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Paving the way to Food and Nutrition Security: Regaining Economic Control in India

In a world filled with civil insecurity, unreliable climate, inadequate social services, and major threats to livelihoods, monitoring the welfare of the population is essential. In a country of the size and complexities like India, those are only *some* of the barriers present in everyday life. With over 60 million households living below the poverty line, the number of people left starving on a daily basis is devastating. The problem is not new, but if anything, has intensified over an increasingly unstable economy.

Set apart from the rest of Asia by the supreme continental wall of the Himalayas, the Indian subcontinent touches three large bodies of water and is immediately recognizable on any world map. From the eternal snows of the Himalayas to the cultivated peninsula of far South, from the deserts of the West to the humid deltas of the East, from the dry heat and cold of the Central Plateau to the cool forest foothills, India's geography speaks for itself. But in a country overflowing with rich cultures, palatial retreats, and increasingly modernized lifestyles- why is it that the overall levels of malnutrition, morbidity, and mortality have remained alarmingly high?

In India, freedom from hunger and access to adequate food and nutrition is perceived to be a constitutional right. It is authorized by an extended interpretation of the Right to Life, guaranteed by Article 21 of the Indian Constitution. In fact, Article 21 imposes upon the state to protect this right. Yet, India's performance on food and nutritional security is well below par.

This issue is especially prevalent on subsistence family farms. Each family farm is comprised of more than one married couple. As the patriarchal philosophy is widely practiced, the senior male heads each family. The wife, mother, or another related senior female assigns domestic chores to the women and girls. An extended family may include the senior male's unmarried children, younger brothers and sisters, and grandchildren. However, even with all these family members, the education level remains at an all time low. Most small farmers, at most, make it only through elementary school.

Subsistence farming in the Indian subcontinent, by definition, produces enough food to sustain the farmers through their normal daily activities, and often enough of a surplus to take to the market or store for sale. The general operating objective of this farm type is family sustenance, pursued first by production of foodstuffs for consumption and of produce or materials for use on the farm. Secondly, by generation of some cash income for the purchase of non-farm produced food essentials, namely clothing, medicine, farm inputs, etc. Cash is obtained primarily by sale of commodities surplus to family requirements, and secondarily by sale of some cash crop raised specifically for this purpose.

The concept of subsistence farming yields the term "small farmer", which implies a category of farmers who own a holding of less than five acres. According to the National Sample Survey (NSS), small and marginal farmers had 2.5-5 acres and 0.05-2.5 acres of operational land or holdings in India. The proportion of marginal farmers has increased from 31% (1960-61) to 47% (2002-04) and the small-scale farmers decreased from 16% (1960-61) to 11% (2002-03). A steady decline of medium and large-scale farmers from 1960 to 2003 reflects the agricultural situation in India.

Average monthly income from wages, farm business, and non-farm business of small farmers vary with the state. Based on the NSS 59th round of survey (2003), they made between Rs.1106-Rs.4882. Just as widespread as the income range appears to be, Indian subsistence farming is no different. It has diversified, with distinct sectors of farmland in relationship to geographical surroundings. Land is cropped to its maximum intensity, but the number of crop species in each of the energy/protein/oil crop subgroups is limited due to the length of the growing season (dependent upon temperature), rainfall occurrence, and/or irrigation water supply. For instance, barley, buckwheat, peas, and mustard are grown in the Himalayan region. Wheat, soybean, and sesame are grown in the central region. Meanwhile, cereals (rice, sorghum, maize, and millets), peanuts, pulses, coconut, mango, cassava, condiments, etc. are all grown in Southern India. On the other end, livestock (fish, poultry, etc) are closely integrated with crop activities, such as direct production, draught power, transport, manure production to sustain field and pond fertility levels, and as a stock of wealth.

Naturally, agricultural practices vary with the region and crop grown. For example, rice requires tilling, preparation of nursery, sowing, transplanting, irrigation, weeding, application of fertilizers and pesticides at recommended intervals, harvesting, drying, thrashing, winnowing, bagging, etc. All these farm operations are done manually by small farmers involving mostly family labor and sometimes exchange of labor/animal services or hired labor. For instance, rice is harvested manually using iron sickles in Southern India even today. Mechanization is almost absent in smallholdings. Working cattle plus working buffalo are commonly used agricultural operations in small farms as the capital resources required for mechanization of agriculture could only be raised by the large farmers in India. Resources are generated by the multiple use of farm capital, *e.g.* growing Napier grass on the bunds of rice or sugarcane fields for cattle feed.

Ninety percent of small or marginal farmers sell their crops to local moneylenders who charge them exorbitant interest rates (24-60%) for purchase of seeds, fertilizers, implements, or farmers' cooperatives that supply them required agricultural inputs. A small amount of produce is also sold to local shops. Recently, contract farming has been introduced in India, in which the entire agricultural produce is sold by the farmer to the contract buyer at a pre-agreed price based on the anticipated yield and contracted acreage.

Accordingly, the dietary habits also vary widely depending on the region. For example, farmers in South India consume rice, sorghum, corn, and millets (ragi, bajra, etc) as staple food. Wheat, rice, and sorghum are widely consumed as staple foods in central and North India. Cereals and millets on the weight basis contribute to about 60% of the total weight of the diet. Vegetables, a variety of beans, and a small amount of milk/meat are also consumed. The consumption of foods rich in micronutrients, such as green leafy vegetables and fruits is inadequate and well below suggested levels. Protein malnutrition is above World Health Organization's cut-off limits, indicating that it continues to be a public health problem in India.

With the issue of food and nutrition insecurity and associated poverty steadily increasing, certain barriers must be broken to put an end to this ferocious cycle. They are as follows: (i) failure of women's access to adequate nutrition, (ii) population growth, (iii) inadequate irrigation facilities and dependency on monsoon, (iv) lack of an affordable and low cost insurance product that insures the risks of personal accidents (or death) of the farmer and his family, medical care and maternity benefits, livestock and equipment, and natural disasters (storms, fires, etc.) against homes with crop insurance, (v) access to credit (vi) domestic policy initiatives eroding farm prices, and (vii) lack of government initiatives such as incorporation of food and nutrition security as a goal in the five year plans of India.

As mentioned above, women face certain obstacles in attaining the adequate food and nutrition security. Indian rural women from small and marginal farming families perform over 60% of on-farm

activities and almost all off-farm activities. However, their contribution does not receive recognition due to old-fashioned stereotypes embedded in the culture. Major areas of discrimination against women in India are: (i) malnutrition resulting in low birth weight of babies, (ii) females receive less health care than males, (iii) families are less likely to educate girls than boys, (iv) women work longer hours than men, (v) women are not sufficiently knowledgeable in agriculture and the extension needs of farms, (vi) mistreatment of women, (vii) lack of power to make decisions.

Farm marketing infrastructure, institutions, globalization, and trade policies significantly influence the survival of small-scale subsistence family farms in India. The government of India's national agricultural policy envisages that "Private sector participation will be promoted through contact farming and land leasing arrangements to allow accelerated technology transfer, capital inflow and assumed market for crop production, especially oilseeds, cotton, and horticultural crops". In addition to other advantages, contract farming enables the farmer to eliminate marketing risk while allowing the corporate buyer to ensure quality supplies by selecting planting material and providing access to scientific advice on disease and other types of stress. From the practical standpoint, this benefits international companies while farmers suffer because contract farms do not receive the best price for their crops, and corporations push the farmers to grow a single crop, which inevitably damages the soil. By growing export crops instead of staples, contract farming may leave India without wheat and rice to feed its more than one billion people, ultimately increasing the existing food insecurity and negative impact on agricultural biodiversity.

In 1997, India experienced its first bout of farmers suicides stemmed from a number of hardships, which have led to the irreversible indebtedness of small and marginal farmers from even the most historically productive regions of the country. World Bank's structural adjustment policies forced India to open its seed sector to global agribusinesses resulting in the replacement of traditional farm saved seeds with genetically engineered seeds (of which are non-renewable), thus requiring repurchase for each growing season and eventually leading to poverty and severe indebtedness. While each farming region once grew a variety of seeds, many are now limited to the production of crop monocultures that could lead to the extinction of millions of plant species which will, in turn, increase risks of crop failure. Rising costs of cultivation, plummeting prices of farm commodities, and lack of credit availability for small farmers turned India's agriculture into a negative economy that can be attributed to corporate globalization and unjust free trade policies implemented by the World Trade Organization (WTO). Combined with the pressure of high production costs, WTO free trade policies have created a drastic drop in global produce market prices that could increase subsidies and monopolization of global seed markets by just a few multinational corporations.

Furthermore, liberalization and globalization can also damage the farming sector in India in the creation of the National Multi-Commodity Exchange (NMCE) for future trading of rice and wheat, ensuring that Indian agriculture is safe from irrational and erratic fluctuations. The Union Ministry of Agriculture advised farmers to take on trading in commodities, enabling them to get higher prices for their produce. To expect farmers who continue to survive against all odds to go online and trade seems to be part of the wild imagination accepted by apathetic official machinery. Additionally, public sector units promote the NMCE, with farmers barely even participating. The government is also slowly withdrawing food procurement that provided a "sure" market for farmers, in exchange for their produce by saying time. In fact, the minimum support price (MSP) has become the maximum support price. The reality is that the MSP appears higher than the international prices because of the massive agricultural subsidies in the western countries that depress global prices. By seizing the support prices, the Indian government is only helping the American and European farmers who continue to produce at subsidized prices, while dumping their produce in the global markets. The cheap and subsidized commodities are the key reason for growing rural poverty and loss of livelihood. In reality, future trading is the recipe for sure destruction of the gains achieved after the advent of the Green Revolution. It is a sure recipe for disaster, eventually

leading to the elimination of small and marginal farmers, of which form 80% of the agricultural work force, thus paving the way for the smooth entry of the private sector. It further marginalizes the farming communities and promotes the country to slip back into the dark days of the “ship-to-mouth” existence.

Another destructive force working against India’s economic prosperity is the depletion of the ground water level, as the country’s agriculture depends overwhelmingly on this source of water. One estimate has it that ground water sources account for as much as to 70-80% of the value of agricultural attributable to irrigation. The full potential of agriculture for growth can be exploited only if the available water resources for crop production and the water from the erratic and evenly distributed rainfall is put to effective and efficient use. The tragedy with Indian agricultural production has been that farmers have misused ground water potential and ignored rain-fed farming. Rain-fed farming has a distinct place in this agriculture, occupying 67% of the cultivated area, contributing to 44% of food grains, and supporting 40% of the population. Unfortunately, it hasn’t been a priority area of Indian agricultural research. Currently, irrigated areas produce an average of two tons of food grains per hectare. The average productivity in rain-fed area’s is only 0.7 to 0/8 ton per hectare. Furthermore, the lack of affordable and dependable irrigation devices contributes to more farmers being drawn into the poverty spell of the small farmers.

Likewise, environmental pollution is affecting the ecosystem and more importantly affects small farmers that have the least capacity to adapt. India’s heavy reliance on coal, much of it low quality, goes a long way towards explaining the country’s relatively high carbon intensity level in the environment. Indian economic policies such as high import tariffs on high quality coal and subsidies on low quality domestic coal have also contributed to using low quality coal. As India struggles to develop its economy, rising industrialization and urbanization increases green house gas emission, which traps heat and contributes to global climate change. A four fold increase in India’s GDP would result in 2.8 fold increase in carbon dioxide emissions, 1.3 times more methane, and 2.6 times more nitrous oxide, unless necessary actions are taken.

Appropriate measures to ensure the production of food, both now and in the future, are vital for a stable and prosperous economy in India. This includes agricultural biodiversity. The future of Indian agricultural biodiversity is in danger due to unplanned and unsustainable development activities. Monoculture has replaced inter-cropping and hybrids have taken over. Biodiversity is increasingly under threat from the globalization of food markets and the industrializations of agriculture with techniques such as mono-cropping and genetic modification. In the last century, 90% of crop varieties have disappeared from agricultural fields. For smallholder farmers living in developing countries, the loss of local crops represents a loss of choice that further heightens their vulnerability to food shortages. In the Medak District of Andhra Pradesh (in India), the government incentives have led to an increase in cash crop and mono-crop production, reducing the agricultural biodiversity that has characterized the plateau for years. Due to the loss of biodiversity, changes are occurring in the ecosystem, causing an adverse impact not only on agriculture but also the environment, including depletion of natural resources.

Moreover, if masses of small farmers are assured an open-ended procurement of grain produce at minimum support prices that provides a guarantee of purchase at a reasonable price, it encourages adoption of technological change and promotes higher production. This is due to direct income support not feasible for farmers in India, as well as price support is required to guarantee a floor price and a remunerative income. Corruption at all levels is the biggest issue in India, which is unfortunately ignored for the most part. According to Dr. Sendil Mullianathan of Harvard Economics Department, factoring this issue when formulating government policies would be important for positive outcomes. An improvement in the knowledge and skills involved in farm work (especially for women) could lead to increased farm productivity and thereby improved food security and livelihood of the family.

Additionally, the need for combining an affordable and low cost insurance product that insures the family is of vital importance to small-scale subsistence farmers in India. Technology development must be farmer-driven in order to be useful and low cost as applied to irrigation systems. Initiatives to encourage the high quality of coal, such as reducing the tariff on imported coal, may help in minimizing the country's high carbon intensity in the environment. Also, renewable energy in the form of solar, wind, and hydropower-generated electricity are the keys to providing rural areas with energy.

It is common knowledge that for every error, there must be some sort of solution. This situation is no different. The following recommendations are in efforts to correct the current situation faced by impoverished farmers in India. First and foremost, The Five Year Plan of India must include a goal of providing food security to all Indians, which requires ensuring adequate supply as well as intake. Efforts on creating gender information in farming systems should be coordinated and fed into the planning process starting from village offices. Also, policies related to targeting women and gender-equity should be implemented. Programs to develop economic, political, literacy, management, and leadership skills for women farmers should be incorporated in national policies.

Agricultural research could play a critical role in improving food quality, as well as environmental sustainability and poverty alleviation. These factors should be thoroughly distributed by involving stakeholders, especially small farmers, in defining the research agenda and thrusts of their research branches. Measures to limit population growth and strict enforcement of environmental protection are vital for improving food security. Small farmers should be educated on methods of organic farming and integrated pest management to eliminate dependency on commodities such as chemical fertilizers, pesticides, and genetically engineered seeds. Most importantly, agriculture must return to a "farmers first" policy rather than its current bias towards corporations. It is only when this idea is achieved that farmers will regain control of their lives, both financially and mentally.

Finally, The Framework Agreement between national governments and other organizations should recognize the critical importance of agriculture to the economic development of developing countries. The international community, national governments, and other organizations should work together to enable impoverished farmers in developing countries to pursue agricultural policies that are supportive of their development goals, poverty reduction strategies, food security, and livelihood concerns. The Agreement, thus, provides a useful basis for further negotiations on detailed modalities that could help to create market access opportunities for farm products of export interest and safeguard small and vulnerable producers.

India is a country that has culture and heritage ingrained in every facet of its lifestyle, but it's also home to 400 million starving people, nearly 40% of the population. Another estimate reveals that 53% of the population consumed fewer calories than it required (2000); almost double the estimated national rate of income poverty. This reflects a situation where overall food sufficiency has not translated into distributive equity. But as we move deeper into the 21st century, the cycle can be broken. The right for food and nutritional security in India is pivotal but more importantly attainable. As Article 47 of the Indian Constitution states, "Raising the level of nutrition, standard of living and improvement of public health are the *primary* duties of the State".

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