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India: Colonialism, Government, and the Exploitation of Indian Farmers; Governmental Policy Support for Cultivators.

India is a South Asian country that occupies 3,287,263 sq km and lies on a peninsula surrounded by China and Nepal to the North, the Indian Ocean to the South, the Bay of Bengal, Bangladesh, Myanmar and Bhutan to the East, and the Arabian Sea and Pakistan to the West (India - The World Factbook, 2021). This peninsula and the created state have played a vital role in the historical development of agricultural practices. Historically, the Indus River Valley Civilization dramatically changed the population from hunter-gatherers to agriculturalists who domesticated seeds for human use. Later civilizations created complex irrigation systems to help plants grow and increase prosperity (Mulage, B.S., 2017). The growth of the British Empire started the long process of commercialization of Indian agriculture, leading to today's modern reforms that have led to agribusiness gaining more control over farming. Throughout this period, we have seen an alarming deterioration in the rights and roles that farmers play in developing, growing, consuming and selling their final products. This situation has created great anger and has manifested itself in the recent protests by thousands of farmers blocking the streets of India (The Economist, 2021). Government reforms that prioritize the roles of farmers in agriculture may create a viable path forward to success and reconciliation for the many people who rely on farming as their livelihood.

An Indian family is an institution, an invaluable source of structure in the country. The family plays a vital role in the lives of its citizens. Typically, families live jointly, with three or more generations residing together, creating stability, safety, and strength that has lasted for centuries. Women are usually in charge of domestic tasks and typically take on the responsibility of purchasing and cooking food (Chadda, R. K., & Deb, K. S., 2013). Men are usually tasked with working outside of the house, whether on a farm or in jobs in the cities. Food is usually purchased from local grocers and markets with vegetables and meats being sold in open markets and other staples sold elsewhere. This food is then cooked on inefficient stoves that are used by about 60% of the Indian population, contributing to 25% of the air pollution in India (Clean Cooking Alliance, n.d). Serious differences arise in food consumption and family dynamics between urban and rural areas in India. Typically, families in rural areas are slightly larger than their urban counterparts (Census of India, 2001). Class and location play an outsized role in purchasing and eating habits. The richest Indians consume greater than 3000 calories per day while the poorest consume 1645 calories per day, primarily cereals. The average family

consumes 47% of their diet through cereals, increasing up to 70% among poorer households. Proteins account for a low share of caloric intake almost across the board, with the poorest rural households consuming only about 6% of caloric intake through protein, which puts them at risk for malnourishment. In terms of fruits and vegetables, the pattern repeats itself with higher intake in rich urban households and lower in poor rural ones. Fat consumption is common among all groups. Processed foods are now a growing area of influence in India, the consumption of which is higher in urban households, accounting for about 30% of calorie intake compared to an average of 10% (Sharma, M., Kishore, A., Roy, D., & Joshi, K., 2020).

The Indian peninsula, ruled under multiple civilizations, periods, and governments has always had a strong agricultural system that has developed and evolved over hundreds and thousands of years. The first marked beginnings occurred in the Indus River Valley civilization, where organized agriculture allowed for humans to live in permanent settlements and create a more stable supply, moving to create complex and innovative irrigation systems that allowed for a diverse group of plants to grow. Throughout the Indus Valley civilization and subsequent civilizations, the creation of communally owned land allowed the use of land to be spread across many families and communities. The reverie around seeds and the culture that developed around those seeds came about over centuries, using precise seeding and harvesting techniques. The final crop harvest was usually consumed by the family or the village, with little or no outside markets or buyers. During the Chola period, however, plots began to be separated into individually owned plots, where families would plant and harvest on their own (Mulage, B.S., 2017).

The nineteenth and early twentieth centuries brought about the most change in India's agricultural system. Colonization by the British created massive increases in commercialization and cash crop production that met the needs of the Industrial Revolution in India. Many of the areas previously used for regular crops were occupied by cash crops that made India, and it's farmers, very susceptible to famine. These crops were grown with almost no profit to the producer and high profits for the British, as is seen today with India's agribusiness sector. Furthermore, the British forced land taxes on many Indian farmers, making a bad situation even worse for many. Colonization left farmers extremely vulnerable to exploitation. Many areas of land were taken hold of by 'magnate farmers' who were able to control large areas of land, often planted with grains or cash crops, that then reaped profits that were unrivaled by small farmers. Many of these 'magnate farmers' also brought in enormous margins by sharecropping to farmers who hardly took any profit and were exploited for extremely low-cost labor (Washbrook, D., 1994). These situations caused, and continually exacerbated famine and poverty for many poor Indians.

After India's independence, the effects of colonialism still lived on in India. Volatility in international markets have left many farmers susceptible to changes in demand for certain

products and can destroy the livelihood of small scale farmers in the process. Furthermore, through globalization processes, traditional seeds have been replaced by more expensive seeds supplied by technologically advanced core or developed countries, pushing farmers' financial situation into ruin. Vulnerabilities then caused by the decreased seed diversity push the need to invest in expensive fertilization infrastructure. This financial predicament, argued the author, has caused many suicides, especially in areas that are most attuned to the processes of globalization (Ali, 2002).

Currently, agrarian policies by the government have sought to deconstruct protections previously set by the government for farmers, including the dismantling of the use of a Minimum Support Price. This results in a market where farmers are forced to sell to a few large agribusiness corporations. Even when corporations set up contracts with sellers, farmers have no place to seek redress after a violation of the contract occurs. A Brookings article cites that these processes leave out vital antitrust protections for many farmers (Basu, 2021).

Although these policies affect farmers' financial situations, rates of malnutrition have been associated with these policies for rural areas, whose citizens depend on agriculture as a main source of income. Studies by the World Bank Economic Review have suggested that increases in income, coupled with other improvements, can have significant increases in food security (Haddad, L., Alderman, H., Appleton, S., Song, L., & Yohannes, Y. 2003). Research has also cited the correlation between agricultural prosperity, when distributed equitably, as a sign of decreasing malnutrition trends (Gulati, A., Kumar, A. G., Shreedhar, G., & Nandakumar, T.,2012). This begs the question; what can the Indian government do to protect farmers, increase their income, and increase their prosperity?

Large-scale agribusiness has been challenging for Indian farmers. Because of the role of a select few firms in the buying of agricultural commodities, concrete antitrust laws pertaining to buying of products need to be put in place. Seller protections should be developed within national legislatures pertaining to the role of monopsonies, (monopoly is to selling as monopsony is to buying) (Basu, K., 2021). Amendments to the 2002 Competition Act could outline actions against monopsonies and enforcement against violations. Any action to protect consumers will not completely limit buying power but allow for equitable prices and margin distribution.

Secondly, the minimum support price (MSP) system requires development beyond current standards to restore farmer trust in government systems. Minimum Support Prices are guaranteed by the government of India, and are set every year through recommendations by the Commission for Agricultural Costs and Prices, and fixed by the government before implementation. Criteria surrounding these prices includes a minimum of 50 percent margin over cost of production, and other wide-scale economic indicators (n.d.). However, the criteria does not include specific outlines on environmental sustainability or nutritional content. A report on the efficacy of MSPs

found large-scale support for the continuation of this program (94%) and cited the role it played in stabilizing prices and increasing use of modern technologies in farming (Development Monitoring and Evaluation Office Government of India, 2016). Due to the promise of these support prices, the need for fixing and expanding these services serves a vital role. Furthermore, minimum support prices should not be allowed to decrease to a point where no protection is given to sellers.

Minimum support prices are also heavily un-diversified, with the most common procurement crops being rice (paddy) and wheat, which, cited by a Times of India article, in comparison to other crops does not have significant nutritional value and causes significant environmental damage. The article also noted the regional disparities in use of the system; in Punjab more than 95% of cultivators benefit from MSP while in Uttar Pradesh a mere 3.6% do. This disparity was primarily created by effort, or lack thereof, by state governments (*Explained: Why Farmers Fear Losing MSP under New Laws*, 2020).

Taking into account support for the MSP system, and need for reform within the system, India's federal and state governments should implement these improvements. Primarily, the government should limit it's own ability to decrease prices to unreasonably low levels, as a Brookings article warns (Basu, 2021). Secondarily, through addition to CACP price determinants, increase and promote guaranteed minimum support prices (MSP) on nutritionally and environmentally efficient crops such as millet and sorghum, which provide high amounts of a lacking nutrients including protein. Substituting these crops could decrease India's climate footprint, while retaining caloric output and not requiring land that many small-scale farmers do not have access to (Davis et al., 2019, p. 1). Furthermore, when substituted for paddy, sorghum has shown to decrease water usage and increase nutritional supply (Davis et al., 2018). Simultaneously, production costs of sorghum for farmers would be similar to wheat with costs of 1190 rs/100kg for sorghum (Centre for Agriculture and Rural Development Studies, 2015) and 1147 rs/100kg for wheat (Commission for Agricultural Costs and Prices, 2014, p. 36), or less than paddy 1549 rs/100kg (Centre for Agriculture and Rural Development Studies, 2015). This would incentivize farmers to move to crops that have positive effects, while bringing these crops to a mainstream standing. Furthermore, the government should incentivise the planting of crops in areas where the viability of that crop is high and does not require intensive resources. Thirdly, MSP prices should be advertised before planting occurs to provide more incentive for farmers to plant MSP guaranteed crops, while protecting their financial viability. The lack of advertising is a problem cited in an aforementioned 2016 report. Finally, allow for access to guaranteed MSP prices across regions, addressing the lack of state-based effort to supply these supports (Explained: Why Farmers Fear Losing MSP under New Laws, 2020). Moreover, work with states and localities to determine nutritional, environmental, and socioeconomic needs and invest in mandis, or local buying market, infrastructure.

On the other end of the MSP system, crops that are bought by the government are sold at heavily subsidized prices to the poor. Currently the government is sitting on massive amounts of rice and wheat, without other crops, because rice and wheat are the sole crops that are purchased. The FCI, the agency that operates the MSP system, has found that selling the crops is extremely hard, because of high costs of storage, and increases in MSP use among farmers (Bhardwaj, 2020). Allowing for the increased incentives to grow nutrient-rich crops such as sorghum and millet, the government will be able to diversify it's crop acquisition and storage, allowing for these nutrient rich crops to be sold to the economically disadvantaged at lower prices. Because of the decrease or similarity in production costs to rice or paddy, production costs will most likely remain similar. Furthermore, allowing for diversification of government supplies will make sales much easier and avoid large surpluses of wheat and rice.

The national, state and local governments are further incentivized to rearrange the MSP system to prioritize nutritionally rich and environmentally sustainable crops. For example, using CACP guidelines for a 50 percent margin over cost of production, a MSP price could reasonably be 1785 rs/100kg for sorghum, 155 rupees less than the MSP price for paddy and 190 rupees less than wheat. For a crop that is more resilient and that already holds historic and current significance in Indian cuisine, a small rearrangement to place sorghum or other similar crops in a more prominent place can be effective. This simple re-arrangement of priorities, rather than large investments, can make lasting change.

Traditional agricultural knowledge, passed down by millions of subsistence farmers through generations, has played a vital role in the development of agriculture in India. Although the effects of globalization and the Green Revolution play a vital role in Indian agriculture today, traditional agricultural knowledge (TAP) still plays a role that is often neglected by government policy. TAPs have often been neglected in modern-day agriculture because of concerns over productivity and labor intensity, however the benefits of these practices are numerous including crop resilience in response to climate-related events. These traditional practices are more sustainable and less resource-intensive than industrial agricultural practices (Singh & Singh, 2017). This knowledge, when coupled with modern practices, can increase sustainability significantly. Advocating for practices such as intercropping, cover-cropping, crop rotation, traditional composting, and integrated crop-animal farming can provide a vital path forward in a climatically changing world. Integration of these practices in policy framework and creation of TAP-specific policies is also needed. However, to integrate these policies, government investment in research on historical and current traditional practices is required (Singh & Singh, 2017).

Many opportunities exist to utilize government policies to prioritize the roles of farmers in agriculture and the economic framework surrounding it. These policies should protect farmers

against large agribusiness buyers, prioritize the role of Minimum Support Prices, divert funds to the acquisition of nutrient rich crops, and incorporate historically developed traditional agriculture practices to improve sustainability. Not only will these policies improve the lives of farmers, but will also have the opportunity to improve the nutrition of the poorest, most vulnerable citizens of India.

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