

SUSTAINABLE RICE INDUSTRY IN NEPAL: COMPARATIVE ANALYSIS WITH SOUTH ASIA

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ABSTRACT

Rice, a prime crop in Nepal and other South Asian nations, plays a crucial role in ensuring food security and socio-economic development. In Nepal's agricultural sector, rice accounts for the largest share of the Agricultural Gross Domestic Product (AGDP), comprising approximately 20%. However, the absence of appropriate policies poses a significant challenge to the sustainable production of rice in Nepal. This study aims to assess the various policy dimensions of the sustainable rice industry in Nepal and compare them with the policy implications in neighboring South Asian countries such as India, Pakistan, and Bangladesh. The study draws on secondary sources of information for its analysis. The findings reveal that Nepal lacks a comprehensive rice policy, while its existing agriculture policy is characterized by confusion and contradictions. To attain self-sufficiency in food production, it is imperative to establish a comprehensive rice policy in Nepal and implement price subsidies on diverse inputs, as observed in neighboring countries which will ultimately contribute to enhancing the sustainability of the rice industry and promote the goal of food self-sufficiency in Nepal.

1. INTRODUCTION

South Asia region, home for about 25% of world's population but with hardly 2% of global income, faces several challenges to end hunger, ensure food security, promote sustainable agriculture, and achieve the Sustainable Development Goals (SDGs) by 2030. In South Asia, more than 50% of the 1.8 billion people engaged in agriculture is dominated by small, resource-poor farmers with an average holding size of less than 2 hectares. South Asia's development trajectory for poverty reduction and food security continues to rely on ways in which agricultural research and policy are supported and shaped, both nationally and regionally (World Bank, 2022).

Rice is a prime crop in Nepal and South Asian countries on the basis of food security and socio-economic prospectus. Increased rice production is key to achieving food security, reducing unemployment, increasing the income of farmers, and reducing poverty. The yield of rice and other major food crops in Nepal is the lowest among South Asian countries. However, there is a large potential to increase rice yields in Nepal. Increasing

rice production can solve this food-deficit problem and save millions of rupees now spent by the government every year in importing food grain. Various factors have accounted for this stagnation in yield: small and fragmented land holdings, lack of irrigation facilities, accessibility to marketing and purchasing of inputs, appropriate technology, and land degradation. Among the various factors responsible for sustainable rice industry in Nepal, policy implication might be a crucial but an underlooked factor. And there haven't been many policy reviews pertaining to the rice sub-sector. It has been necessary to identify the key challenges and opportunities in achieving a sustainable rice industry in Nepal by comparing its status with other South Asian countries to suggest policy interventions and strategies that can enhance food security, environmental conservation and economic growth. This study was conducted with the objective to analyze the different policy dimensions of sustainable rice industry in Nepal with comparative policy implications of South Asian countries.

2. MATERIALS AND METHODS

This paper is based on the review of secondary sources. Agricultural policies of Nepal and three South Asian countries namely: India, Bangladesh and Pakistan were reviewed. Published reports, documents, articles of government of Nepal and other national and international organizations served as the sources of information.

2.1 Theoretical framework of rice industry

Rice has political, economic, and social significance for almost all countries in Asia. Millions of farmers depend on rice production for their livelihoods. Since peoples' livelihoods are tightly linked with rice production, sustainable rice production is considered as a way to achieve sustainable livelihoods, which leads to sustainable economic development. Therefore, rice technologies and policies that provide adequate income for rice producers are needed to achieve sustainability

in the rice sector, particularly in less developed rice producing countries.

Sustainable rice industry interlinks economic, ecological and social activities of farmers and the distribution of resources. It may be based on one activity (growing rice), but it may include other activities that do not conflict with respect to labor requirements, use of land area or use of other resources (Sharma *et al.*, 1991). In this conceptual framework sustainable rice industry would be possible if economic activity would be profitable and productive, ecology would be balanced by climate change and biological activities, like soil, water, etc. and these activities are socially and culturally accepted by rice farmers. This concept is more related to the sustainable farming system, which is an organizational structure that interlinks the various activities of farmers and the distribution of resources.

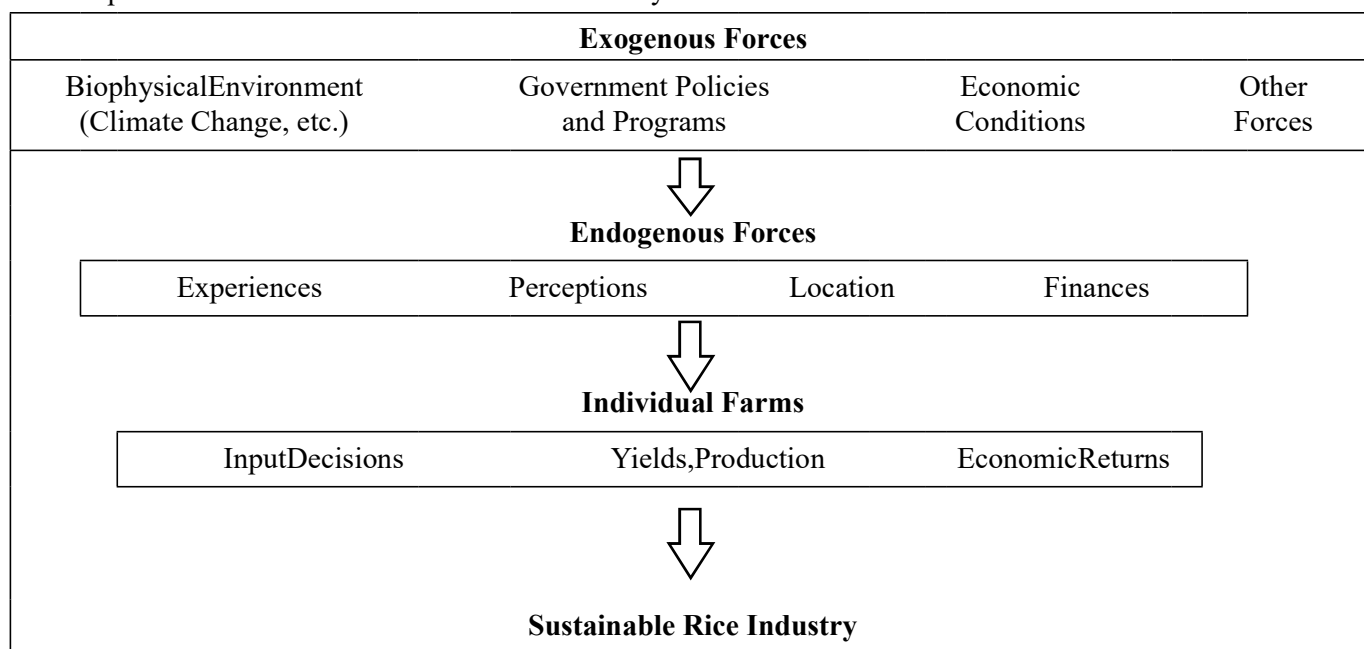


Figure 1. Exogenous and Endogenous Forces in Sustainable Rice Industry in Nepal, Adopted: Smit *et al.*, 1996

Sustainable rice industry in Nepal is influenced by many exogenous and endogenous forces (Figure 1). Exogenous forces, those beyond the control of the farmers, have a major influence on each agro-ecological region in Nepal. These forces include the biophysical environment, government policy, and economic conditions. The endogenous forces are those that farmers have some control over. They include the farmer's experience, perceptions, location of the farm, and finance. Combining these forces results in a vast array of individual farm decisions, and when

the results of each farm are combined, this leads to the agro-ecological regional agriculture system. The rice farming system is also part of a broader agri-food system, whereby modern commercial agriculture is one stage in a food production process linking farmers and consumers via a system of processors, distributors and retailers. The agri-food system is both complex and differentiated across the agro-ecological regions of Nepal, with some regions more dependent upon rice and other major food crop production, particularly in the plain and hilly regions; however, the mountain

region is more diversified into livestock production and/or value added processing.

3. RESULTS AND DISCUSSION

3.1. Development of rice and food policy in nepal

Nepal started its planned agricultural programs in 1950 with the initiation of the Tribhuvan village development program. This sector has also received priority in periodic plans and various agricultural policies, plans and guidelines. However, here is no separate rice policy. The major policies affecting rice are as follows:

3.1.1. The agriculture perspective plan (APP)

Nepal adopted the 20-years Agriculture Perspective Plan (APP) as a guiding strategy for the overall agricultural development of the country. The APP (1995—2015) emphasizes a few priority inputs, outputs and outcomes. Liberalization, deregulation and devolution are central to the policy regime that is aligned with the larger participation of multiple actors in service provisioning.

3.1.2. National agriculture policy 2004 and other sectoral policies

The Government of Nepal (then HMG) implemented a National Agricultural Policy in 2004 as an umbrella policy of all other agriculture related policies of the country. Within the greater framework of the National Agriculture Policy of 2004 other necessary commodity policies were also formulated to create a better commercial farming environment. All these policies attempt to create favourable and sustainable growth and a competitive environment for commercial farming including rice, thus supporting export promotion and import substitution. However, none of these policies mentioned clearly about the rice policy.

3.1.3. Periodic plans

Agriculture received top priority from the very beginning of periodic plans. However, in recent periodic plans social sectors and infrastructure are provided more priority than the agriculture sector. The fifteenth periodic plan focus on defining farmers and emphasising financial incentives, production based incentives and social protection programmes. It spells out to incentivize production and export of agricultural goods, mobilize concessional loan to increase investment in agriculture, provide tariff protection to domestic products to increase their consumption. It also spells to fix minimum support prices of specific crops and products and expand credit and insurance services (NPC, 2020).

3.1.4. Agriculture development strategy, ADS (2015-2035)

Government of Nepal approved ADS as a 20-year vision for the agriculture development in Nepal. The strategy envisions to increase the access to quality and timely inputs by introducing voucher system in inputs, and increase access to microfinance and agricultural insurance. It focuses on tax policy that supports an efficient commercial agriculture sector. A new concept of warehouse receipt envisaged in ADS can help the farmers for the storage of their produce, fetch better price of their produce and to obtain the credit facilities on the guarantee of the stored produce (ADS, 2015).

Nepal liberalized most extensively during the 1980s and with continuity in the 1990s on both fronts, domestic and internationally. Nepal has the lowest tariffs in South Asia and has taken several steps to downsize its public distribution system and remove a host of agricultural subsidies. This twin scenario where the lowest per capita income country is perhaps also the most liberalized makes for an interesting case for policy analysis.

3.1.5. Rice inputs and price policies

In Nepal, there is no crop-specific policy on credit. In order to make it more productive and effective, it is felt that proper attention needs to be paid to integrating agricultural credit with farming needs. There is a provision of subsidized agricultural loan (with or without collateral) upto ten crore rupees as per “Unified Manual Related to Interest Subsidy for Concessional Loan, 2018” (NRB, 2021). The government provides price subsidies on urea, DAP and MOP fertilizer sales. The prices of fertilizer are fixed by the government considering the landed cost of fertilizer at entry points, amount of subsidy allocation, prices of fertilizer across the border in India, and anticipated farmer reaction (APP, 1995). Fertilizer prices in Nepal are maintained at a level that is about 15 to 20% higher than in India to prevent smuggling of subsidized fertilizer to India.

As per the fertilizer use pattern of farmers, the estimated demand of the fertilizer is about 5,20,000 mt. If recommended doses of fertilizer is assumed, the actual need of fertilizer seems about 7,00,000 mt. However, in fiscal year 2020/2021, the annual sale was only 379,152 mt (MoALD, 2022). In this regard, there is a huge gap between the demand and the supply of chemical fertilizers. Inadequate and untimely availability and ineffective distribution becomes the major issue every year. Agriculture Input Company Limited (AICL)

and Salt Trading Company Limited (STCL) has been entrusted to procure and distribute subsidized fertilizer across the country. However, the fertilizer subsidy policy is a complex issue in Nepal. First, the Indian border price exerts a big influence on setting a fertilizer price policy in Nepal because of the long and open border. Second, the fiscal burden which the current subsidy places on the government is very high and it constrains fertilizer use. The quantity imported is basically dictated by the financing set by the government.

3.1.5.1. Minimum domestic support price

The government began to announce minimum support prices for rice and wheat in 1976/77, with Nepal Food Corporation (NFC) (now, Food Management and Trading Company Limited) acting as the agency responsible for implementing the farm support price policy. The prices are fixed on the basis of the cost of production and a reasonable profit margin for farmers, food grain production levels and market prices in major producing areas, market prices in Indian border markets, and Indian support prices. The support price policy has not been implemented effectively in Nepal for several reasons. First, support prices are, in most cases, announced at harvest time or later, which precludes any possible impact from decisions by producers. Second, because the prices have usually been lower than the market prices they do not provide any incentive for farmers to increase production. Finally, financial and other constraints on Food Management and Trading Company Limited have resulted in ineffective enforcement of announced support prices. In addition to FMTCL, Prime Minister Agriculture Modernization Project (PMAMP), Project Implementation Units have also been utilized for the enforcement of announced MSP of rice.

The border with India and the relatively large markets of bordering Indian States limit the effectiveness of any output price support policy adopted in Nepal. Nepal can buy from, or sell to, the Indian market without affecting Indian prices. Moreover, the prices in India affect Nepalese domestic prices every year. The output prices in Nepal in such a situation are equal to the Indian border prices plus or minus transportation and transaction costs. Therefore, prices in Nepal can be controlled with price policy instruments only within upper and lower bounds defined by transport and transaction costs. In an effort to rationalize tariffs, tariff rates have been reduced from 87 to 8 basic rates. In addition, the maximum rates have also been lowered. Like previous years, currently

the government announces the support price prior to planting the rice crop (MoALD, 2021).

3.1.5.2. Trade policy of rice export and import

Marketing of rice is done as per the provision of free market policy. Price is determined by the free market behaviour. As a primary agricultural product, rice is exported and imported to and from India according to the bilateral preferential trading arrangement of Indo-Nepal trade. No any tariff is applied in all primary agricultural products. But Nepal is levying around 5% tax as agricultural improvement tax for all these agri-products (ITA, 2021).

Nepal's current average applied tariff rate for agricultural products for other countries is 14%, but the average bound tariff rate for agricultural products permitted for Nepal in WTO is 42%. The permitted tariff rates are different in multilateral, regional and bilateral trading regimes. In the SAFTA and BIMSTEC, the tariff rates are set as 0-5% for most of the products, but there are amazingly high numbers of products in the sensitive list of each member. Nepal has 1257 products for other LDCs and 1295 products for Non-LDCS members in sensitive list. By this complex provision of sensitive list in both SAFTA and BIMSTEC, there is no considerable trade between and among their members on these provisions. Thus, attempt has been made to lower the sensitive list. In spite of the provisions in regional trading regimes, Nepal has plenty of scope in WTO provisions to increase its tariffs for imported agricultural products for the protection of domestic producers. But being food importing country, raising the tariff rate of rice will only raise its consumer price in the domestic market.

3.2. Comparative analysis of rice policies between Nepal and other South asian countries

The comparison of rice policy of Nepal and neighbouring South Asian countries (India, Bangladesh and Pakistan) is presented in Table 1 and is explained separately in paragraphs.

3.2.1. India

India's food grain sector turned perennially large deficits into large surpluses after its independence in 1947. During the 1960s and 70s, the turnaround was achieved through rapid gains in yields combined with policies that balanced producer and consumer interest. After the 1990s, growth in yields and consumption slowed and government policy sought to sustain progress by

Table 1. Comparison of Rice Policies between Nepal and Other South Asian Countries.

Rice Policy Related Issues	Bangladesh	India	Nepal	Pakistan
Rice Policy	Yes	Yes	Not specific	Yes
Minimum Support Price	Yes	Yes	Yes, but less effective	Yes
Development Authority	Bangladesh Rice Foundation	Commission of Agriculture	Food Management and Trading Company Limited (Formerly: Nepal Food Corporation)	Rice Exporters Association
Input Subsidies	Effective Production subsidy	Production subsidy	Not effective and very less	Production subsidy
Trade Policy	Mostly Protected	Mostly Protected	Mostly Liberalized	Mostly Protected

Source: Pyakuryal, 2005; MOICS, 2022

increasing producer support and improving the targeting of food subsidies to low income consumers. By 2000, the Government confronted with combination of high domestic prices, declining per capita consumption, record grain surpluses and soaring budgetary costs. By 2006, lower prices, weak yield growth, and rising subsidized distribution led to the re-emergence of substantial food deficits (Jha *et al.*, 2007).

The domestic trade policy of India is governed by the Essential Commodities Act of 1995 that gives the government the right to restrict the holding of cereals by the private sector and to restrict the movement of cereals across provinces. The Indian government has been providing subsidies to farmers for inputs such as fertilizers, power, irrigation water, agricultural loans and technology.

The distribution of rice to consumers is made under the provision of the Public Distribution System of India, through which affordable prices are maintained through the Fair Price Shops (FPS). Rice is issued by the central government at the uniform central issue price (CIP) across the country for distribution of rice under the provision of the ‘Targeted Public Distribution System (TPDS)’ of 1997.

To maintain inter year price stability, the Indian government has been carrying out a buffer stock scheme for food grains. The Indian government established a Commission on Agricultural Costs and Prices in 1965 to suggest the minimum support price (MSP)

for some important crops. The minimum support price of rice is declared each year at the recommendation of the Commission of Agricultural Cost and Prices (CACP). As per the provision of MSP policy, the Food Corporation of India buys the rice from farmers if the farmers cannot get the minimum support price from traders (Radhakrishna and Indrakant, 2004).

3.2.2. Bangladesh

The rice farming and production system in Bangladesh is facilitated by ‘The Bangladesh Rice Foundation (BRF),’ which is a non-stock, non-profit, private organization established in 2002 to enhance and sustain the well-being of all value chain actors the producers, workers, processors, traders and consumers through research, advocacy, and dissemination of research-based information in areas related to policies on rice. BRF also recognizes the importance of preserving the rich national culture and heritage associated with rice and promoting the associated traditions and values (UNDP, 2005).

The Board of Trustees of the Bangladesh Rice Foundation (BRF) devotes time to formulating the working strategy and identifying the programmatic thrusts of the Foundation. Consistent with the mission and objectives of BRF, activities of the Foundation fall within the research, communication and advocacy, and awareness and promotion of culture and tradition are three broad program categories.

To financially help the farmers by solving the issue of low paddy prices during harvest season and ensuring rice stockpiles for the Public Food Grain Distribution System (PFDS), the government announces a minimum support price at the time of harvest (Islam *et al.*, 2023). The Government procured 37.57 percent of the targeted amount in 2020. After harvest, majority of farmers sell their rice within two months of harvest primarily to middlemen for practical reasons such as urge for cash for loan repayment as well as lack of confidence and awareness about current paddy procurement system. About two third of paddy growers are unhappy on the present procurement system due to disturbance of the middlemen and delayed payment (Rahman *et al.*, 2021).

Increased labor cost due to labor shortage during peak transplanting time and harvesting time, and increased irrigation cost are the major factor for increased cost of production of rice in Bangladesh. In addition to this, the pattern of paddy price during peak harvest has been unpredictable over the years 2009-2020 resulting in the reduced profitability. This has pushed the farmers to shift to non-rice agricultural commodities (Islam *et al.*, 2023).

3.2.3. Pakistan

For maintaining the goal of self-sufficiency and securing higher farmer income by ensuring price stability and increasing quality for the open competitive market, Pakistani government has formulated rice policy with various provisions. Since Pakistan is also one of the important rice producing country of the world, government has paid a great attention on different issues that affects commercial rice farming. Emphasis on agricultural price policy is an important and relatively a new phenomenon that the Pakistani government has adopted (ADB/N, 2004).

As most of the agricultural markets, rice market *also* suffers from the cobweb phenomenon where price fluctuations are caused by the time lag between making the decision to cultivate the crop and ultimate selling of the crop, Pakistani government has introduced the provision of minimum support price for rice crop to decrease the risk faced by farmers from fluctuating price.

4. CONCLUSION

Rice has been playing an important role in the Nepalese economy and food security. Nepal, previously rice exporting country, is now being a net importer of rice due to the two major reasons: the first slower increment in productivity of food crops but larger growth rate of population and the second is the uneven internal marketing and distribution system of food crops within the country. Nepal has opened up its trading market into the multilateral & global free and fair trading system. Since the major trading partner and closest neighbouring country India has been providing huge subsidy to producers, Nepal should also pay attention to provide the subsidy to the farmers so that they can compete in internal and external markets. Nepal has been supporting rice subsector through scattered agriculture policy and program instruments not specific for rice. Thus, Nepal does not have comprehensive rice policy so far. Crucial support on input subsidies including chemical fertilizers, credit facilities, announcement of minimum support price in time, its effective implementation in procurement, support for rice processing industries, etc. are inevitable in competitive and sustainable rice industry. Thus, formulation of separate rice policy and subsequent program instrument including these activities can help the rice subsector to grow and contribute to meet the national aspiration of self sufficiency in food grains.

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