

ACIAR SDIP Analytical Component

A study on the Political economy of rice trade in South Asia



Australian Government

Australian Centre for
International Agricultural Research



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The Political Economy of Cross-Border Rice Trade in India, Bangladesh and Nepal

July 2018

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EXECUTIVE SUMMARY

The trade of rice across the political boundaries of South Asia is centuries old. While the formal institutions that support and mediate this trade have transformed with the emergence of the modern state, the essential practices that undergird them retain a familiar shape. Relationships between the farmer and aggregator of rice, the cycles of informal capital that dictate production and the political importance of the grain in stability of the state are as central to the politics of rice in the region today as they were in the 17th century.

This report identifies the key institutional practices of rice trade between India, Bangladesh and Nepal and examines some of the more salient political economy motives that drive it. A lot of this report deals with Indian institutions because India is the largest producer, consumer and exporter in the region. The social complexities of India's rice markets are equally important because of its position as the largest rice exporter in the world, reaching around 140 countries each year.

Trade Volume Drivers

Sudden and significant fluctuations in volumes from year-to-year are common. These are caused by climate related events such as floods or droughts, short-term fluctuations in currency values or political disturbances that lead to changes in import tariffs in Bangladesh or Nepal, the two net importers in the region. Rice trade policy in South Asia should be seen as a safety valve for domestic markets, serving as an instrument to stabilize domestic prices. Fears of scarcity lead to the erection of export barriers, just as spikes in wholesale prices facilitate imports.

Trade plays a crucial function in cushioning the price volatility induced by increasingly unpredictable weather, particularly precipitation, in the region. Untimely bursts of rain or multi-year dry spells that disrupt paddy output in the region and beyond are balanced by large surpluses in India. This adaptive aspect places a renewed emphasis on developing smoother systems for trade, particularly at the borders where several forms of distortions tend to undercut the desired predictability and efficiency in trade practice.

Farm incomes and trade profits appear unrelated

Just as trade has the potential to fill supply gaps and stabilize consumer prices across in import markets, it can also have a positive impact on farm incomes by reducing glut and expanding markets. We have found, however, that sub-regional trade between India, Bangladesh and Nepal does not produce such an impact. There are two main reasons for this counter-intuitive reality.

First, all intermediary marketing functions between on-site collection of produce at the farms and delivery of consignments across the border are, in effect, run by businesses functioning in competitive landscapes, where capital accumulated can yield exponentially higher growth. These intermediaries, such as the aggregators of paddy, have entrenched financial and social relationships with farmers that allow them to extract favorable terms of purchase and employ capital in profitable informal banking ventures to farmers. This mechanism prevents fair shares of marketing revenue from reaching the farmer.

Second, the millers of Indian rice, who themselves often operate as aggregators, both usurp windfall profits and absorb hits on the margin without either of these effects reaching the farms in full measure. Sudden surges in export volume or prices ratchet up the profits for millers significantly while on the domestic front, they struggle to make such profits due to layers of cost-generating regulatory requirements they are obligated to fulfill under the government's minimum support price schemes. Since the millers have a stake in both domestic and export markets, they tend to hedge risks in one market with another. They also use profits to tide over years when export demand is low. Exporters similarly use profits to contend with fluctuating demand from major importers and strenuous competition from major exporters like Thailand and Vietnam.

In general, the actors between the farm gate and the border - the aggregator, miller and exporter - should be viewed as profit maximisers that take risks, invest capital and expect profits. For exports to play a significant role in increasing farmer incomes, a new type of regulatory thinking that recognizes the incentives and vulnerabilities of each layer of intermediation before acting upon them is required.

Export curbs may not help virtual water loss

The significant quantities of water embedded in agricultural exports, particularly rice, raise questions about the long-term sustainability of India's water resources. Regulating the quantum of water-intensive non-basmati rice exports, however, is not a viable solution because of the disconnect between production and export. India's non-basmati rice exports have their roots in surpluses generated due to the green revolution and import substitution policies that are decades old. Exports are a function of the surplus, a tool to depressurize the domestic market and maintain prices that protect farmers and the marketing chain. Viewed from the farm level, the farmer bears little agency in promoting or curtailing exports; exports are an incidental outcome that arises from domestic and external pricing information upon which millers and exporters act.

Rather than focus on exports, policy to regulate the amount of embedded water in rice exports must begin with decentralized technology, systems and incentives that reduce the water intensity of rice production in general.

The theoretical appeal of virtual water export curtailment through "sustainable" input pricing also crumbles when one begins to imagine the political backlash in a country where the core of politics is still the farm. Any change in input prices, subsidies, and access to free water either thins margins further or impacts the output. Already squeezed to the limit, the average farmer will seek political recourse. This would be the wrong place to start such a transformational idea.

Improved trade facilitation matters

The domestic production, processing and pricing of rice in the sub-region have tentacles in difficult domains of public policy where change is often difficult to drive. In this landscape, resolving some of the most nagging problems of cross-border trade actually appears more achievable. Problems such as lack of port-level infrastructure or inadequate digitization of procedures and approvals or a lack of mutual recognition agreements can be resolved with additional allocations of budget, a couple of rounds of staff training and a few administrative changes.

Although more difficult to implement, bilaterally negotiated, stable import tariffs (particularly in the case of India-Bangladesh trade) would go a long way in making demand signals for exporters and millers more reliable. Slight improvements in internal governance and accountability standards of border agencies can begin to undercut a thriving world of syndicates and cartels that operate cross-border trade and transit services. The net effect of these trade facilitation measures has the theoretical potential to impact consumer prices directly and significantly.

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Introduction

Documented descriptions of organized regional rice trade can be found from as early as the 17th century. Traders from Eastern Gangetic plains, particularly Bengal, found markets along Eastern Coromandel Coast, in Ceylon (Sri Lanka), the western Malabar coast and across the rim of the Bay of Bengal. Some set sail for Iran, the Maldives and the Straits of Malacca.³ Some of the institutional practices of aggregating, shelling, storing, transporting and trading continue till today. Farmers sold their produce to powerful landlords, or rentiers that collected the state's share of rice to bring to the market for export. Middlemen exercised considerable influence over farmers, using their capital to pay the farmers' share of taxes in return for the ability to buy grain at a lower price come harvest time.⁴ Modern priorities of keeping the cost of food low and supporting farm incomes through price supports and other input subsidies have not fundamentally changed the essentials of these centuries-old practices.

A significant part of this report focuses on India because it is the largest rice consumer, producer and exporter in the region, and exports to three-fourths of the world's countries. It is also relevant because of the interaction between old institutions and modern farm subsidies, support prices, trade policies and production technologies. This make it an important example for developmental trajectories in the global south. In addition, Indian rice production is central to a range of other concerns, from water use to nutrition access, pricing and food security in the region.

This report draws its data from primary and secondary sources. Field research for the report was conducted between April and June of 2018.⁵ The research teams visited two land-crossings, Sunauli along the India-Nepal border and Benapol-Petrapol along the India-Bangladesh border. The research team also visited agro-processing, milling and transportation sites in Kolkata and Gorakhpur. Key informant interviews were conducted in Punjab, Delhi, Kolkata, Gorakhpur and at the border crossings. Top-line findings were put through a validation workshop in Delhi with a selected group of government officials, traders, millers, aggregators and researchers.

We open this paper with an analysis of the drivers of Indian rice exports. We find that South Asian demand variables such as the state of domestic stocks in neighboring countries (Bangladesh, Nepal and Sri Lanka⁶), climatic shocks and the state of political relations are better at explaining fluctuations than supply side factors. The second section investigates the connection between farm incomes and rice exports by analyzing the structure of Indian agricultural marketing for non-basmati rice exports. It finds that the several layers of intermediation between the farm gate and the border absorb export incomes before they reach the farmer. The third section discusses appropriate policy levers for reducing the export of 'embedded' water in rice, which has become a central issue in research and commentary on

³ S. Arasaratnam, "The Rice Trade in Eastern India 1650-1740," *Modern South Asian Studies* 22, no.3 (1988):531–49.

⁴ S. Arasaratnam, 545.

⁵ We would like to acknowledge our partners Afaq Hussain and Riya Sinha of BRIEF India for the excellent field work done in Sunauli, Gorakhpur, Benapole, Kolkata and Delhi.

⁶ Included in the analysis because Sri Lankan domestic output and trade affect regional supplies and markets.

the water-food-energy nexus. We stress that the complex politics behind the intensification of rice over the last decade makes a focus on export curtailment redundant. The fourth section takes our discussions to the dynamics of trade and trade facilitation measure in India, Nepal and Bangladesh where we argue that much more can be done to reduce the cost of regional trade. We end by summarizing the paper and presenting key takeaways.

1 Below the Surface of Trade Volumes

India's rice exporters argue that the Indian government's procurement of non-basmati⁷ rice at a 'minimum support price' diminishes their export prospects. This argument holds that an increase in support prices raise the price millers, traders and exporters pay for non-basmati paddy in the open market, thereby driving up export prices and reducing export competitiveness. The mechanics are as follows: the government procures paddy from markets or mandis across the country through the Food Corporation of India, the nodal agency for procurements and stock maintenance, and various state agencies across the country through the year. Between 2011 and 2018, it has on average absorbed around 32 percent of rice produced in the country.⁸ Rice remaining after government procurement and local consumption is sold on the open market, a part of which is channeled to exports. A rise in the price the state is willing to pay should theoretically increase the price for others (since it is the largest single buyer) and, logically, the price of export. The government's recent announcement to increase support prices for paddy by 13 percent has prompted several public comments from key rice exporters and export associations.⁹

Below the surface, however, an analysis of Indian non-basmati export data from 2009 to the present shows that the determinants of export prices are more complex. While the margins for exporters are likely to reduce in the event of a price increase since some are forced to pay a higher price in markets where government procurement is concentrated, there is no evidence to suggest that this has a significant impact on export competitiveness against other major producers.

The experiences of the past decade suggest that three other variables have more heft in determining the quantum of Indian exports. First among these are production volumes, climatic shocks and domestic stocks in India's South Asian neighbors Bangladesh, Nepal and Sri Lanka, as well other major importers in Africa and West Asia. High production or plentiful stocks lead to reduced imports while a flood or drought leads to increased imports. Second, exchange rates play a significant role in competitiveness; a cheaper Indian rupee against the US dollar bodes well for exporters. The eight-and-half percent depreciation of the Indian rupee against the US dollar since mid-December 2017, for example, cushions some of the impact felt by exporters due to the 13 percent increase in support prices announced by the government in June 2018. Conversely, a significantly stronger Indian rupee could reduce the allure of Indian rice, particularly in price-sensitive developing markets such as Africa. Third, domestic concerns about India's food security lead to the imposition of export restrictions in the form of bans or

⁷ We focus on non-basmati varieties as they are consumed by the region's poor.

⁸ Ministry of Commerce, Government of India, "Procurement of Wheat and Rice for the Central Pool," Procurement Figures, June 2018, <http://dfpd.nic.in/procurement-figures.htm>.

⁹ Rajendra Jha, "India Rice Shipments Slow as Stronger Rupee Lifts Export Prices," Reuters, August 8, 2017, <https://in.reuters.com/article/india-rice-exports/india-rice-shipments-slow-as-stronger-rupee-lifts-export-prices-idINKBN1AO16P>.; this response to MSP rises is seen most years with an above normal rise (of four to five percent): Vishwanath Kulkarni, "Rice Exporters in Fear as Move to Hike MSP Will Make It Expensive in Global Markets," Hindu BusinessLine, March 19, 2018, <https://www.thehindubusinessline.com/economy/agri-business/rice-exporters-in-fear-as-move-to-hike-msp-will-make-it-expensive-in-global-markets/article23295332.ece>. and Sunil Jain, "MSP Hike: With \$27 Bn of Cotton and Rice Exports at Risk, This Is a Solution That Creates Its Own Risk - The Financial Express," Financial Express, July 2, 2018, <https://www.financialexpress.com/opinion/msp-plan-will-hit-indian-agriculture/1227584/>.

minimum export prices. Though this has not happened in a decade, memories from the global rice crisis in 2008 hang over trade policy.¹⁰ Deconstructions of two significant fluctuations in Indian export volumes, a crash and a spurt that played out over a three-year period, are helpful in teasing out the role the first set of determinants play. The crash is a 22 percent year-on-year fall in India's export volume in 2015-16 and the spurt is a 28 percent year-on-year increase in export volume in 2017-18 that restored exports to record volumes.

The crash of 2015-16 was primarily a South Asian phenomenon. Bangladesh, Nepal and Sri Lanka simultaneously decreased procurements from the Indian market. Overall, Indian exports fell from 8.2 million tons to 6.4 million tons that year. Of the 1.8 million tons of lost export volume, decreases from Bangladesh, Nepal and Sri Lanka together count for about 1.65 million tons, or 92 percent. Indian government statistics indicate that the country exported non-basmati rice to 143 countries that year.¹¹ The results were dramatic: Bangladesh fell from being the largest importer of Indian non-basmati the previous year to sixth place, Sri Lanka fell from second to twenty-ninth. They were replaced by Senegal and Benin as the top two export destinations.

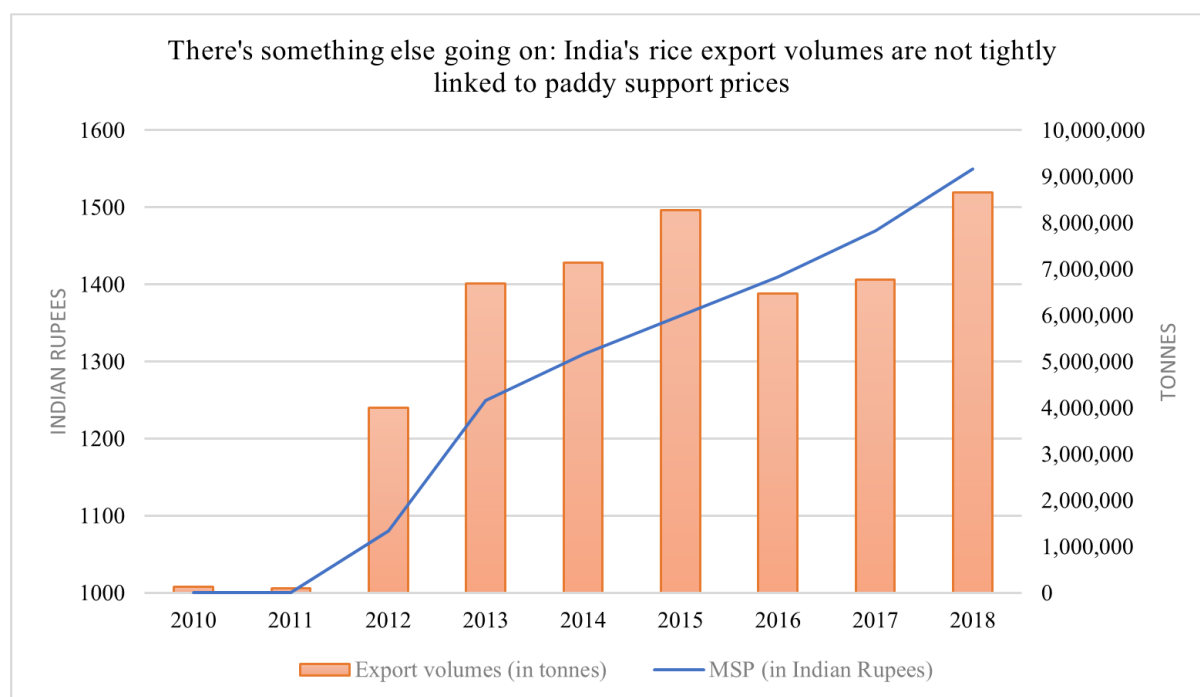


Figure 1 India adopted a more liberal export stance as fears of domestic shortage receded in 2011. At the center of the graph, the Commission on Agricultural Costs and Prices recommended a 13 percent increase in the paddy procurement price for the 2012-13 season in view of rising input costs, but exports continued to grow. Towards the right of the graph, the decline in export volumes in 2015-16 are explained by weaker demand from Bangladesh, Sri Lanka and Nepal and tepid demand from African importers.¹²

¹⁰ For a brief and balanced narrative of events in 2008, see Steven Menelly, "The Rice Crisis of 2008: A Lesson in Mismanagement," Harvard International Review, April 2016, <http://hir.harvard.edu/article/?a=13124>.

¹¹ "Exports From India of Non Basmati Rice," APEDA, accessed July 10, 2018, http://agriexchange.apeda.gov.in/product_profile/exp_f_india.aspx?categorycode=0602.

¹² Table prepared by authors. Data from: Commission for Agricultural Costs and Prices, Ministry of Agriculture and Farmers Welfare, "Minimum Support Prices Recommended by CACP and Fixed by Government," July 4, 2018, <https://cacp.dacnet.nic.in/ViewContents.aspx?Input=1&PageId=36&KeyId=0>; Agricultural and Processed Food Products Export Development Authority, Ministry of Commerce, "Product Profile: Exports from India of Non-Basmati Rice," AgriXchange, 2018, http://agriexchange.apeda.gov.in/product_profile/exp_f_india.aspx?categorycode=0602.

The largest decrease came from Bangladesh, which imported 0.3 million tons from India that year, a mere quarter of the 1.2 million tons it had imported the previous year. Responding to falling prices at home, the government reinstated tariffs on rice for the first time since 2011. It began with the imposition of a 10 percent import tariff in May 2015, which was doubled that winter and then increased to 25 percent in June 2016. In the span of 13 months, tariffs went from zero to 25 percent. In the domestic market, the government ramped up procurement of paddy from 100,000 tons to 700,000 tons at a higher price than the previous year.¹³

The Sri Lankan fall in imports was due to climatic factors. A failed monsoon in 2014 crippled the country's rice production to a seven-year low of 3.6 million tons, leading it to seek recourse from its northern neighbor. It imported over 650,000 tons from India that year.¹⁴ For scale, it had on average imported around 8,500 tons a year from India since 2010. To tide over the drought, it even signed an official agreement with Bangladesh for a minor import of 25,000 tons in December 2014. By 2015-16, imports had reduced to more normal levels of around 46,000 tons, which showed as a half-million ton decrease in India's year-on-year import statistics.¹⁵ Nepal's decrease in imports were for an entirely different reason - politics.

The winter of 2015 saw a period of heightened tension between India and Nepal over the orientation of a new Nepali Constitution and pitched ethnic politics in the country's southern lowlands, the terai, resulting in disruptions in cross-border trade along India-Nepal border. This occurred at an inopportune time, immediately after a weak monsoon, and affected domestic rice production. In response, the Nepali government intervened in rice markets by increasing procurement and distribution activities, cracking down on speculators and attempting to ease bottlenecks in fertilizer supply (another major import from India).¹⁶ In summary, 92 percent of the crash of 2015-16 is explained by three unrelated but common South Asian trade variables: the vagaries of demand, climate and politics.

The mechanics of the large increase in export volumes in 2017-18 is similar, but work in the opposite direction. Total Indian non-basmati exports rose from 6.8 million tons to over 8.6 million tons, largely reversing the losses detailed above. The single largest driver of this increase was Bangladesh. Its imports rose from a negligible 0.08 million tons to 1.86 million. Bangladesh suffered three rounds of flash floods that crippled domestic production, the earliest of which were in the crucial month of April 2017. Rice output fell to a five-year low of just over 50 million tons, 2 percent below weak output registered the previous year. The country's national stockpiles fell to a third of their levels the previous year as domestic quotations spiked. This was just one instance of the fallout of massive floods in northern and eastern South Asia in 2017, which affected large parts of India's northeast, Uttar Pradesh, West Bengal, Nepal and Bihar. Nepal's production was also affected. Sri Lanka on the other hand experienced yet another year of drought, with official estimates predicting a 43 percent drop in production in 2017 over the previous year. Production was predicted to reach a 22-year low of 2.5 million tons, planting was curtailed by 29 percent. In response, Sri Lanka increased Indian imports from 0.18 million tons to 0.5 million tons.¹⁷

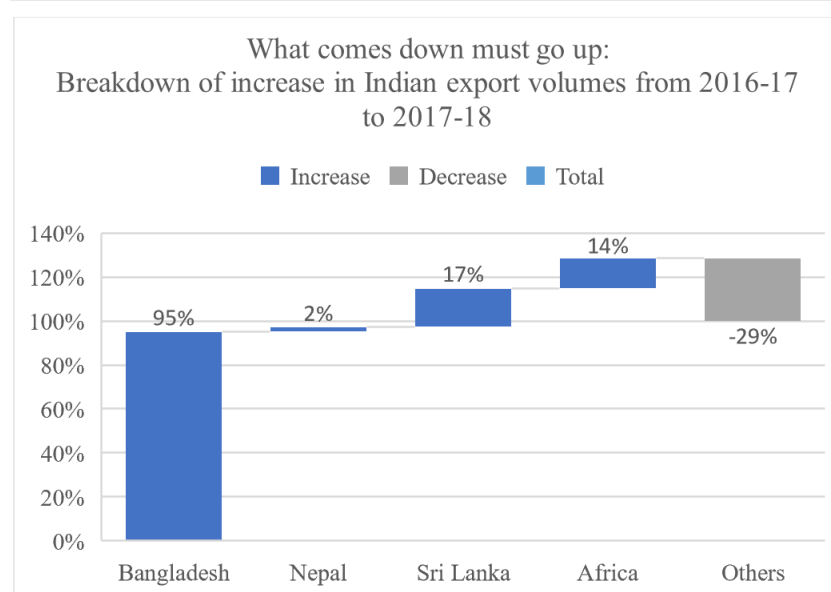
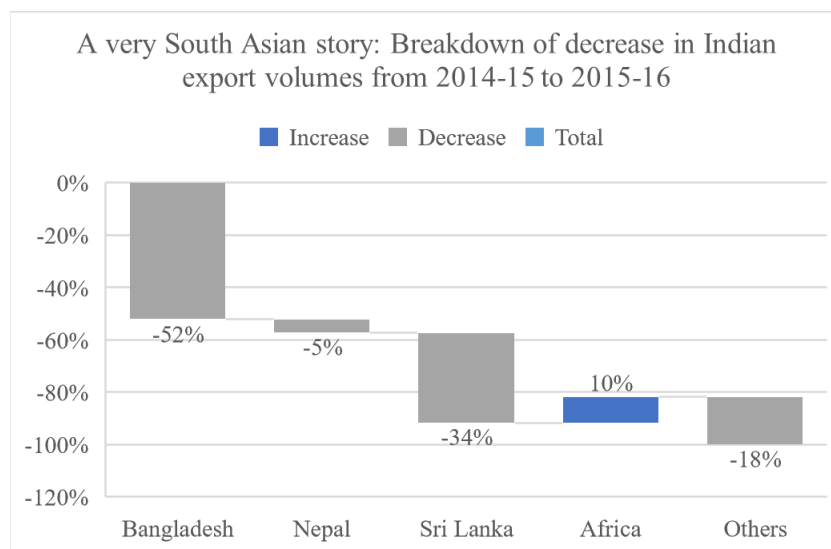
¹³ Food and Agriculture Organization of the United Nations, "Rice Market Monitor," July 2015; Food and Agriculture Organization of the United Nations, "Rice Market Monitor," October 2015; Food and Agriculture Organization of the United Nations, "Rice Market Monitor," July 2016.

¹⁴ Food and Agriculture Organization of the United Nations, "Rice Market Monitor," December 2014.

¹⁵ "Exports From India of Non Basmati Rice."

¹⁶ Food and Agriculture Organization of the United Nations, "Rice Market Monitor," December 2015.

¹⁷ Food and Agriculture Organization of the United Nations, "Rice Market Monitor," December 2017.



Figures 2 & 3: Bangladesh, Nepal and Sri Lanka are the major contributors to fluctuations in Indian non-basmati export volumes. In Figure 2 (above), Bangladesh is forced to withdraw from international markets as domestic prices fall, Sri Lanka sees restoration of normal production after a drought and Nepal's imports are curtailed by border tension with India. In Figure 3, all three South Asian countries are forced to deal with climatic adversity through imports. In both years, 'Others' included over 130 countries.¹⁸

Two broad lessons emerge from the analysis above. First, rice trade policy in South Asia functions as a safety valve for domestic markets, visible in Bangladeshi and Sri Lankan trade figures. Trade is used as an instrument in the service of stabilizing domestic prices. Fears of scarcity lead to the erection of export barriers, just as spikes in wholesale prices facilitate imports. This makes it hard to lay the foundations for predictable trade. Second, regional rice trade is beginning to emerge as a cushioning mechanism for the unpredictability of climate change. Untimely bursts of rain or multi-year dry spells that hinder paddy growth in South Asia are balanced by the large Indian market, whose geographic expanse allows for inter-regional compensation. This adaptive aspect of trade places a renewed emphasis on developing smoother systems for trade, particularly at the borders where several distortions begin to emerge.

¹⁸ Table prepared by authors. Data from: "Exports From India of Non Basmati Rice."

2 Unbundling Farm Incomes and Trade Volumes

Regional export volumes do not appear to have much of an effect on farm incomes in India because of the many layers of state and market intermediation that non-basmati rice goes through from production to export. While we present here a description of the Indian case, the situation in Nepal and Bangladesh are not far removed from that of India in terms of the role of intermediaries in the downstream commerce of rice.

The aggregator is the first commercial interface for the farmer in most parts of the region. In India, interactions between the farmer and the aggregator are an inevitable site of politics and patronage. A single aggregator might collect paddy from hundreds, if not thousands, of farms. Aggregators are often also ‘commission agents’, brokers licensed to aggregate and sell produce to purchasers for a commission that ranges from 2 to 3 percent. In areas where government procurement is active, commission agents are paid 2.5 percent of the value of the produce transacted with state procurement agencies. They also sell to private purchasers at a similar rate. Theoretically, their only source of income should be from the purchaser, but there is enough anecdotal evidence, including that observed during our field work, to indicate that these aggregators maintain a separate line of income from farmers. They are a source of non-institutional credit to farmers, allowing farmers to tide over the costs of agricultural inputs, social obligations such as weddings in the family and health shocks.¹⁹ For the aggregator, this serves as a useful channel to accumulate capital and retain monopoly control over farmers. The interest accrued from short-term loans (reportedly anywhere between 10 and 25 percent per annum) are higher than those afforded by formal banks. In areas visited for this report, several aggregators were reported to be second or third generation businessmen that wielded large amounts of capital and local political clout. Loans made to farmers are recovered at harvest time by returning farmers a price less than that was paid to the aggregator by the purchaser. The aggregator, therefore, earns a commission for the sale as well as interest from the loan to the farmer, thereby making the business model sustainable. In areas where proceeds from sales to the government are debited directly to the farmer’s account, farmers reportedly withdrew the amount owed to the aggregator from their bank accounts. News media have documented other means by which direct transfers from government to farmer are circumvented.²⁰

In general, these aggregators play a critical role in the paddy marketing ecosystem by making available capital unburdened by high transaction costs. They also perform valuable logistical functions in transporting produce and navigating relationships with purchasers. Over time, these intermediaries accumulate large amounts of capital which allows them to buy influence from politicians and muscle to protect their business model and ensure payments are made. This opens a window to unscrupulous behavior such as charging excessive interest rates or reducing more money from harvest proceeds than agreed upon. The prevalence of such behavior is unknown and difficult to ascertain. Since farmers and aggregators live in the same social milieu, we speculate that other types of power dynamics, particularly those of caste, are likely to shape their interactions.

¹⁹ S.S. Acharya and N.L. Agarwal, *Agricultural Marketing in India*, 6th ed. (New Delhi: Oxford IBH, 2016).

²⁰ Sruthisagar Yamunan, “In Punjab, Farmers Angry with System of Commission Agents Find Hope in AAP’s Manifesto,” *Scroll.in*, February 2, 2017, <https://scroll.in/article/828159/in-punjab-farmers-angry-with-system-of-commission-agents-find-hope-in-aaps-manifesto>.

The second level of intermediation involves millers and exporters as the rice makes its way from aggregator to primary wholesale market. Millers shell the paddy to produce rice and byproducts such as bran that are sold on the open market. Millers must negotiate two tasks efficiently to run a profitable business: the procurement of paddy and the sale of rice. They are exposed to regulatory risks and uncertainty in both tasks. In the first instance, the sheer variety of local regulation gives some millers an advantage over others. Some millers are permitted to buy paddy directly from farmers, which allows them to vertically integrate operations by bypassing aggregators. Other millers are only allowed to procure in government sanctioned mandis from licensed aggregators. A miller from a district in Uttar Pradesh where this is the case called for such laws to be amended as he lost 2.5 percent of his revenue to aggregators while millers 20 kilometers away did not face the same cost. In sharp contrast, a miller from Gorakhpur, where paddy can be purchased directly from the farmer, claimed to have a network of several thousand farmers for procurement.²¹ In some cases, the lines are fuzzy, with aggregators registering independent milling companies (which serves as another example of vertical integration). These varied configurations create an uneven playing field and leave little room for the transmission of revenue back to the farm.

The second task inherent to milling, the sale of rice, has been a long-standing cause for complaint for millers. Milling government procured paddy for the state government or the Food Corporation of India is seen as a loss-making exercise as the rate paid to millers has not kept up with input costs for new equipment, labor and electricity among others. A common complaint is that millers are required to generate 67 percent rice for every ton of paddy (in Uttar Pradesh); the actual rate of conversion is often lower than the government mandated threshold due to faulty farming practices, poor seed quality (particularly in states where farms are small and adoption of best practices is low), or pilferage for which millers are penalized.²² It must be noted, however, that the complaints flow both ways, as illustrated in a determined indictment of millers involved in public procurement by the Comptroller and Auditor General of India.²³ Millers are also buffeted by competition, with the emergence of several modern mills with higher capacity and efficiency as well as cross-border competition between millers in adjacent states to procure paddy from cheaper mandis so as to increase margins. Caught between regulatory strictures and increased competition, millers look to both export markets and profitable non-government sales to make margins and stay competitive. As one miller lamented, 'It's just not a miller's market'. Seen from a broader perspective, this is in large part because millers are the first point of regulation in agricultural marketing. Exporters face similar worries, contending with fluctuating demand from large non-basmati importers, seen above, and strenuous competition from major exporters like Thailand and Vietnam.

²¹ It is difficult to tell whether bypassing the aggregator can decrease costs for the miller since maintaining a wide network of farmers to procure from comes with several managerial and logistical costs.

²² Insights from field interviews and Workshop on Rice Trade between India Bangladesh and Nepal at the India International Center, New Delhi. For a sampling of issues faced by millers see: Keshav Agarwal, "4000 Rice Mills to Close Shop from October 16," *The Times of India*, October 10, 2016, <https://timesofindia.indiatimes.com/city/bareilly/4000-rice-mills-to-close-shop-from-october-16/articleshow/54768756.cms>. and P. Ram Mohan, "Rice Mills in Doldrums," *The Hindu*, November 21, 2015, sec. Telangana, <https://www.thehindu.com/news/national/telangana/rice-mills-in-doldrums/article7902935.ece>.

²³ Comptroller and Auditor General of India, "Delivery of Rice by Rice Millers to FCI/SGAs," Performance Audit Report on Procurement and Milling of Paddy for the Central Pool, 2015, https://cag.gov.in/sites/default/files/audit_report_files/Union_Performance_Procurement_Milling_of_Paddy_Central_Pool_31_2015_chap_6.pdf.

Each of the three cogs in the rice marketing machine – the aggregator, miller and exporter – are best seen as businesses functioning in competitive landscapes, where capital accumulated can yield exponentially higher growth. Any regulatory efforts to distribute their margins to farmers will, therefore, be met with resistance and attempts at subversion. For exports to play a significant role in increasing farmer incomes, a new type of regulatory thinking that recognizes incentives and vulnerabilities of each layer of intermediation before acting upon them is required.

3 Export Policy is the Wrong Lever to Regulate Virtual Water Exports

Rice is among the most water-intensive crops grown in India, with paddy consuming 2.85 million liters of water/ton produced and milled rice consuming 3.70 million liters/ton.²⁴ For scale, India exported 12.7 million tons of rice in 2017-18. An analysis of India's virtual water exports found that net water exports alone can lead to the loss of water sustainability in India within a span of 300 years, with water embedded in food grain exports such as rice playing a predominant role.²⁵ Regulating the quantum of water-intensive non-basmati rice exports, however, is not a viable solution because of the disconnect between production and export.

Indian non-basmati rice exports, which account for over two-thirds of rice exports and more water intensive per ton than basmati, are a product of intensification efforts that stretch back half a century. As production grew, export policy began to be seen as a useful tool to depressurize the domestic market and maintain prices that protect farmers. India's non-basmati exports do not stem from a systematic policy of augmenting exports, but from surpluses generated by policy once designed to address food insecurity. Little of the non-basmati paddy on farms today is being grown with the direct intention of exporting it in the coming marketing season. Viewed from the farm level, the farmer bears no agency in promoting or curtailing exports; exports are an incidental outcome that arises from domestic and external pricing information upon which millers and exporters act. Export volumes change every year, as seen earlier in this report, without farmer's knowing or responding to movements in international markets.

The policy architecture of intensification that eventually permitted exports stems from political decisions rooted in an increasingly competitive multi-party electoral space from the 1970s onwards. The architecture was created by several successive governments at the central and state levels and managed to attain stronger food security for India. The key instruments used were: the adoption of high-yielding seed varieties; an effort to make water availability more consistent year-round by building irrigation infrastructure and creating a permissive policy environment for groundwater extraction; providing electricity subsidies; increasing cropping intensity; and financial incentives in the form of input subsidies and output price policies.²⁶ These instruments, particularly those pertaining to pricing, free water and cheap electricity were, and are, central to the relationship between Indian politics and the agricultural classes.

Indian politics experienced a structural change in the 1990s, when coalition politics became the key to retaining power at the center and state level politics became more competitive with the rise of ethnic, linguistic and regional parties that challenged the dominance of the Congress, hitherto the dominant party nationally and in most states. The rise in electoral competition had a marked effect on agricultural policy, which was seen as an effective way of building political capital with the influential and numerically large vote base of the agricultural

²⁴ A. Y. Hoekstra and A. K. Chapagain, "Water Footprints of Nations: Water Use by People as a Function of Their Consumption Pattern," *Water Resources Management* 21, no. 1 (December 27, 2006): 35–48, <https://doi.org/10.1007/s11269-006-9039-x>.

²⁵ Prashant Goswami and Shiv Narayan Nishad, "Virtual Water Trade and Time Scales for Loss of Water Sustainability: A Comparative Regional Analysis," *Nature Scientific Reports* 5 (March 20, 2015): 9306, <https://doi.org/10.1038/srep09306>.

²⁶ Shikha Jha, P.V. Srinivasan, and Maurice Landes, "Indian Wheat and Rice Sector Policies and the Implications of Reform," *Economic Research Report* (United States Department of Agriculture, May 2007), <https://ageconsearch.umn.edu/bitstream/6386/2/er070041.pdf>.

sector. An illustration of this is seen in the fact that between 1994-95 and 2001-02, the government announced MSPs higher than the recommendation of the Commission on Agricultural Costs and Prices (CACP) four out of seven times for rice and five out of seven times for wheat.²⁷ The CACP's annual recommendations are the best indication of the true production cost (including variable input costs, land rentals, value of family labor and returns to management).

Take subsidies in agricultural use of electricity, for instance. Dubash and Rajan (2001), in a study on the role of politics in power sector reforms, find that increased competition between political parties at the state level led to a series of cascading power subsidies to farms across the states of India, starting with Andhra Pradesh in 1977 and spilling over to Tamil Nadu soon thereafter. They note that 'political leaders...began to view the entitlement per se as a remarkably effective political device, in part because of the growing political power of backward rural communities and the rise of a middle-class farmers' movement.'²⁸ Farm-level power subsidies have played a central role in the falling ground water levels and water wastage in several agriculturally reliant parts of the country, just as the price signals emanating from the MSP incentivized the production of water-intensive grains such as rice in the quest for food security.

Any policy designed to address the water intensity of grain exports quickly enters complicated policy territory that spans multiple jurisdictions (the central government and each of the major rice producing states) and reaches into the core of Indian politics. The theoretical appeal of export curtailment quickly crumbles when one begins to imagine the multi-scalar political backlash that is likely to ensue. The degrees of navigational difficulty in driving such a policy are high.

The theoretical appeal of virtual water export curtailment through "sustainable" input pricing also crumbles when one begins to imagine the political backlash in a country where the core of politics is still the farm. Any change in input prices, subsidies, and access to free water either thins margins further or impacts the output. Already squeezed to the limit, the average farmer will seek political recourse. This would be the wrong place to start such a transformational idea.

There are, however, two key principles that could guide the discussion on improving the terms of virtual water trade. First, it will require a decentralized policy response that mirrors the effort that went into creating India's massive rice economy today. Central and state governments will have to roll out, in concert, products, systems and incentives to reduce the water intensity of rice production, ranging from better seed technology to innovative direct benefit transfer techniques already being piloted in Punjab. This has been the subject of several reports and committees guided by experts in the area and there is little left to be said in these pages.

Second, better regional connectivity in South Asia could decrease the impact of virtual water exports in water-stressed regions and promote export-oriented cultivation in areas where longer-term water security is not as threatened. India's northeast has more freshwater per capita than the rest of the country and has a culture of rice cultivation and consumption. It also borders Bangladesh, occasionally one of India's largest rice importers. Improving its connectivity to Bangladesh (particularly Dhaka) by road and rail, as well as Bangladeshi and

²⁷ Shikha Jha, P.V. Srinivasan, and Maurice Landes, 5.

²⁸ Navroz K. Dubash and Sudhir C. Rajan, "Power Politics: Process of Power Sector Reform in India," *Economic and Political Weekly* 36, no. 35 (September 1, 2001): 3367–87, 3389–90.

eastern Indian ports could have net positive consequences for India's embedded water exports. Connectivity plans being discussed under the banners of BBIN and BIMSTEC could lessen the impact of virtual water exports.

4 Improved Trade and Connectivity Stands to Help

Problems associated with intra-regional trade in South Asia apply to rice just as they apply to other products and commodities. From our current research and similar studies undertaken in the past, some of the long-standing, cost-escalating factors in South Asian cross-border trade we would like to highlight are: 1) lack of port-level (or customs point) infrastructure (mainly parking bays, access roads, integrated custom facilities and IT infrastructure) causing delays and other price escalating inefficiencies; 2) weak implementation of digitization and harmonization of permits and approvals resulting in high paper-work burden; 3) lack of mutual recognition agreements on quality testing and standards resulting in duplication of tests and certifications; and 4) border-level cartels and rent-seeking behaviors resulting in higher transportation and handling costs.

While these are factors that affect the cost of trade across the board, the cross-border trade of rice has its own set of cost-escalating factors, which we discuss below:

Unstable tariff regimes. Rice traders in India, Bangladesh and Nepal have to hedge against extreme volatility in tariff structures. India has a steady but prohibitive import tariff of 70 percent; neither Nepali nor Bangladeshi exporters are able to export to India. Nepal's import tariff has been steady for the last three years at 5 percent but there was intense lobbying by farmers in the runup to FY 18-19 budget to raise it to 10 percent, indicating that Nepal's tariff structure too remains subject to domestic output levels. Bangladesh, on the other hand, uses import duty to closely balance domestic demand and supply and has the most volatile tariff regime. In June 2017, Bangladesh applied 10 percent duty on imported rice. After the floods in August, the import duty came down to 2 percent and by June 2018 it climbed up to 25 percent. Volatile or prohibitive import duties, in the end, makes rice more expensive for all. Rice traders tend to hedge against this volatility at the pricing stage itself. Higher export prices and sudden changes in import tariffs tend to disrupt domestic prices as well, particularly in the border regions where informal trade thrives.

Unreliable demand signals. Unstable tariff regimes as well as other variables such as unreliable domestic output projections end up distorting demand signals for traders. Among India, Nepal and Bangladesh, we have a curious mix of one perpetual importer (Nepal), one perpetual exporter (India) and one seasonal importer as well as seasonal exporter (Bangladesh). This mixture makes the trade volume (among three countries) unpredictable. For instance, in the case of non-basmati varieties, which are predominantly consumed by the region's poor, Nepal has imported an average of about 500,000 tons over the last 5 years though annual variations of about 100-150,000 tons is routine. When it comes to Bangladesh, import figures can swing from 1.2 million tons (2015-16) to 325,000 tons (2016-17) on a year-on-year basis. These fluctuations are a result of gaps between projected domestic output and actual output as well as corresponding tariff responses taken by importers. The net result is that exporters rarely get reliable demand signals, which leads to speculation that, in turn, leads to price volatility. Rice producing border-regions in all three countries plunge into scarcity and glut several times a year as a result.

NTB-induced losses, demurrages and risks. Rice is not classified as perishable commodity for customs handling purposes in South Asian sea and land ports, which mean delays in processing are "permissible" by procedure. Coupled with other delay-inducing elements such as poor infrastructure, transport cartels, security inspection, lab tests and certifications, consignments

of rice can take anywhere between 3-20 days, 10-12 days in India-Bangladesh and 3-5 days in India-Nepal trade being common. Consignments remain exposed to elements all this while, risking rain, pest infestations, spores, infections and humidity. These potential losses and demurrages amount to around \$35 per truck, per day. Such avoidable costs of trade also end up affecting retail prices in importing countries.

Beyond these factors, when we look at the opportunities for reform in trade facilitation infrastructure and institutions, structural factors immediately stand out. In particular, we would like to highlight the following four:

Border agencies operate with limited authority. At border points, government officials have limited authority to change or add to existing procedures. Policies and budgets are determined at the central government level, and border officials lack control over policy implementation and budget allocations. Individual officials are reluctant to take reform initiatives on their own accord. Any change in procedure must be approved at a supervisory level, often away from the border posts. As a result, a simple step such as setting up a separate queue for women traders must necessarily be shared with higher authorities and approved before it is put in place. Without formal or even informal delegation of authority to the border level, change and reform will only take place at a slow pace.

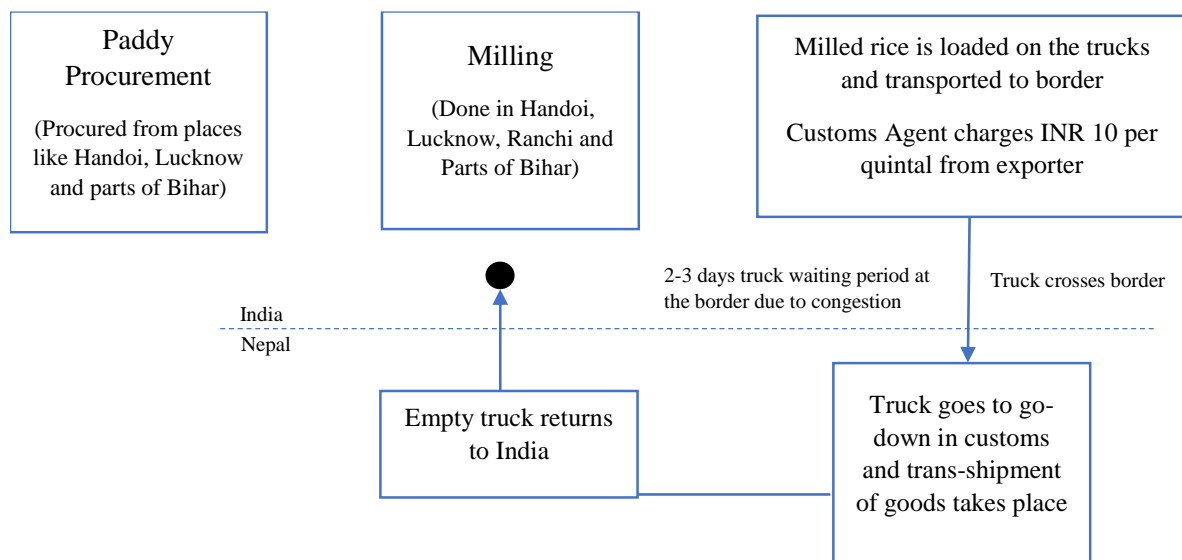


Figure 4 India-Nepal rice trade through Sunauli border

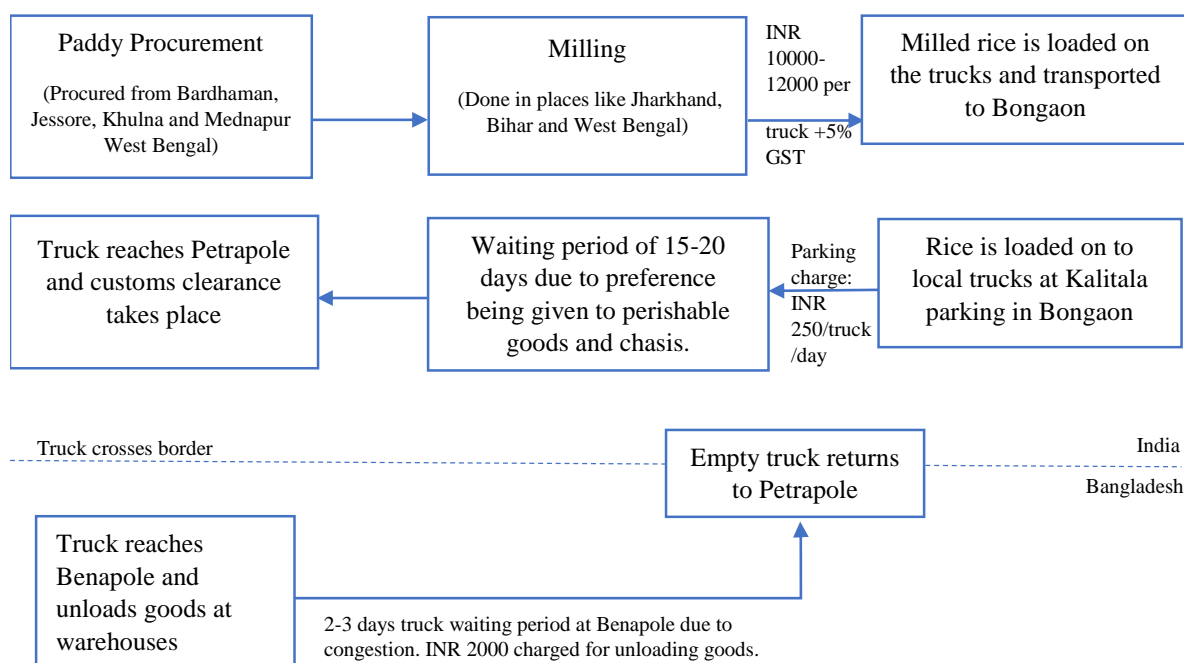


Figure 5 India-Bangladesh rice trade through Petrapole-Benapole border

Figure 4 and 5²⁹: A key difference between the two border-crossings is volume-generated chaos and lack of infrastructure, particularly, road width and parking facilities at Benapole-Petrapole (figure 4), where the processing time is much longer (15-12 days) compared to Sunauli (2-3 days) (figure 5).

Capacity of border agencies needs an upgrade. All three countries are signatory to a number of regional and global trade agreements and have instituted dedicated units in commerce and customs departments to improve performance on trade facilitation. Higher level bureaucrats and ministry officials have a comprehensive grasp of the investments and other interventions required to improve trade facilitation performance. As one goes down the hierarchy, both knowledge and capacity appears to dissipate quickly. At the border points, beyond routine application of procedure and operational functions, agency officials are unable to demonstrate much understanding of the objectives of trade facilitation measures or the linkages between procedures and cost of trade. When we asked border officials, for instance, how many departmental trainings they receive in a typical year, apart from those related to digitization, officials who form the backbone of customer interface said none. A lot of the new instructions come in the form of internal circulars that revolve entirely around procedural issues. This lack of investment in capacity building clearly shows in the every-day functioning of the border agencies.

Local voices for reform stay local. Whether in the media, political parties, civil society organizations, business associations or government agencies, the internal hierarchy of organizations tend to marginalize voices and opinions emanating from the out posts. Policy processes in South Asia operate with minimal consultations even at the centre; the ability to influence policy decreases further as one moves away from the centre. As a result, there is an underlying tension between the centre and the local, and more often than not policies designed in South Asia's national capitals tend to miss ground level realities routinely. This

²⁹ Figures 4 and 5 are produced by our research partner BRIEF India. An unpublished version of the field report can be obtained from BRIEF India: afaq@briefindia.com

breakdown of feedback loop in policy process needs to be corrected if implementation of reforms is to be improved.

Geopolitical mood swings affect trade. Relations among India, Nepal and Bangladesh keep going through ups and downs. As we have mentioned in an earlier section, relations between India and Nepal took a down turn in 2015 significantly affecting cross-border trade and retail prices in Nepal. India-Bangladesh trade has not been immune to this and there have been instances where geopolitics rather than economics has governed cross-border trade between the two countries. In this region, geopolitics remains a significant factor in keeping tariff structures unstable.

Cost of trade of essential food grains has significant food security implications for importing countries such as Nepal and Bangladesh where subsidized, low-cost food grain distribution systems are not as effective as those in India. Lower costs of trade stand to benefit exporters in India as well. Some of the profit may eventually percolate down to the farms.

Though all three countries are signatories to South Asia Free Trade Agreement (SAFTA) and World Trade Organization (WTO), all three countries manage to manipulate tariff structures largely in the name of protecting farmers. We have discussed in an earlier section of this paper how the export pricing of rice does not have a significant impact on farm incomes or outputs as subsidies and other farm-level protections and marketing structures off-set the impacts of export price variations. At the importing end as well, the domestic shortfalls are not significant (normally) enough to fundamentally disrupt domestic prices and farm incomes. Coming from this reality, India lowering its current prohibitive levels of import duty, Nepal continuing to retain a stable tariff and Bangladesh abandoning the practice of calibrating tariff on a seasonal basis could help keep retail prices of rice marginally lower and improve access to nutrition to some extent.

5 Summary and Conclusions

Rice has been traded across the geographic expanse of South Asia for centuries. The essential practices and relationships that formed the core of this commerce still play a role in defining the political economy of rice trade between India, Nepal and Bangladesh. The advent of the modern states and globalized trade practices have, however, created a new layer of distortions. This layering of old and the new, of age-old social hierarchies and the imperatives of the democratic state, lies at the core of many phenomena described in these pages.

We have made the following points in this paper. First, the trade of non-basmati rice, our central focus, is less guided by the impulses of liberal trade than the exigencies of maintaining stable prices in domestic markets. When expedient, trade policy opens up new sources of demand for a surplus Indian market while allowing South Asian importers to contain inflation at home. This has important positive implications for the food security of the region. We find that the best explanatory variables for fluctuating trade volumes in the region are the vagaries of the weather, exchange rates and political relations. In the many instances of flood or drought induced demand for rice, we find that regional rice trade could play an important role in cushioning against the unpredictable precipitation patterns that come with climate change. This adds an urgency to resolving the trade distortions at border-crossings in the region.

Second, the deeply entrenched practices of commercial intermediaries in rice trade remain intact. Several layers of intermediation exist between the farmgate and the border, preventing the fair transmission of export revenues to the farmer. Each of these intermediaries – aggregators, commission agents, millers, exporters – are businesses seeking to grow capital by taking risks and reinvesting profits. This is in detriment to potential farmer income from exports.

Third, incremental increases in export barriers to rice are unlikely to resolve the sustainability issues that come with high levels of virtual water export. Exports are a function of decisions made by marketing intermediaries and fluctuate annually. Production decisions at the farm level are made independently of export signals. Rather than focus on exports, policy to regulate the amount of embedded water in rice exports must begin with decentralized technology, systems and incentives that reduce the water intensity of rice production in general. We sound a note of caution in stressing that any attempt to take away input subsidies for water that keep the farmer afloat, however, will be resisted with widespread, committed political zeal.

Fourth, in the near and intermediate-term, lowering the cost of trade will help lower consumer prices, particularly in Bangladesh and Nepal and perhaps improve access to nutrition in those countries. While improved trade facilitation measures will help, a key condition of lowering the cost of trade, however, is achieving stability in tariff rates. The exact impact of this policy option, however, needs to be studied further.

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