Brazil	359.09	854,416	1.4
Tanzania, United Republic of	301.99	622,442	1.2
Netherlands	318.18	238,168	1.2
Paraguay	273.64	692,395	1.1
Uruguay	283.91	480,627	1.1

Table 2 shows top supplying markets that export 91.9% of rice to the world. Among the top exporters, India, Belgium, Netherlands, Pakistan, and mainland China saw an uptick in the export value. However, exports of countries such as Uruguay, Myanmar, Vietnam, Brazil, and Cambodia saw a major dip in this year.

Global Yield Trends

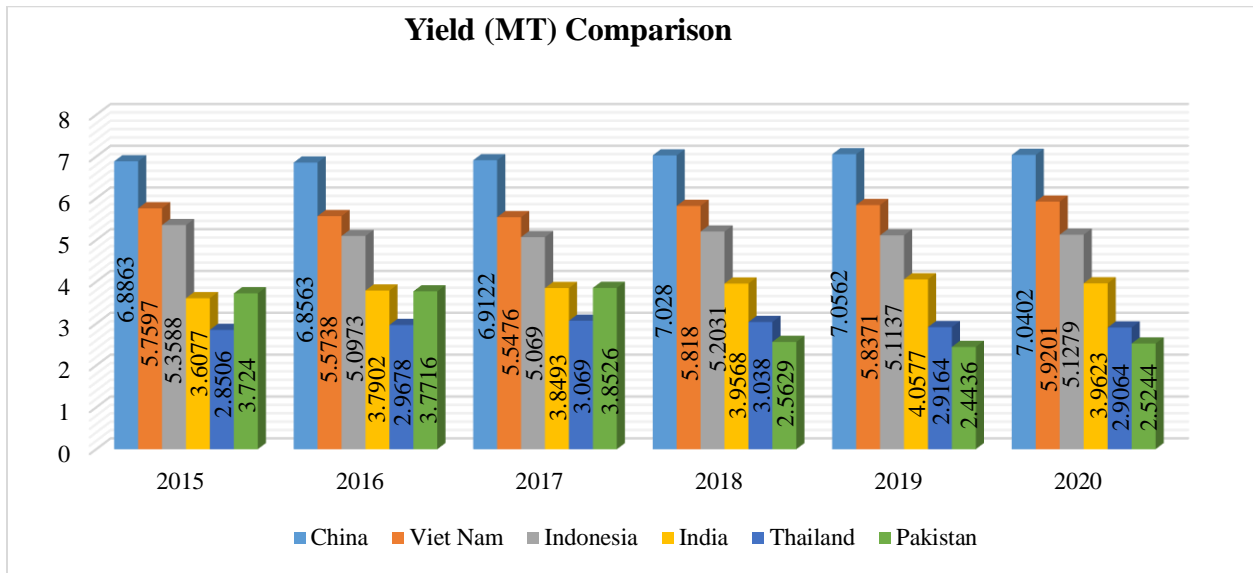
Yield per hectare is a good measure of agricultural output. With an average of 6.95 metric tons per hectare, China has the highest yield among the top global rice producers. Data from past 5 years reveal that China's yield has continually been increasing. In the year 2020, China's yield was 7.04 metric tons per hectare.

After China, Vietnam has the second highest per hectare yield. It averages around 5.69 metric tons per hectare. The data from last year as depicted in the graph below shows that since 2017, Vietnam's yield has been on the upward trajectory.

Indonesia, another top producer of world rice, has an average yield of 5.15 metric tons per hectare. Its per hectare yield has plunged slightly since 2015.

India, the world rice leader, has an average per hectare yield of 3.85 hectares per ton. It peaked in 2019 reaching 4.05 metric tons per hectare before slashing by 0.02% in 2020. After India, Thailand has the fifth highest per hectare yield. Pakistan occupied the sixth spot in this category. It has an average yield of 3.14 metric tons per hectare. Pakistan's yield started decreasing since 2017. In 2015, the average yield was 3.7 metric tons per hectare followed a subsequent increase in 2016 and 2017. In 2017, the yield peaked at 3.85 metric tons per hectare. Since 2017, it is on declining trend reaching 2.52 metric tons per hectare.

Figure 4 Yield Comparison of Top Rice Producers



Local Overview of Rice Sector

Introduction

The role of agriculture in Pakistan's economy is indispensable. Pakistan's economy is divided into three segments: Agriculture, Industry and Services. As per Economic Survey, agriculture sector's share in GDP is 19.2%³. The share of industrial and services sector in GDP is 19.1% and 61.7% respectively⁴.

More than half of Pakistan's population is dependent upon agriculture sector for sustenance. The sector employs 38-40% of Pakistan's entire labor force. However, due to rural-urban migrations, changing climatic conditions, variance in temperature, lack of water availability and fluctuating input prices the sector has been severely affected. The spread of Covid 19 and locust invasion further affected the agriculture and food supply. However, post Covid 19, the agriculture sector is on its path of recovery. According to the preliminary estimates, the major kharif crops- cotton, sugarcane and rice depicted sizeable growth as compared to the last year. Owing to higher market prices, increase in acreage and better farming practices, the agricultural output has positively increased.

The important crops such as rice, sugarcane, cotton, wheat and maize contribute 22.9% to value addition and in agriculture sector and 4.32% to GDP. In terms of production, the production figures of cotton shows an unfavorable/declining trend. The overall production has declined by 22.8% as compared to last year. The other crops such as sugarcane, rice, maize and wheat witnessed a positive growth of 22%, 13.6%, 7.4% and 8.1% respectively⁵.

Overview of the Rice Sector

Rice is an essential cash and food crop. It is the second important staple crop after wheat and 2nd largest exportable commodity after cotton and cotton products. The share of rice in GDP stands at meagre 0.7%.

The area under cultivation has increased by 9.9% from previous year. In financial year'19, the area under cultivation was 3 million hectares. From last two years, the area under cultivation has

³ (SaniyaTauseef).

⁴ (2021-22, n.d.)

⁵ (Pakistan).

undergone a subsequent increase. In FY'21, the crop was cultivated on 3.53 million hectares. Rice contributes 3.5% of value added to agriculture.

Rice production consists of two major varieties: coarse and non-coarse types. The coarse varieties include irri-6, irri-9 etc. While the non-coarse varieties consists of Basmati rice such as Basmati 370, Super Basmati, etc. The coarse varieties are mainly grown in Sindh while the non-coarse varieties are grown in Punjab. This year, the rice output stood at record high increasing by 10.7%. The production of rice in 2021 stood at 9.3 million metric tons.

Pakistan is one of the lowest consumers of rice in South-Asia. The annual consumption of rice averages around 3.35 million metric tons.

In 2021, Pakistan exported 3.99 million metric tons of rice earning USD 2.1 billion dollars in revenue. The table below shows a snapshot of the rice sector.

Table 3 Rice Sector Overview

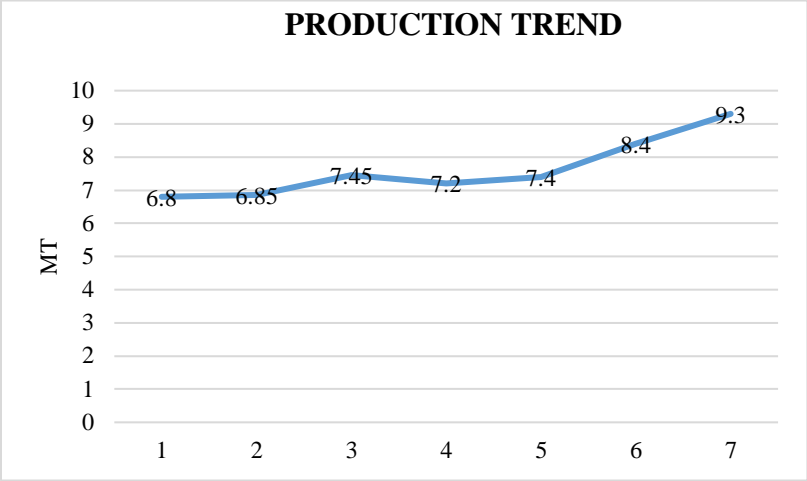
Rice Sector Overview	FY19	FY20	FY21
Contribution to nominal GDP	0.6%	0.6%	0.7%
Value added to agriculture	3%	3.1%	3.5%
Area under cultivation (mln Hec)	3.03	3.35	3.53
Production (mln MT)	7.4	8.4	9.3
Consumption (mln MT)	3.1	3.3	3.5
Yield (Tons/Hec)	2.4	2.5	2.63
Total Exports (mln MT)	4.6	3.99	3.99
Total Exports (mln USD)	2270	2110	2160
Basmati Exports (mln MT)	771	665	644
Non-Basmati Exports (mln MT)	1023	873.4	920

Production

The two prominent categories of rice produced in Pakistan include coarse and non-coarse varieties. The coarse varieties include IRRI 6, IRRI 9 etc. While the non-coarse varieties include Basmati 370, Basmati 198, Basmati 385, Super basmati, Shaheen Basmati, Chenab basmati etc. According to the official figures reported by Ministry of National Food and Security, the production of rice

in 2021 increased by 6% age points as compared to the previous year. In 2020, the annual production of rice was 8.4 million tons. This year, Pakistan posted a record growth in terms of rice production taking the annual production level to 9.3 million metric tons.

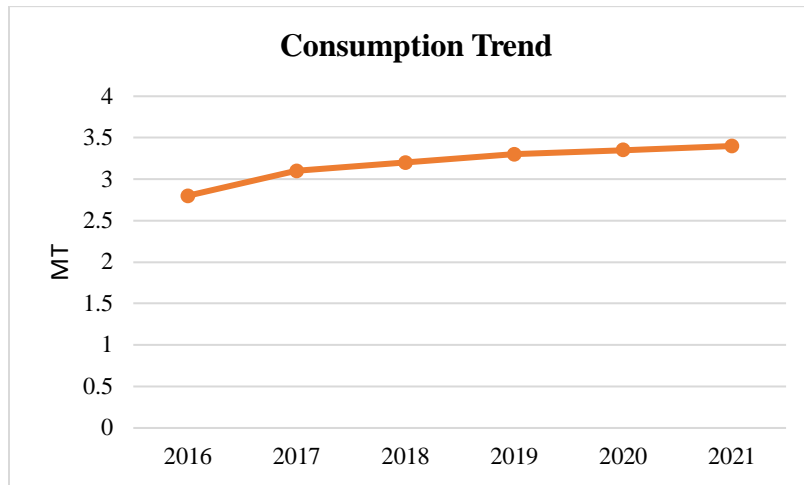
Figure 5 Production Trend of Pakistan



Consumption

The average local consumption of rice in Pakistan hovers around 3.1-3.2 million metric tons. The per capita per annum consumption as reported by FAO is 15 kg. Thus, making Pakistan one of the lowest consumers of milled rice in South Asia. On the other hand, Pakistan’s next door neighbor India has an annual consumption of over 100 million. The second largest of rice in South Asia is Bangladesh. Its annual consumption is 37 million metric tons.

Figure 6 Consumption Trend of Pakistan



Exports

Pakistan on an average exports 4 million tons of rice. The value of Pakistan's exports from 2015-2021 on average hovers around USD 1.98 billion. The major destinations of Pakistan's rice include China, Afghanistan, Kenya, UAE, UK, KSA, Mozambique, Belgium, Italy and Oman and some of the African countries.

Figure 7 Comparison of Exported Quantity & Value

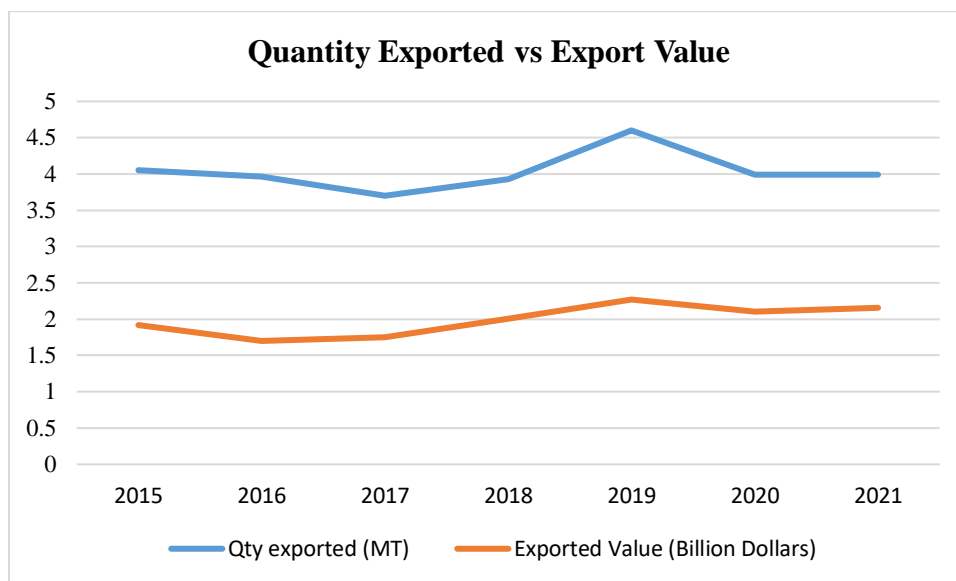
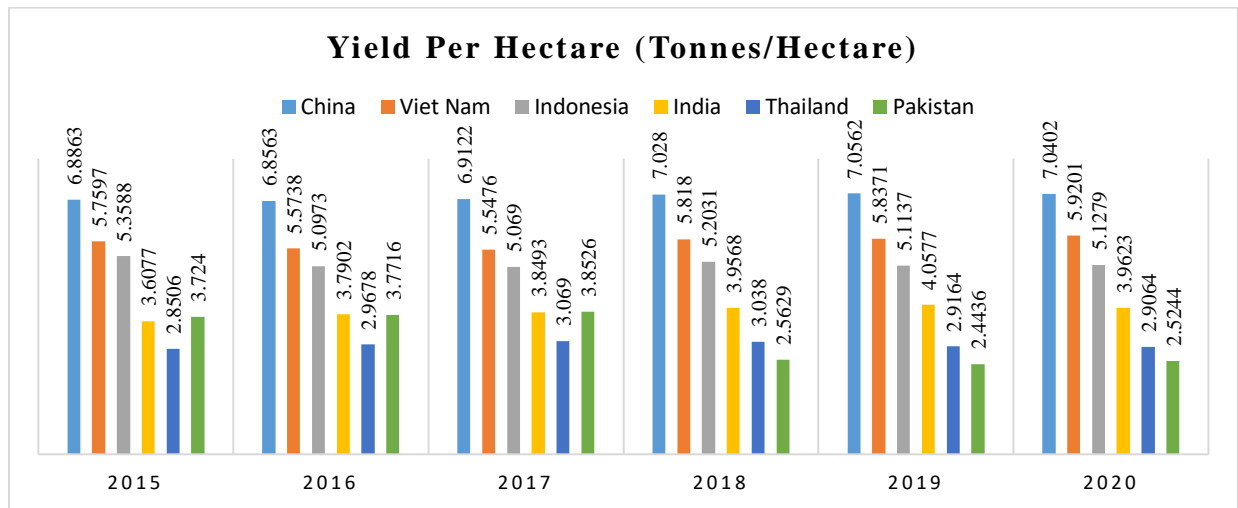


Figure 7 shows that in year 2019, the quantity exported surged to 4.6 million tons. Thus, creating a shortfall in the domestic market. Resultantly, Pakistan imported 0.2 million tons of rice to fulfill the domestic demand. The shortfall in domestic market is attributed to increased production of rice. The increase in production is associated with increase in acreage.

Yield

Pakistan’s rice scenario paints a dismal picture in terms of per hectare yield. The per hectare yield from 2015-2020 averaged around 2.5 tons per hectare. However, the world average is 4.7 tons per hectare. Despite changing technological scenario and adoption of modern techniques, Pakistan is still trapped in low yield groove. Thus, it is losing its competitiveness in international retail markets. The figure below shows comparison of Pakistan’s yield with its competitors.

Figure 8 Pakistan's Yield Comparison with Top Producers

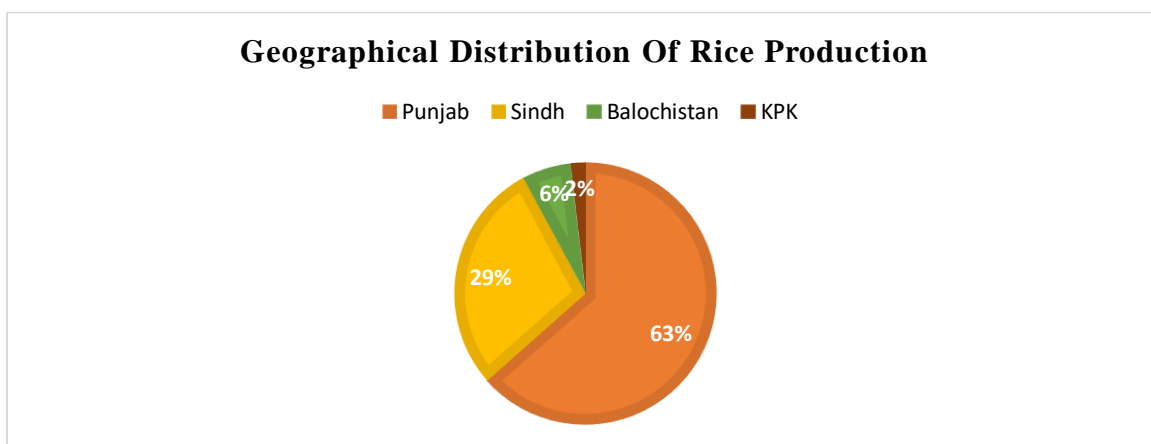


A glimpse at the figure 4 reveals that Pakistan’s per hectare yield is the lowest as compared to other rice producing countries. China with an average of 6.8-7 tons per hectare has the highest yield followed by India and Indonesia.

Geographical Distribution of Rice Production in Pakistan

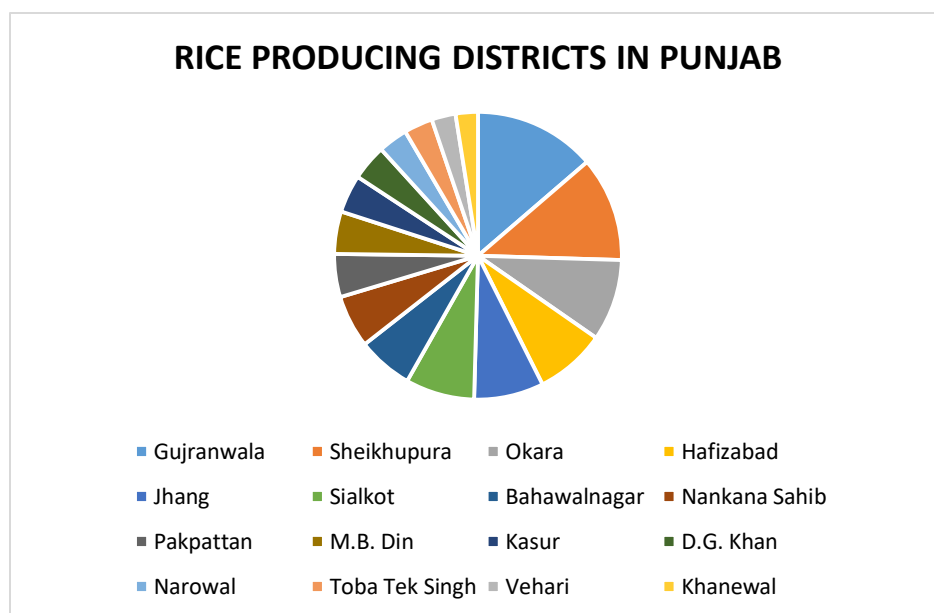
Punjab is the capital of rice production in Pakistan. The figure below shows the share of Punjab in Pakistan’s rice production. Punjab, being the agrarian region is suitable for production of water intensive crop like rice. The second most rice producing region in Pakistan is Sindh, followed by Balochistan and KPK.

Figure 9 Geographical Distribution of Rice Production



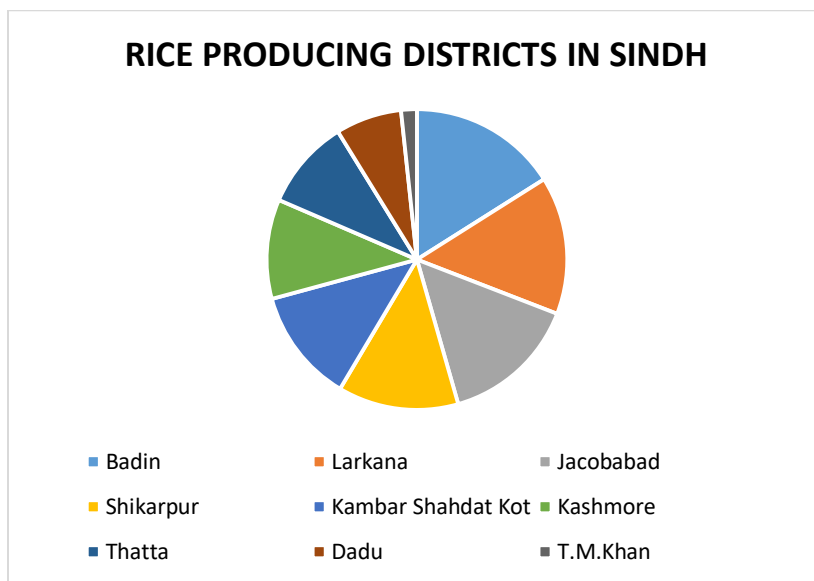
The major rice producing districts in Punjab include Gujranwala, Sheikhupura, Okara, Hafizabad, Jhang, Sialkot, Bahawalnagar, Nankana Sahib, Pakpattan etc.

Figure 10 Rice Producing Districts in Punjab



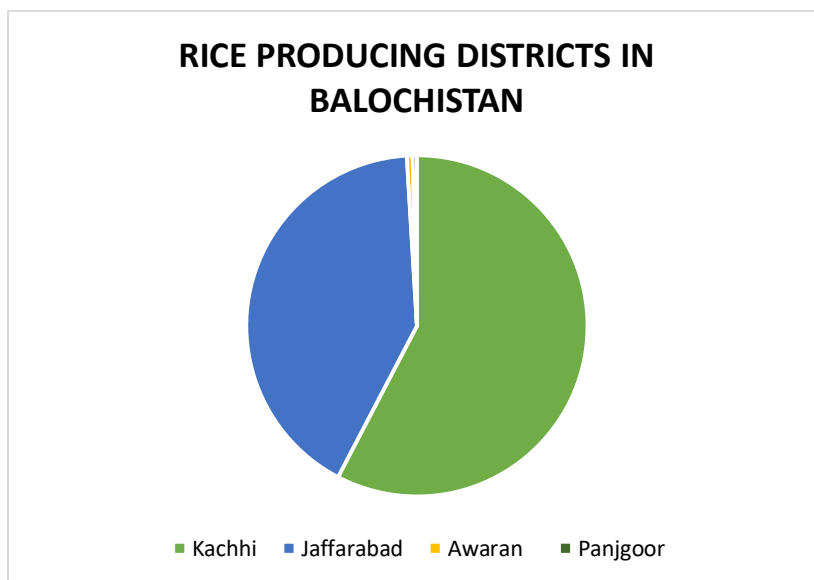
The major rice producing regions in Sindh include Badin, Larkana, Shikarpur, Jacobabad, Kashmore, Kambar Shahdad kot, Thatta, Dadu and TM Khan.

Figure 11 Rice Producing Districts in Sindh



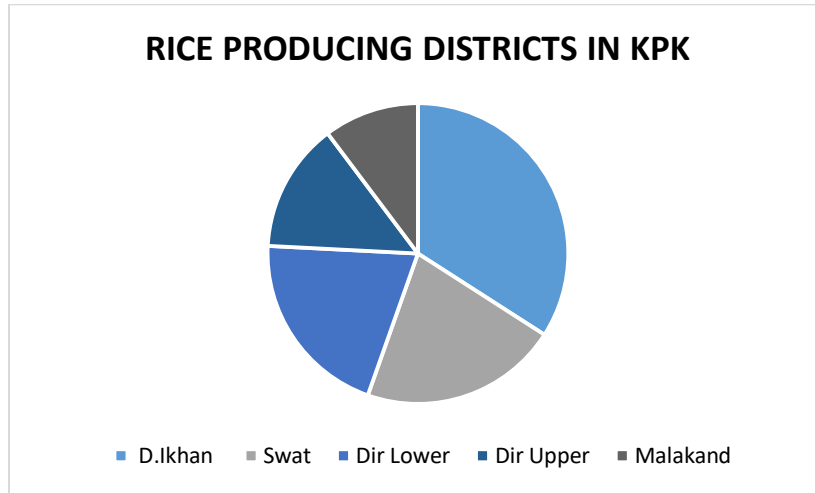
Kachhi, Jaffarabad, Awaran and Panjgoor are major rice producing districts in Balochistan.

Figure 12 Rice Producing Districts in Balochistan



KPK contributes a meagre share in the national production. There are few districts in KP that contribute towards rice production. These districts include DI Khan, Swat, Lower & Upper Dir, and Malakand.

Figure 13 Rice Producing Districts in KPK



Local Price Comparison

The graph below depicts the value of Pakistani rice in the local markets of its top importers. In UAE, the price of per KG rice is USD 2.57. While in Nigeria, unit price of per kg rice is 2.56. The domestic price of rice in Pakistan and India averages around USD 0.69/kg. The unit price of rice in European countries lies b/w USD 1.2-1.5/kg.

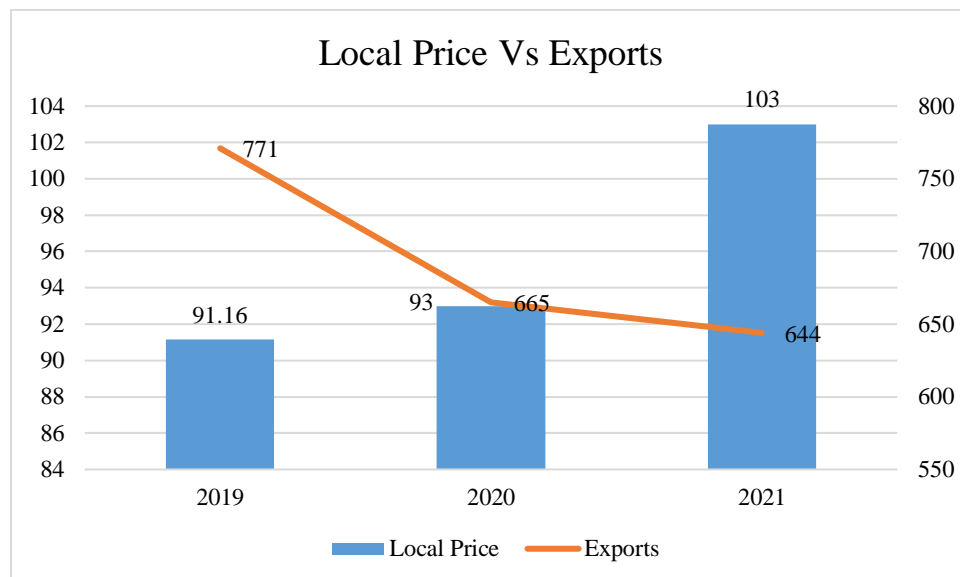
Figure 14 Local Price Comparison



Local price vs Exports

As local price increases, value of exports plummets. In 2019, the average price of Basmati rice in Pakistan's local market hovered around 91 PKR/kg. In year 2019, Pakistan exported rice worth USD 770 million. In 2020, the domestic price of rice was PKR 93 per kg. The value of exports in 2020 was USD 665 million. In 2021, the export value dipped further to USD 644 million. The domestic price of rice in 2021 increased further to 103 PKR per kg. The Covid-19 related relation disruptions sent shockwaves to the economy. One of the reasons behind the downward trend is Covid-19. The international prices of rice went down due to rising freight cost. Thus, it became more profitable for businesses to sell rice at high price in the domestic market.

Figure 15 Comparison of Domestic Price of Rice and Exported Price



Market and Competitor Analysis

Basmati Rice

The word Basmati originates from “Vasmati” meaning soil recognized by its fragrance. The long grain varieties with a particular fragrance are termed as Basmati varieties. Basmati rice in Pakistan is of huge significance. It accounts for 3.1% of total value added to agriculture sector and 0.6% to national GDP. It is cultivated at an area of 1.85 million hectares. The annual production of Basmati rice in 2021 hovered around 4 million tons. The annual consumption of Basmati is 2.4 million tons.

Pakistan and India are the top producers of Basmati. They together account for 90% of total exports. In 2021, 0.737 million tons of Basmati rice was exported to UAE, Saudi Arabia, Oman, Yemen, China, UK, Kazakhstan, USA and Kenya at an average price of \$900/ton. Pakistan still had a surplus quantity of 0.84 million tons. If the quantity exported is increased by 10%, then the estimated revenue at \$900/ton would be USD 858 million. Similarly, if exported quantity it is increased by 50%, then the revenue will be USD 1.1 billion from the export of basmati rice.

The top importing markets for Basmati rice in the world include European Union, Middle East, KSA, Iran, USA, UK, Belgium, Yemen, Spain, Italy and Qatar.

India is the largest producer of World’ Basmati. The major competitor of Pakistan in terms of Basmati rice is India. It is the largest producer of World’s Basmati. India produces more than 100 million tons of rice every year. Although in terms of production and acreage, Pakistan and India cannot be compared. Since, Pakistan is the second largest producer of Basmati, so trade trends of both countries are compared to analyze the market structure.

Figure 17 shows that there exists a sizeable difference between Basmati exports of Pakistan and India. In 2017, Pakistan exported Basmati worth USD 479 million. While, India on the other hand exported Basmati worth USD 3.8 billion. The India’s Basmati exports saw a voluminous increase in 2018. They grew by 13.1%, thus generating USD 4.3 billion in terms of export revenue. The exports further increased to a sizeable amount posting an export revenue of USD 4.6 billion. Covid-19 was the highlight of year 2020. It significantly marred world’s trade, causing a plunge in world’s rice exports. Despite disruptions created by Covid-19, India’s slashed only by 0.06%.

The real impact of Covid-19 on India’s exports came in 2021, when India was devastated by the tumultuous second wave. The wreckage of the second wave costed India dearly. Thus, basmati exports plummeted by 26%.

On the other hand, Pakistan’s basmati export trends paints a gloomy picture. Basmati exports saw a whopping increase post 2017. It increased to USD 613 million in 2018 from a paltry amount of USD 479 million in 2017. The exports further increased to 771 million in 2019 followed by a decreasing trend afterwards. In 2020, exports plunged to USD 665 million followed by further decrease in 2021. The major reason of the increase in export of basmati from Pakistan were the consumer preference towards Pakistan rice due to presence of pesticide residues in Indian basmati. However India is progressively recapturing its market back after addressing the technical issues. . This section will give a detailed analysis of India’s capturing Pakistan’s market share.

Figure 16 Basmati Trend Comparison b/w India and Pakistan

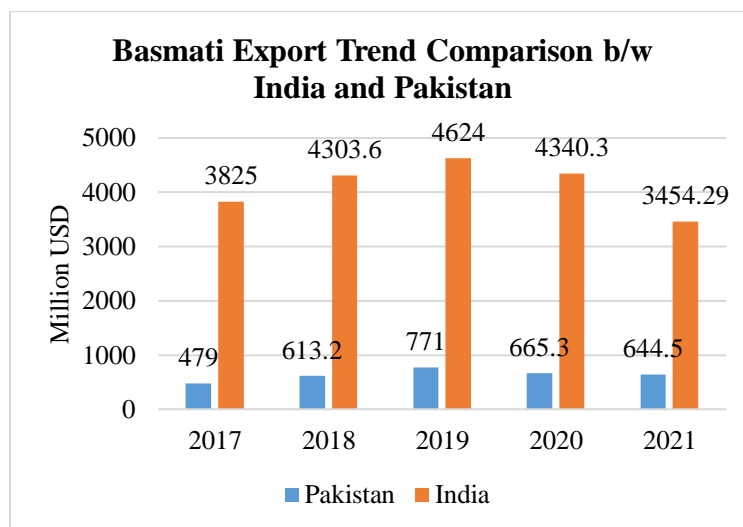


Figure 18 shows the per unit export price comparison b/w India and Pakistan. In 2019, Pakistan decreased the per unit price. Resultantly, Pakistan’s exports increased to USD 771 million. India’s per unit price of Basmati in 2019 was USD 1050/ton. While, Pakistan’s per unit price in 2019 was USD 911/ton. India’s per unit price in 2020 was USD 1050/ton. India in 2020 then decreased the per unit price to USD 870/ton. This proved havoc for Pakistan’s exports. The exporters following India’s footsteps downgraded the per unit price to compete with India’s basmati. In 2021, India has further decreased the per unit price to USD 864/ton. ⁶

⁶ (Map, n.d.)

Figure 17 Comparison of Per Unit Price b/w India and Pakistan

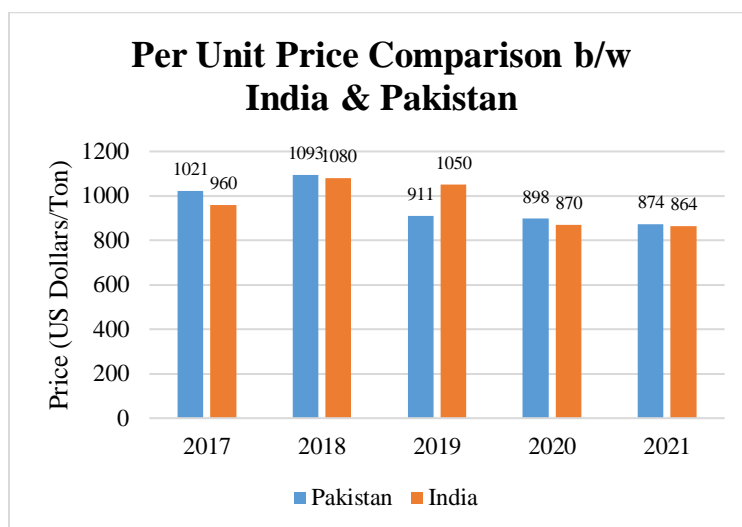
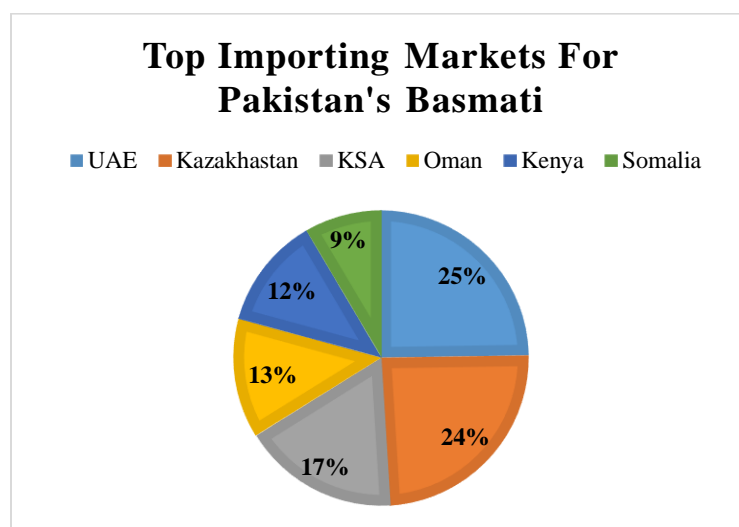


Figure 18 Top Importing Markets for Pakistan's Basmati

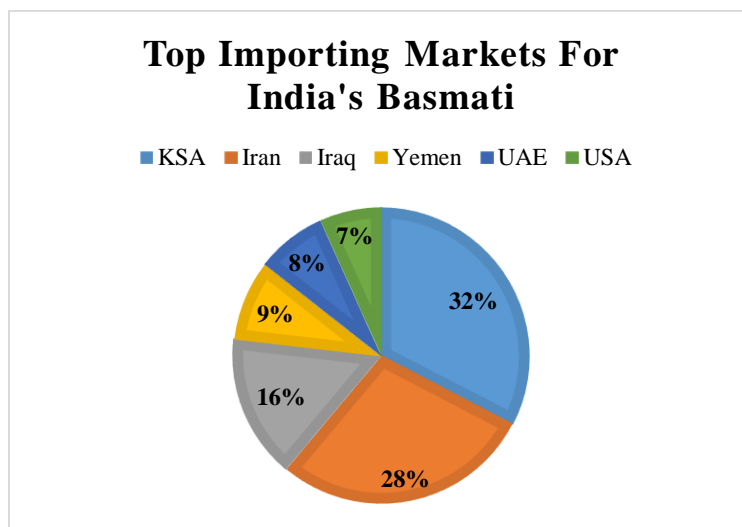


The top importing markets for Pakistan’s Basmati include UAE, Kazakhstan, KSA, Oman, Kenya and Somalia. The Basmati exports to UAE have fallen in the last few years owing to India’s price gimmick. However, exports to Kazakhstan, a small country lying at the cusp of Caspian Sea, have grown subsequently. The Basmati exports saw a monumental increase in 2017. The trend continued for another year. However, in 2019, the exports slashed due to Kazakhstan’s increasing imports from Russia, India and Vietnam. The import pattern of this small country of 18.5 million people underwent a slight change. Pakistan has now become the top exporter of Basmati rice to Kazakhstan prevailing over India and Russia’s market share. The increase in exports to Kazakhstan is attributed to lowest price offered by Pakistan as compared to its competitors. It

exports Basmati rice at USD 694/ton to Kazakhstan. On the other hand, per unit price offered by India and Russia was USD 823/ton and USD 883/ton respectively.

KSA is the third largest importer of Pakistan's Basmati rice. Although India is the leading supplier of Basmati to KSA. However, Pakistan also holds a sizeable market share in KSA's rice market. Pakistan's exports to KSA have increased over the years from USD 38.65 million in 2017 to USD 73.88 million in 2020. India holds an extravagant market share of almost USD 1 billion. India's exports to KSA grew enormously post 2017 owing to increase in demand. The figure below shows importing markets of India's Basmati. The share of KSA in India's Basmati export basket is 32% followed by its arch-rival Iran. The other top importing markets include Iraq, Yemen, UAE and USA.

Figure 19 Top Importing Markets for India's Basmati



As illustrated in the figure 8 and 9, there are common importing markets for India and Pakistan such as UAE and KSA. The table below shows the market share of India in Pakistan's top exporting markets. India holds a substantial market share in Pakistan's top exporting destination i.e Middle East. In fact, India is the largest supplier of Basmati rice to Middle Eastern Countries. India has a market share of USD 1 billion in KSA. It is the second largest importer of rice in the world with a market share of USD 1.4 billion. India, the largest supplier of rice to KSA, has a market share of USD 1 billion.

India also has a sizeable market share in UAE. It exports basmati rice worth 233 million to UAE. Although, it exports substantial amount of Basmati. However, the market size of India is shrinking. It is largely due to Covid-19 and supply chain disruptions. Pakistan's market share in UAE has

also squeezed as compared to pre-pandemic era. Pakistan's share in Kazakhstan, Kenya, Somalia and Italy is increasing. These markets are promising for Pakistan as India has not captured these markets as of yet. The table below shows the market capitalization of India in other markets such as Oman, Yemen, UK, Netherlands, Australia, Malaysia and Canada.

Table 4 Market Comparison of India and Pakistan

*Dark Red represents India's capitalization of Market

**Yellow represents Pakistan's capitalization of Market

	Top Importing Markets for Pakistan's Basmati				Share of India in Pakistan's top markets			
	(Unit: Million Dollars)				(Unit: Million Dollars)			
	2017	2018	2019	2020	2017	2018	2019	2020
World	479.02	613.18	771.31	665.34	3,824.25	4,303.67	4,624.19	4,340.35
United Arab Emirates	136.42	86.11	195.05	125.76	367.14	380.98	213.68	233.84
Kazakhstan	15.71	28.30	29.25	19.26	0.10	0.26	0.39	0.13
Saudi Arabia	38.65	33.28	73.34	73.88	694.78	917.96	996.18	996.50
Oman	38.22	37.25	49.15	57.33	86.32	97.45	79.72	88.66
Kenya	12.75	10.69	24.22	35.13	5.61	6.51	7.31	6.40
Somalia	6.57	2.72	10.63	25.35	6.08	6.19	7.31	8.00
Yemen	27.00	17.80	44.24	13.60	131.95	180.28	219.26	268.12
United States of America	19.58	22.18	28.83	38.83	141.46	165.05	177.00	206.12
Italy	11.37	38.99	21.26	19.93	48.77	14.03	15.27	19.06
United Kingdom	20.44	76.08	33.50	24.60	183.28	77.22	104.74	138.68
Netherlands	6.43	32.95	20.55	22.26	66.22	38.33	39.89	65.00
Australia	12.54	16.40	15.24	17.36	38.17	46.33	50.93	65.78
Malaysia	1.05	3.01	15.75	18.82	30.56	22.82	31.39	39.00
Canada	8.63	10.52	11.76	14.67	40.91	52.85	61.92	73.10

Source: ITC Trade MAP

Brown Rice

Pakistan is the leading exporter of brown basmati rice to the world. It exported brown rice worth USD 328 million in the year 2021. The other exporters of brown basmati rice include China, USA, Paraguay, and Myanmar. Top importers of Pakistan's brown rice include United Kingdom, Belgium, Italy, Netherlands, and Spain. Pakistan's exports to the European countries have increased tremendously post 2018. On the other hand, India's exports have slashed tremendously owing to non-compliance of Indian exporters on tricyclazole and carbendazim.

Table 5 Importing Markets for Pakistan's Brown Rice

Importing Countries	Exported value in 2017	Exported value in 2018	Exported value in 2019	Exported value in 2020	Exported value in 2021
World	47.301	56.589	232.924	307.321	328.033
United Kingdom	11.272	15.957	56.647	91.684	84.131
Belgium	7.492	6.571	47.407	52.399	70.952
Italy	3.685	6.112	37.467	46.196	51.123
Netherlands	2.492	5.719	34.977	32.801	48.075
Spain	2.574	1.893	12.072	26.184	20.194

IRRI Rice

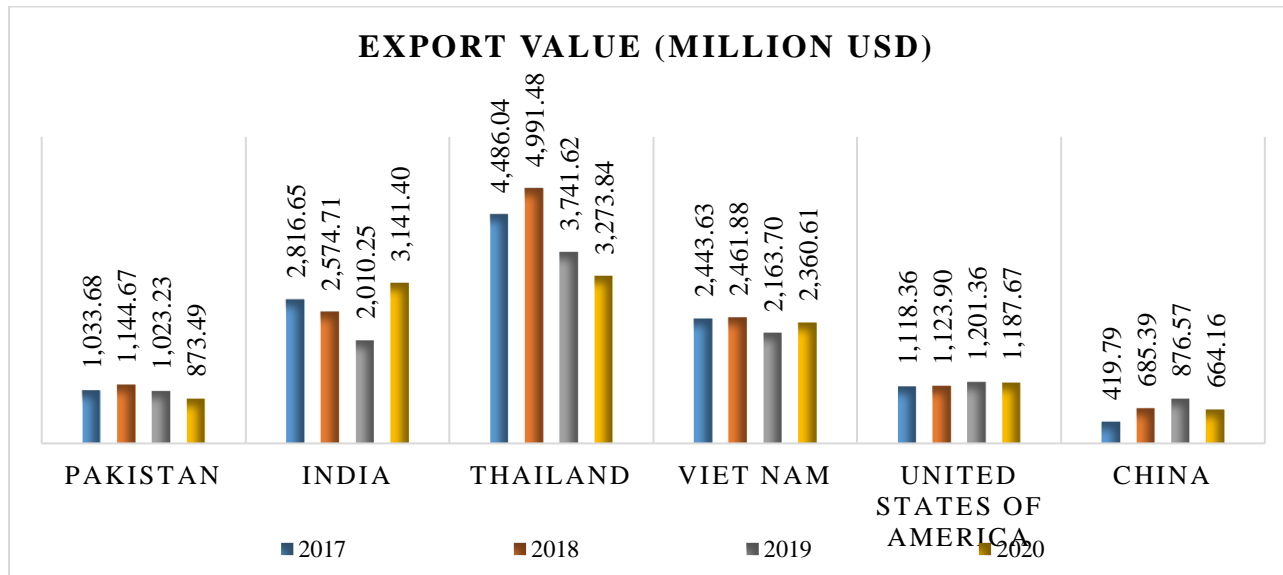
IRRI rice is cultivated in an area of about 1.5 million hectares. Sindh is the IRRI capital of Pakistan. The annual production of IRRI is 4 million tons. While, the annual consumption is around 1 million tons. Pakistan exports more than 2 million tons of IRRI to the world. The major importing markets for Pakistani IRRI include China, Kenya, Mozambique, Somalia and Benin. The major competitors of Pakistan include Thailand, India, Vietnam, USA and China.

Pakistan's IRRI exports have decreased in 2020. A dip has occurred in exports owing to supply side issues, lack of availability of containers and rising freight cost. India fared better as compared to Pakistan as its export of IRRI rice increased significantly. It exported rice worth USD 3.1 billion in 2020. However, market share of Pakistan's other competitors such as Thailand and China has reduced. Thailand saw a major dip in exports post Covid-19. Similarly, USA also saw a 2% decline in the IRRI exports.

Vietnam is another top exporter of IRRI rice. It is the third largest exporter of IRRI with an export volume of 2.3 billion. The exports of Vietnam unlike Thailand and China remain unaffected despite rising freight cost and supply chain issues.

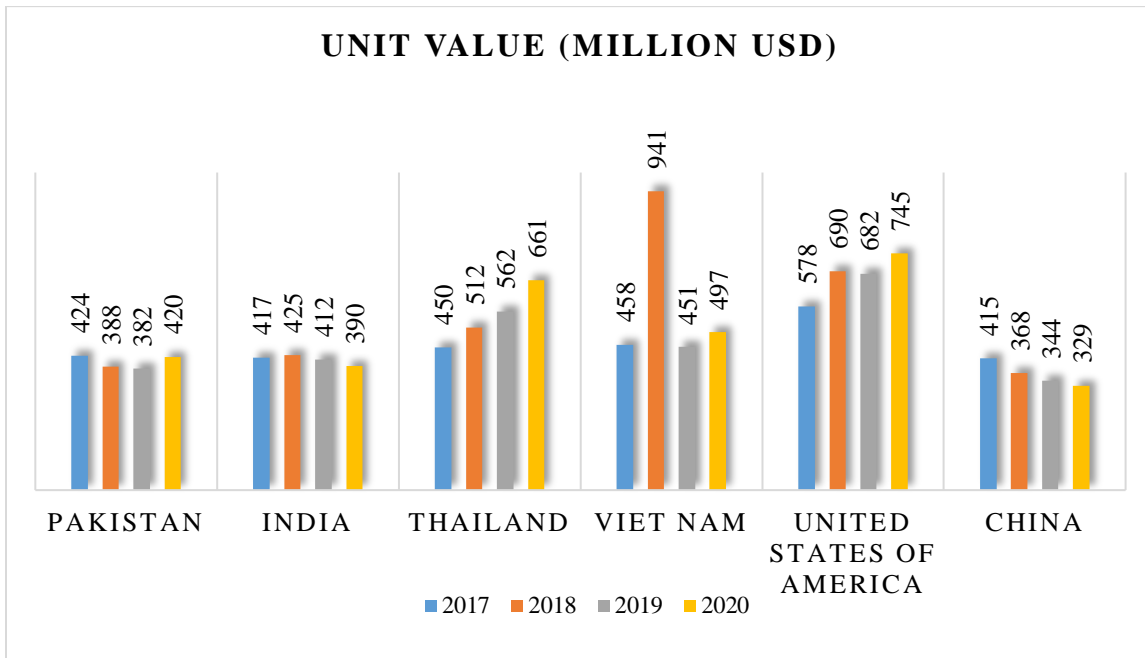
The rise in exports of India is attributed to the lowering of prices. India decreased its prices in the wake of rising per unit prices by other countries. This strategy deemed successful as it saw an overwhelming in export of IRRI in the year 2020. Figure 21 will further explain the price differential between top exporters and impact of prices on exports.

Figure 20. Export Value Comparison of IRRI



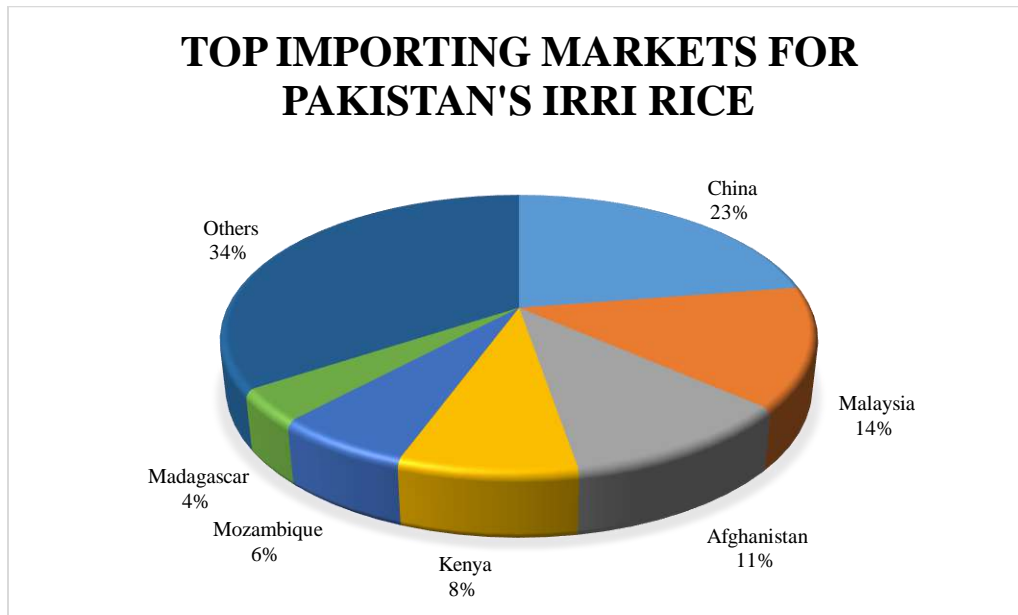
All top rice exporting nations grossly increased the per unit price of IRRI rice. Pakistan increased the per unit value to \$420/ton from \$380/ton. Similarly, Thailand also increased its price from \$562 to \$661 per ton. USA substantially increased the price from \$682/ton to \$745/ton. Resultantly, all of the countries saw a decline in rice exports in the year 2020 except India. China's per unit price also declined but it was largely due to Covid-19. China was the first country to hit by this seething virus that wreaked havoc in the world. Therefore, due to lack of preparedness, China's exports nose-dived in 2020.

Figure 21 Export Value Comparison of IRRI



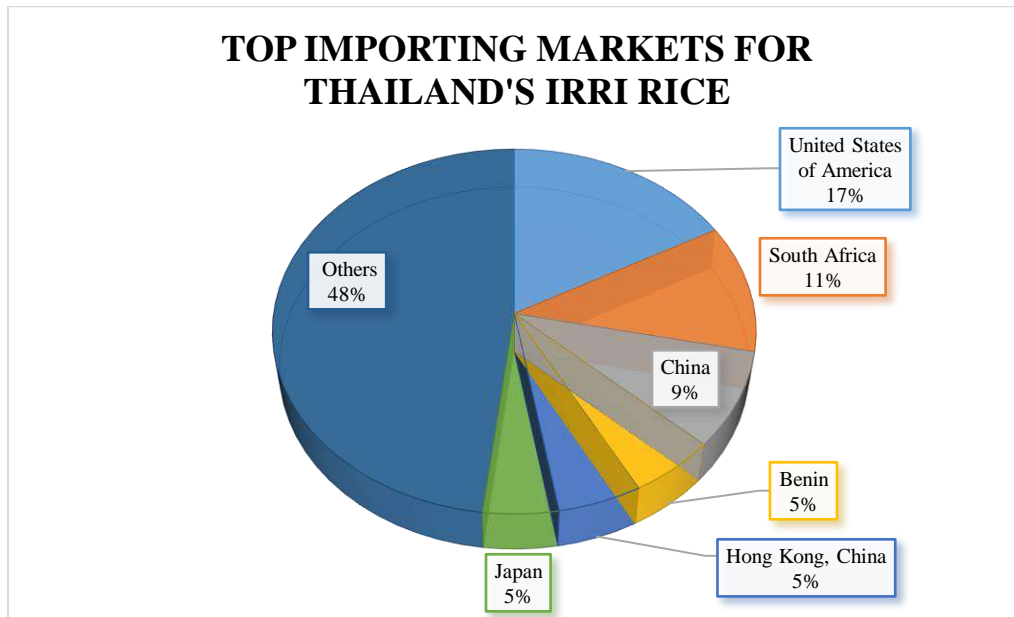
The top importing markets for Pakistan’s IRRI rice include China, Malaysia, Afghanistan, Kenya, Mozambique and Madagascar. China is the largest importing market for Pakistan’s IRRI rice. Yet, Pakistan faces an import tariff of 60% in the Chinese market. The second largest importing market for Pakistan’s IRRI rice is Malaysia. It is a promising market for Pakistan and the growth in export value to Malaysia has increased substantially. Afghanistan is the third largest export destination. However, it is not a very lucrative market owing to lowest unit price fetched by exporters from Afghanistan. Kenya is the fourth largest importing market. Nonetheless, Pakistan faces 35% tariff in the Kenyan market. There are some markets where a significant growth in exports of Pakistani IRRI has been seen. Such markets include Madagascar, UAE, Ivory Coast, Kazakhstan, Guinea, Iraq, Philippines, Mauritius, and Morocco.

Figure 22 Top Importing Markets for Pakistan's IRRI Rice



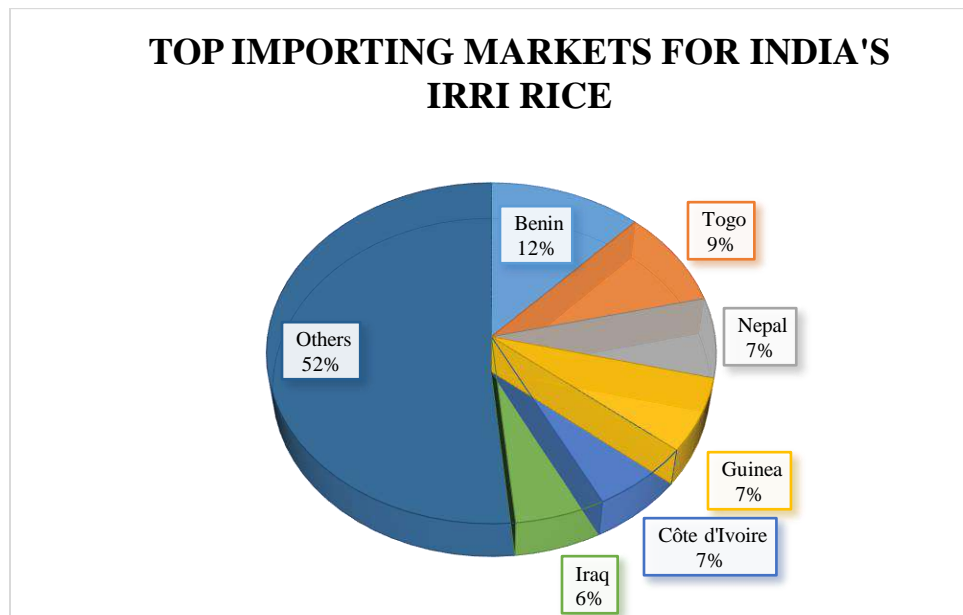
Thailand is the largest exporter of IRRI in the world. Despite a dip in 2019, it exported IRRI worth USD 3.2 billion. The major supplying markets include USA, South Africa, China, Benin, Hong Kong and Japan.

Figure 23 Top Importing Markets for Thailand's IRRI Rice



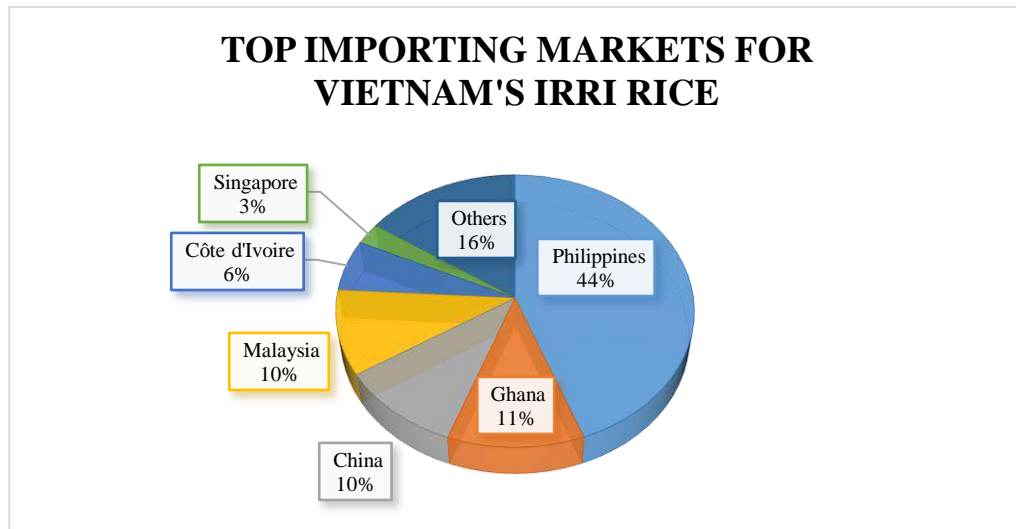
India is the second largest exporter of IRRI after Thailand. In 2020, it exported IRRI worth USD 3.1 billion. The top importing markets for India's IRRI include Benin, Togo, Nepal, Guinea, Ivory Coast and Iraq.

Figure 24 Top Importing Markets for India's IRRI Rice



Vietnam is the third largest exporter of rice with an average export value hovering around USD 2 billion. It exported IRRI worth USD 2.3 billion to Philippines, Ghana, China, Malaysia, Ivory Coast and Singapore.

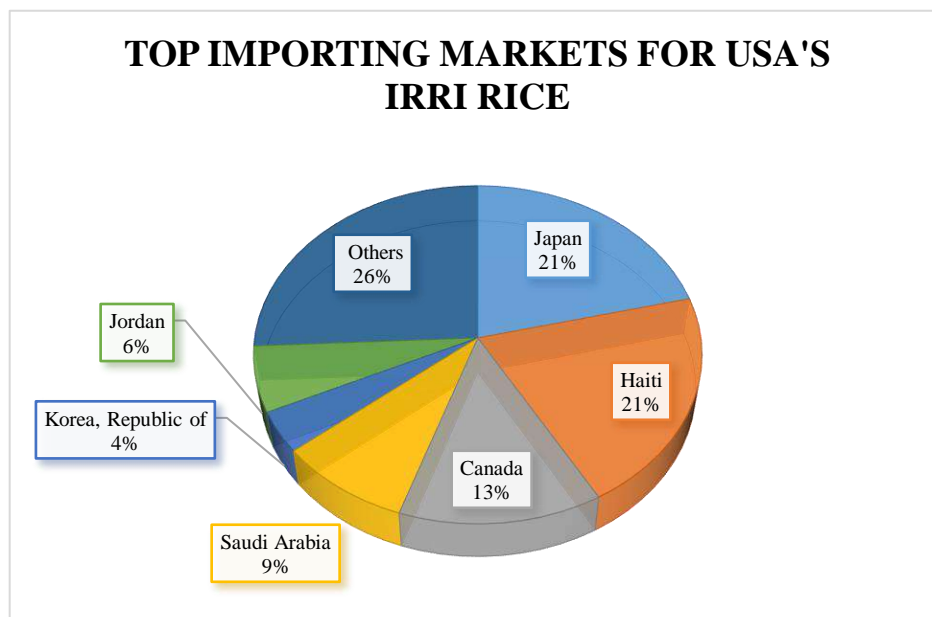
Figure 25 Top Importing Markets for Vietnam's IRRI Rice



The fourth

largest exporter of IRRI is USA. It exported IRRI worth USD 1.8 billion to Japan, Haiti, Canada, Korea and Jordan.

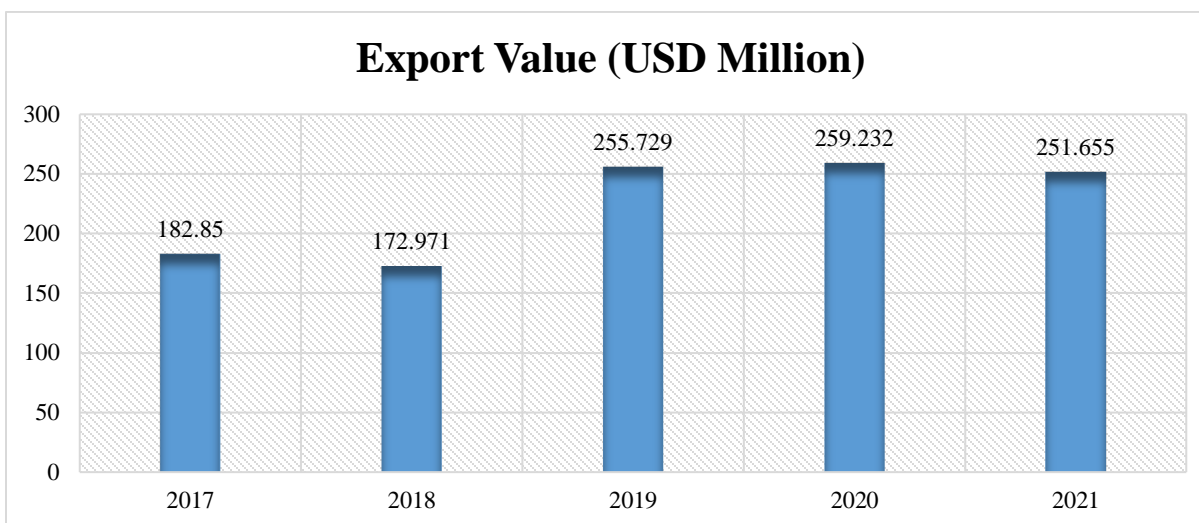
Figure 26 Top Importing Markets for USA's IRRI Rice



Broken Rice

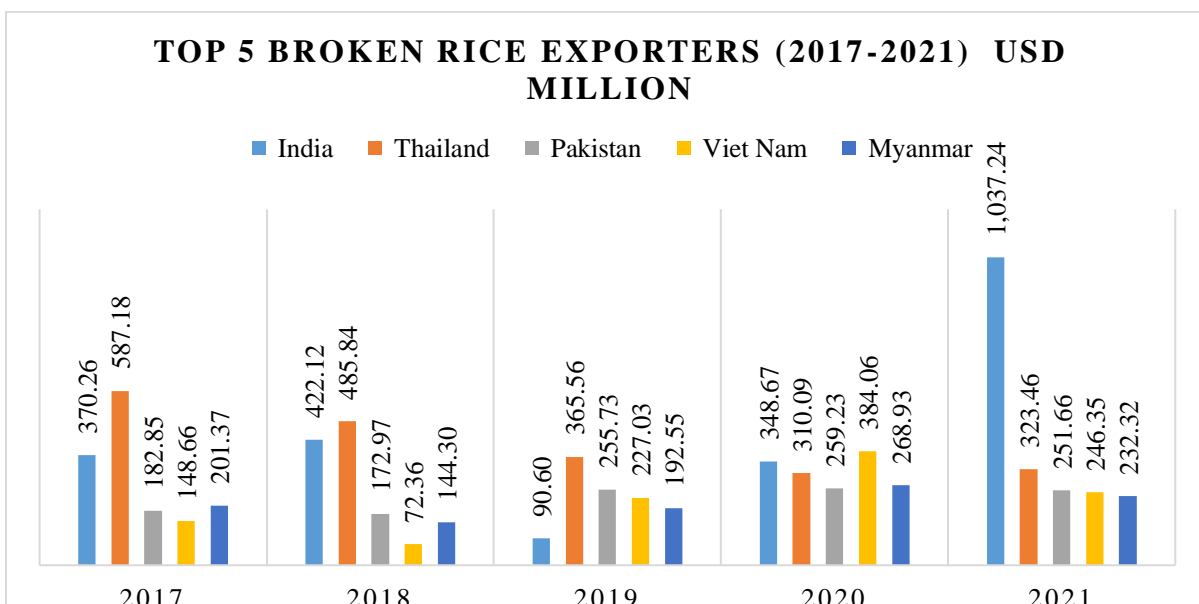
The third largest exportable category of rice by Pakistan is broken rice. Pakistan exported broken rice worth USD 251 million in 2021.

Figure 27 Export Value of Broken Rice



The top 5 exporters of broken rice include Thailand, Vietnam, India, Pakistan, and Myanmar. In 2021, India emerged as the leading exporter of broken rice. It exported broken rice worth USD 1.03 billion in 2021 followed by Thailand, Pakistan, Vietnam, and Myanmar.

Figure 28 Top Exporters of Broken Rice



A look at the World exports reveal that in 2021, broken rice worth USD 2.6 billion was globally exported.

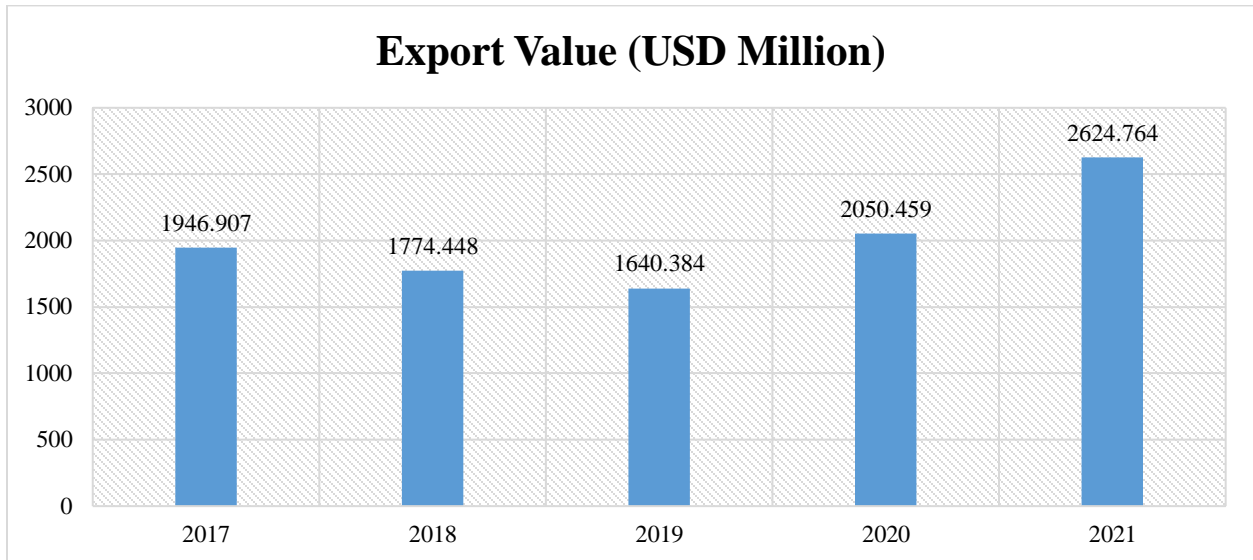
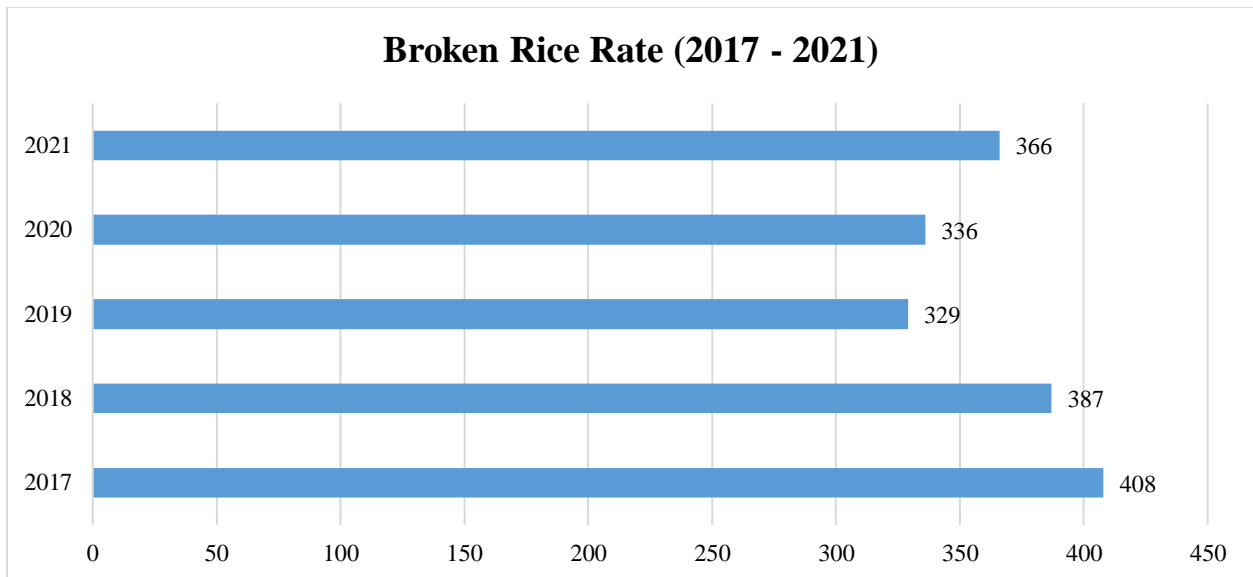


Figure 29 Global Broken Rice Export (2017-2021)

The average per unit price rate of broken rice is USD 360-400/ton. The per unit price has dipped by \$42/ton in 2021 when compared with its price in 2017.

Figure 30 Global Broken Rice Rate



The figure below shows the per-unit price of Broken. The leading exporter, India, with an export share of 40% offers the lowest per-unit price. The per-unit price offered by India is USD 287/ton. The second largest export share is of Thailand. It holds a 12% market share at an average per-

unit price of USD 439/ton. The third largest exporter is Pakistan. It has a 10% market share in the global broken rice market. The per-unit price of Pakistan is USD 366/ton.

Figure 31 Comparison of Unit Price of Broken Rice Rate

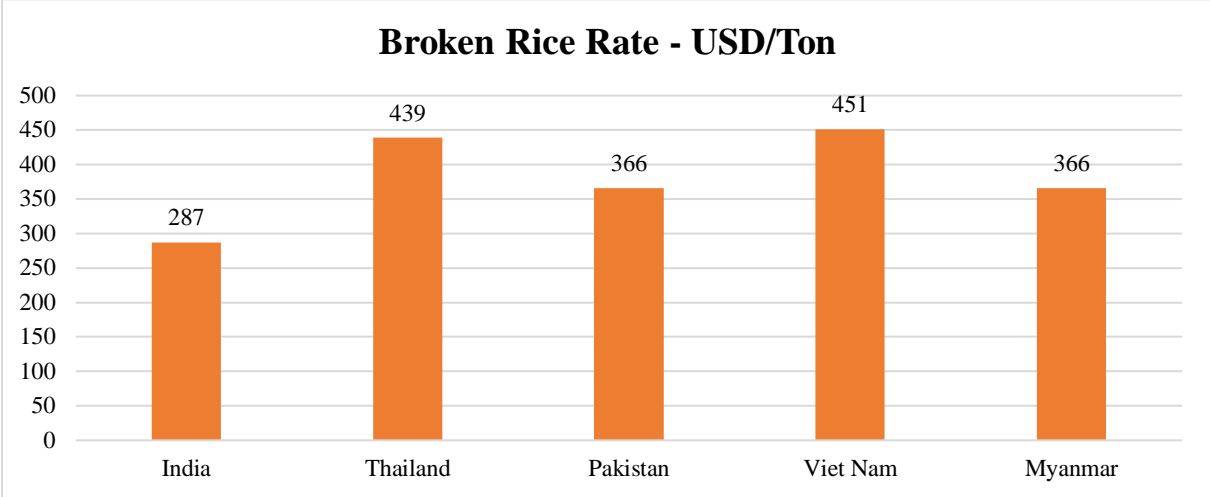
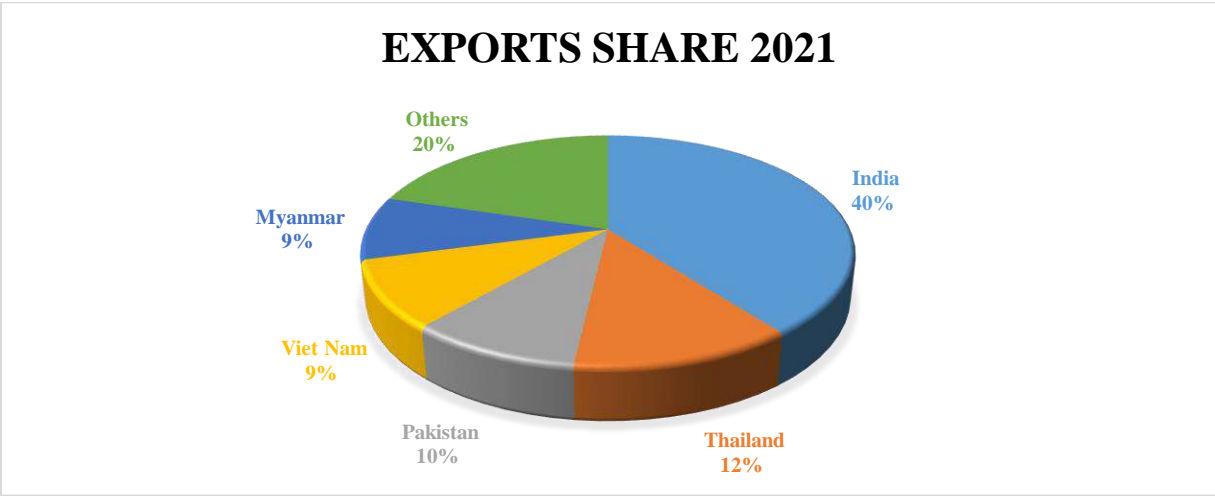


Figure 32 Export Share of Broken Rice



Potential Markets

Basmati

The potential markets for Pakistan's Basmati include KSA, Iran, Yemen, Kuwait, and Canada. India, Pakistan's largest competitor in Basmati has a market share of 93%. Both countries face 0% tariff by KSA. India has captured the international rice market by selling rice at the lowest price. The table below shows unit price of both India and Pakistan. The table clearly shows the price differential between the two top rice exporting countries.

Iran is another major market in middle-east after KSA with an import volume of USD 870 million. India is the top exporter to Iran. Iran imports 100% of its Basmati rice from India. The average MFN tariff levied by Iran on both countries is 10%. US stipulated hard sanctions on Iran leading to disruption of payment system. India through a discrete banking channel clears its payments from Iran.

Another potential market is war-torn Yemen. At price of USD 860 per ton, India exports rice worth 268 million to Yemen. Pakistan only has 5% share in Yemeni market. While, India has a 95% share in this market.

Kuwait is another top basmati importing nation. With a share of 1% in Kuwait's market, Pakistan exports a meagre amount of Basmati worth USD 1 million to Kuwait. The average unit price at which Pakistan exports to Kuwait is USD 955 per ton. India on the other hand exports Basmati rice worth USD 173 million to Kuwait. Thus, capitalizing over 99% of Kuwait's market share.

Canada is another potential market that Pakistan should explore. It imports rice worth USD 88 million largely from India. There exists a huge price difference between Pakistan and India's selling price.

Another proposed market is Jordan. It is one of the top importing markets of Basmati rice. India exports rice worth USD 66.6 million to Jordan. The average tariff faced by Pakistan in all of the proposed markets is 0% except Iran.

Table 6 Potential Markets for Basmati Rice

Basmati (2020)	Imports of that country (USD Million)	Share of Pakistan's Exports (USD Million)	%age share	Unit Price (USD/Ton)	Tariff faced by Pak	Share of India's exports (USD/Mln)	India's share (%age)	Per unit price (USD/Ton)	Tariff faced by India
KSA	1070	73.8	7%	889	0%	999.6	93%	910	0%
Iran	870	0	0	N/A	10%	870	100%	800	10%
Yemen	282	13.6	5%	860	0%	268	95%	830	0%
Kuwait	174.2	1.3	1%	955	0%	173	99%	950	0%
Canada	88	14.6	17%	1124	0%	73	83%	1050	0%
Jordan	68	1	1%	976	0%	66.6	98%	870	0%

IRRI

Pakistan is the 5th largest exporter of Irri rice. In the year 2021 it exported rice of US \$ 932.5 Million. In 2020 Thailand stood at the top with export value of US \$ 3.3 billion, followed by the India having the export value of US \$ 3.15 billion. However, despite being the 5th largest exporter of Irri rice, Pakistan's market share in the world's top importing countries is either zero or very nominal. There is a need that Pakistan should increase its share in the below mentioned markets. Philippines is the world's largest importer of Irri rice. It imported Irri rice worth US \$ 1.1 billion during 2021. Its major import was from Vietnam, having a value of US \$ 931.2 million with a market share of 86%, followed by the Myanmar with value of US \$ 67 million. Thailand also exported Irri rice worth US \$ 57.1 million to Philippines in the year 2021.

Table 7 Top Supplying Markets for Philippines

PHILIPPINES			
Total Import	1,081.25l		
Exporter	Vietnam	Myanmar	Thailand
Export Value	931.2	67	57.1
Percentage Share	86%	6%	5%
Unit Value	382	331	382
Tariff	35%	35%	35%

USA is also the world's largest market of Irri rice. It imported Irri rice of US \$ 1.2 billion during 2020. Its major import was from Thailand, having a value of US \$ 735.7 million with a market share of 62%, followed by the India with value of US \$ 54 million, capturing 5% market share. Pakistan also exported Irri rice to USA worth US \$ 1.4 million, which is quite negligible.

Table 8 Top Supplying Markets for USA

USA			
Total Import	1,196.20		
Exporter	Thailand	India	Pakistan
Export Value	735.7	54	1.4
Percentage Share	62%	5%	0%
Unit Value	1,171	1,110	1,523
Tariff	6.20%	6.20%	6.20%

Germany is also one of the markets for Irri rice, it imported Irri rice of worth US \$ 373.83 million during the year 2020. Its major exporter is Italy, which exported Irri rice of US \$ 110.97 million, making the 30% of market share. Secondly Germany imported Irri rice worth US \$ 68.98 million, capturing the 18% market share from Belgium. Netherlands stood at third by exporting Irri rice worth US \$ 50.7 million. Germany had 0% tariff for the above-mentioned suppliers, however it imposes 20.46% on Pakistan for Irri rice.

Table 9 Top Supplying Markets for Germany

Germany			
Total Import	373.83		
Exporter	Italy	Belgium	Netherlands
Export Value	110.97	68.98	50.7
Percentage Share	30%	18%	14%
Unit Value	1,056	1,133	1,367
Tariff	0%	0%	0%

Broken

India, as mentioned in the above section, is the largest exporter of world's broken rice. It has a global share of 35% in the export basket followed by Thailand with a share of 11%. Pakistan is the 3rd largest exporter of broken rice with a share of 9% in the broken rice market. The other two countries trailing behind Pakistan are Vietnam and Myanmar.

Table 10 Top Exporting Markets of Broken Rice

Exporters	Exported Value In 2021	Percentage Share
World	2954.73	100%
India	1037.24	35%
Thailand	323.46	11%
Pakistan	251.66	9%
Vietnam	246.35	8%
Myanmar	232.32	8%

China is the global importer of rice. It imported broken rice worth USD 851.2 million. The top suppliers of rice to China include India, Vietnam and Pakistan. India holds a sizeable market share in the Chinese market. The average tariff imposed on India is 10%. The second top supplier of rice to China is Vietnam. With exports worth USD 201 million, it is the second largest supplier to China. India exports at the lowest selling price of USD 468/ton. The average tariff imposed on Vietnam by China is 5%. Pakistan is the third largest supplier of rice to China. The percentage share of Pakistan in broken rice market is 10%.

Table 11 Top Supplying Markets for China

CHINA			
Total Imports	851.2 Million		
Exporter	India	Vietnam	Pakistan
Export Value	340.4	201	125.12
Percentage Share	40%	24%	15%
Unit Value	340	468	361
Tariff	10%	5%	10%

Senegal is a small country in West Africa with a total population of 16.4 million. Total rice imported by Senegal is USD 455.3 million. The top suppliers of broken rice to Senegal include

India, Thailand and Pakistan. It is one of the proposed potential markets. The share of Pakistan in Senegal’s market is 3%. The average MFN tariff imposed by Senegal is 10%. Although, Pakistan exports rice worth USD 12.7 million, there is an opportunity for Pakistan to expand on the existing market access.

Table 12 Top Supplying Markets for Senegal

SENEGAL			
Total Import	455.3 Million		
Exporter	India	Thailand	Pakistan
Export Value	321.7	57.8	12.7
Percentage Share	71%	13%	3%
Unit Value	370	527	364
Tariff	10%	10%	10%

Belgium is another potential market. It imports rice worth USD 148.3 million largely from Myanmar, Pakistan and India. Pakistan has a lowest percentage share in Belgium market as compared to its competitors. Myanmar exports broken rice worth USD 74.6 million. There is a difference in tariff imposed by Belgium on its top suppliers. Myanmar is the largest supplier because of 0% tariff. However, India and Pakistan faces 17% tariff.

Table 13 Top Supplying Markets for Belgium

BELGIUM			
Total Import	148.3 Million		
Exporter	Myanmar	Pakistan	India
Export Value	74.6	14.74	10.38
Percentage Share	50%	10%	7%
Unit Value	416	738	385
Tariff	0%	17%	17%

Indonesia is a feasible market for enhancing exports. It imports rice worth USD 141. 3 million from India, Thailand and Pakistan. The share of India in Indonesia’s broken rice exports is 56% despite imposition of 9% tariff. Thailand is the second largest exporter of broken rice followed

by Pakistan. Pakistan exports only 14% of entire rice imported by Indonesia. The silver lining is market access given to Pakistan as a result of Pakistan-Indonesia PTA.

Table 14 Top Supplying Markets for Indonesia

INDONESIA			
Total Import	141.3 Million		
Exporter	India	Thailand	Pakistan
Export Value	79	37.8	20
Percentage Share	56%	27%	14%
Unit Value	381	594	383
Tariff	8.38%	8.38%	0%

Value Chain Analysis

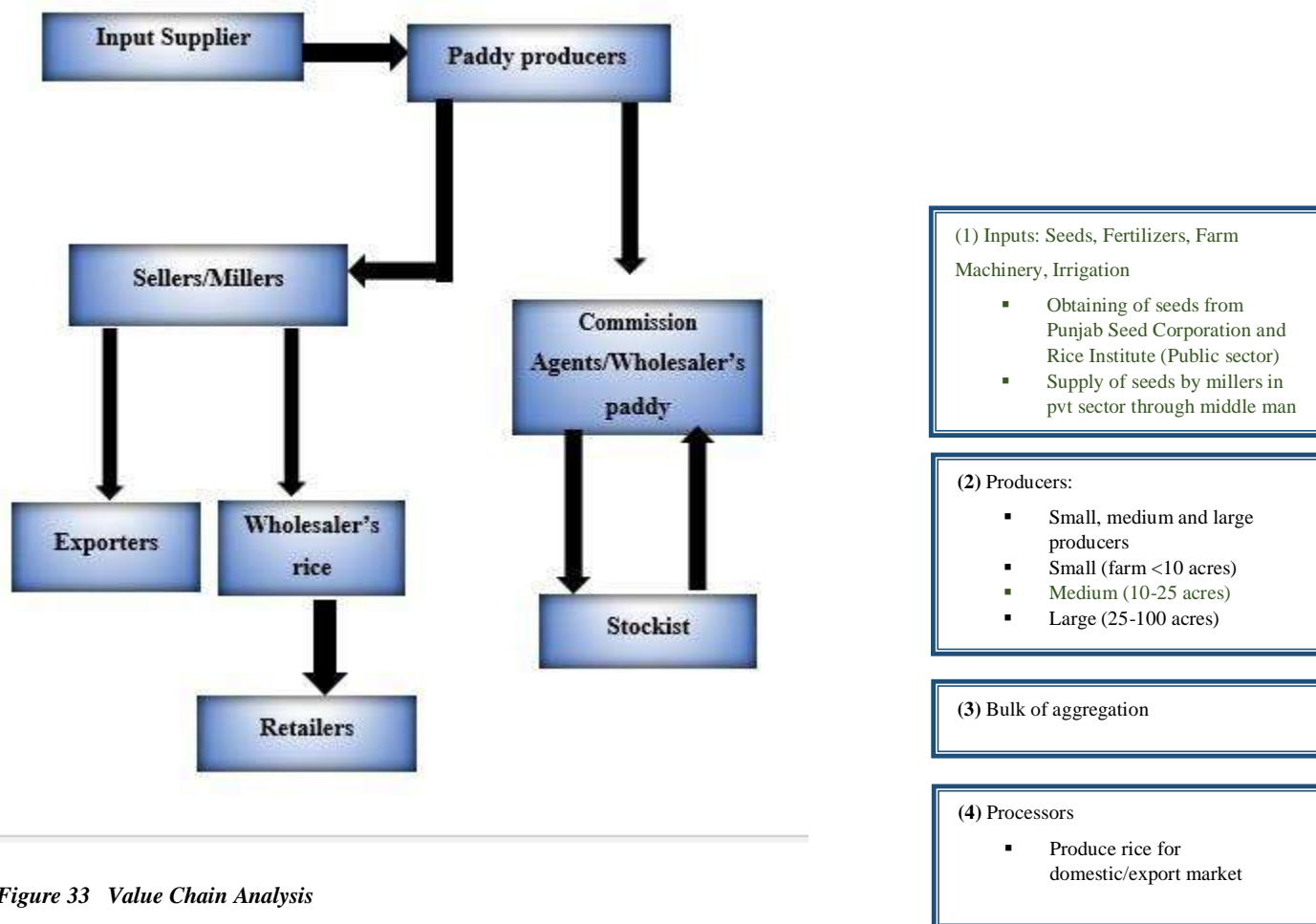


Figure 33 Value Chain Analysis

This figure represents a typical business model in which the flow of commodity within the chain is represented. As the chain shows, the producer sells its rice produce to either the businessman or directly to the millers. Out of 100% paddy, 80% paddy moves through this chain via Arthi or through traditional mandi. The four basic inputs required for growing rice are seeds, fertilizers, farm machinery and irrigation. Rice, being a water intensive crop requires sufficient quantity of water for production. There are two sources of obtaining seeds by farmers. The first method is

obtaining of seeds from public sector. The two fundamental institutions are Punjab Seed Corporation and Rice Institute at Kala Shah Kaku. On the other hand, in the private sector the seed companies and the middle men transfer seeds from millers to growers. Apart from seeds, access to finance, irrigation system, pesticides and land is vital for production of rice.

There are three types of producers in the rice value chain: small farmers, medium farmers and large farmers. The small farmers are those who lack sufficient access to land. The size of their farm is less than 10 acres. Medium size farmers have land holdings between 10 acres to 25 acres. While the large farmers have their farm size between 25-100 acres. Once paddy is produced, it carries a very small window to sell the produce due to its moisture contents. Thus, it needs urgent drying. In the absence of storage at farm level, this paddy is dumped with Stockist/aggregators who own a facility for stocking the paddy. The major stakeholders of this value chain are commission agents and wholesales. They drive the entire value chain. They are the chief financiers of small and medium size growers, helping them with their financing needs. After paddy gets dried, it is then moved up the value chain and moves to processing facilities. After the processing, it sells in open bags at retail stores. The surplus quantity is the exported by the millers.

Recommendations

- There is an urgent need for government to strategize and prioritize plans related to R&D investment in rice sector.
- Pakistan should tap the developing markets such as Africa and Central Asia. Thus, market diversification efforts needs to be strengthened.
- Countries are moving up the ladder in terms of value-addition. Pakistan should invest its resources in exporting value-added products of rice. An extensive research is required on value-added products such as rice bran oil, rice wax, puffed rice etc.
- Support storage at farm level, create producer groups and promote contract farming between exporters and farmers.
- Government needs to educate farmers regarding regulatory requirements and non-tariff measures imposed by importing countries.
- Increasing access to information. Government should ensure provision of information to market participants. Timely provision of accurate market information collected by the government on production, consumption, exports, prices, and stocks is the key to allow a smooth functioning of the rice market and enable more informed policy informed decisions
- Efforts should be strengthened towards development of rural finance markets and promotion of FDI.
- Improvement in post-harvest processing of rice with special emphasis to food safety concerns including pesticide residues and mycotoxins.
- Brand development should be at the core of rice export strategy.

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