

Future of Food Security in Pakistan: Agricultural Reforms and Beyond

Outline

1) Introduction

The Future of food security in Pakistan is faced by many challenges. However, situation can be improved by timely and fool-proof policy making, and rapid implementation of those policies.

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3) Challenges faced by Pakistan's food security and its future.

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The times are changing, and so is the world. With the recent advancements in technology, every country is looking forward to a better, and a more prosperous future. Pakistan, like other members of the global community, is also looking forward to a brighter future.

In order to ensure a prosperous future, Pakistan has to look in to those factors, which are imperative for a better future, for example food security, education, and economy. The future of Pakistan is dependent on the future of above mentioned factors. So it can be concluded, that the future of Pakistan's food security has the potential to decide the destiny of Pakistan. Food security refers to easy access to sufficient and nutritious food in order to maintain a healthy life style. As of now, food security of Pakistan is facing challenges from climate change, economic crunch, fast growing population, old fashioned farming, and many such problems. If Pakistan ^{wants} to make use its food security, it will need to introduce many reforms, so that a continuous supply of cheap and healthy of food is guaranteed. So it can be stated that, the future of food security in Pakistan is faced

by many challenges. However, the situation can be improved by timely and fool-proof policy making, and rapid implementation of those policies.

In order to make and implement policies to achieve food security, one must have understanding of the concept and its current status in Pakistan. As per the World Food Summit-1996, food security is defined as, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meet their dietary needs and food preferences for an active and healthy life." Although Pakistan is an agricultural country, and it exports many food related items, but it is not able to meet the standards which are established by global organization. In fact the situation is worse than expected. According to recent global hunger related index "Global Hunger Index," Pakistan's score is 26.6 which indicates seriously high levels of hunger in the country. According to "International Food Security Assessment," by "US Department of Agriculture," around 38% of Pakistan's population is

Food insecure. Another report by "World Food Program," has suggested that, 46% of children between the age of 6 months to 59 months are facing chronic malnutrition. Similarly, rising inflation has also resulted in loss of access to food. So it can be concluded that Pakistan is failing to meet all the standards of food security such as nutritious value, availability and access.

As it can be observed that current state of Pakistan's food security is not satisfactory, and situation may become worse in future. So it is crucial to look in to the challenges which may obstruct Pakistan's drive to attain food security in future. These days, the most visible, and the most important of all challenges seems to be the economic challenge. Economy, these days, is in doldrums in Pakistan. ^{Only} Due to huge debt, and huge import bills Pakistan's economy has suffered, and performed badly, and it does not appear to be recovering soon due to deep rooted issues in economic infrastructure. This economic deprivation has also taken a toll on country's food security prospects. The rise of inflation has

resulted in a slow-down in the growth of all major sectors including agriculture, poultry farming, and live stock farming. In June, 2023, food inflation was recorded at 48.39%, a very high inflation. Thus development in food sector is dependent upon economy and a poor economy may hinder Pakistan from achieving food security in future.

Furthermore, climate change has emerged as a big trouble for food-related sectors. Pakistan is already on the list of most affected countries by climate change. One such example, is the floods of 2022. In those floods Pakistan lost 45% of its cropland, and 1.2 million live stock, according to "International Monetary Fund" (IMF). The main point of concern is that it was not the last time when Pakistan was hit by such calamity. These natural disasters have mainly resulted from climate change. The effects of climate change are becoming significant with every passing day. The calamities resulting from climate change are expected to increase in

both, frequency and intensity in near future. So increased losses in production are expected as a result of climate change.

Moreover, population explosion or rapid growth in population is playing a very important role in increasing the supply and demand growth. Population is increasing at such an extreme rate, that growth in food production is finding it very hard to keep up with it. According to Economic Survey of Pakistan if population keeps growing at a rate of 1.8% or higher Pakistan's yield of wheat will not be enough to fulfill domestic consumption, even if hundred percent efficiency is achieved with the existing infrastructure.

The "2023 Census" has suggested that current population growth rate is 2.55%. Keeping this in mind, it is easily understandable, that in future, Pakistan may have to increase its imports related to food; this will result in higher food prices, and hinders access to food. Thus, huge population expanding at a very fast pace is a major obstacle in Pakistan's road towards becoming a state with complete food security.

In addition to the above mentioned, one cannot ignore the fact that, despite being an agrarian country, Pakistan still has to depend upon imports to meet its food-related requirements. In agriculture, Pakistan imports machinery, fertilizers and other equipment. Additionally, several food items such as dairy products, vegetables, edible oil are also being imported from other countries. According to an estimate, Pakistan has to spend 2.7 billion dollars annually, for the import of edible oil. Owing to this dependency on imports, Pakistan is unable to achieve self-sufficiency in producing food; which has resulted in several food shortages, higher prices and degraded food. So it is safe to say; that the reliance of Pakistan on imports to keep its food generation functional is hurting its future prospects when it comes to attaining secured status in terms of food.

Another problem, that directly affects Pakistan's prospects to become self-sufficient in production of food, and its water supply is water scarcity. As most of the country's agriculture is dependent on the natural water resources such as rivers. The stress on these resources

may directly contribute to diminished agricultural produce. According to World Bank most of the water available is being used in agriculture sector, and Pakistan is one of the most water stressed countries in the world. Keeping this in consideration, that Pakistan is quickly running out of water, and country's agriculture is highly dependent on water, it can be assumed that Pakistan may lose a major chunk of its agricultural yield in future. This may further affect livestock farming and poultry farming, as the raw material of both the sectors comes from agriculture. Therefore, water scarcity can exacerbate food insecurity in future.

Another issue of concern, is the lack of expansion in agricultural land. As the most of land is already being used agriculture, the area of agricultural land is increasing at very slow rate. According to "State Bank of Pakistan," country experienced 65% increase in the land under crops from 1947 to 1980. Since 1980, this growth has been very slow on the other hand problems like soil erosion, water logging, and salinity have turned swathes of land barren.

The loss of land resulting from the above mentioned ailments of soil counteracts to the little bit expansion of ~~ag~~ agricultural land leading to overall net-zero expansion of limited. This limits the maximum yield being achieved. Consumption, however, is growing at a very fast pace. Resultantly, gap between supply and demand ~~is increasing~~ is increasing and may become a severe issue in the times to come.

Additionally, employment of out-dated techniques and methods in agriculture, fish farming, poultry farming, and livestock farming have resulted in reduced yield. For instance, ^{the} mechanism used for irrigation of the crops was designed in previous century; it results in a lot of water being wasted; however, the modern conservation irrigation systems are designed, while keeping water conservation in mind. Similarly, many techniques that date back to 17th century are still in common practice in all major sectors involved in food generation process. This has reduced the efficiency, which has culminated in lower yield with every passing year. This affecting Pakistan's food security aspects adversely.

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Lastly, wastage of food and yield most of the times goes un-noticed; however, it plays a huge role in economic and food related woes of economic developing countries like Pakistan. Owing to poor infrastructure, lack of cold storage; poor packaging, distance between farms and markets a big chunk of food is wasted. This wastage of food brings food scarcity along with severe economic repercussions. According to Pakistan's First Food security policy at national level, "National Food security Policy 2018," this loss of food costs 228.8 billion rupees each year. This deficit results in surge in food prices and shortage of food, which results in a large section of society being exposed to food insecurity. So, wasting of food is a major problem, that is hindering Pakistan to become self-sufficient in its food related endeavours.

Although Pakistan is faced with many challenges and obstructions, in ensuring safe, ample and easy access of food to its populace; this issue can be addressed by deliberations and actions; which may counter-act to the problems as mentioned before. One such action is diversification of food production. It refers

the ~~exclusive~~ inclusion of exotic and not traditional products along with the traditional ones along with in food production. For instance, inclusion of soya beans, and sunflowers in major crops will result in reduced dependence on imported edible oil, which makes a big chunk of Pakistan's import bills. Similarly, focus should be laid on high value products such as dairy products, olives, exotic fruits and vegetables, which may bring same revenue against same resources. This will bring in higher volumes of foreign exchange, which will definitely help in fighting food insecurity.

Similarly, reforming and improving water resource management can work great wonders for the country. Two major reforms or steps are needed to improve water resource management: first one is the construction of several micro-dams, and the second one is to introduce modern irrigation in ^{the} country. As Pakistan has deficiency of water-storage infrastructure, new dams at micro-level can address these storage issues, at that too, at low cost. Modern systems of irrigation prevent wastage of water along with irrigating crops

These measures will ensure conservation of water, which is driving the agriculture of the country. So, efficient water resource management is imperative to ensure future, food security.

Furthermore, government should not let population explosion go unchecked. Population growth at very fast pace, is a major contributor towards the increased gap between supply and demand. As mentioned earlier the population growth, recorded in 2023 is around 2.55%. Even with many reforms, it becomes very difficult to cater needs of population, growing at such a rapid pace. Several initiatives can be taken in order to stem the growth of population. For instance, provision of counselling to young couples, spreading awareness among public; encouraging the use of contraceptives, incorporating family planning and pre-marriage counselling in legal requirements to get married. Such measures can help in deceleration of growth rate, which in return can ensure solid ground for the achievement of food security even in the future.

Moreover, using science and technology in agriculture in an appropriate fashion can

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increase yield by many folds. Incorporation of information technology can help in establishing a contact between farmers and experts. Experts can educate farmers about the latest technology, best seeds, and new ailments. Similarly, governments can provide farmers, and their involvement in fish farming, livestock farming and other such sectors, with internet and access to national data base, containing all important pieces of information related to their field. Automated machinery, latest tractors, drone technology, biologically developed pesticides can result in to revolutionary transformation of education sector. So, incorporation of innovation and technology can boost yield by many folds and ensure safe future when it comes to ample availability of quality food.

Another measure which is imperative, to secure food for future, is improved connectivity between farms and markets. Most of farms related to agriculture, fish farming, poultry farming, and livestock farming are located in far flung areas. Markets, however, are

situated in cities, and big towns. The roads connecting these markets and farms are in grave state. A big section of this road network is still un-casped. Similarly, the means of transportation are very slow. This results in delays in food reaching markets; a big chunk of agricultural produce is wasted on the way to market because of this poor connectivity between the markets and the farms.

Additionally, provision of better living standards, and basic amenities ^{in villages} can be very crucial in fighting food security. As majority of population, residing in villages is associated with agriculture and live-stock, improving the living standard of public there will affect food generation in positive manner. Provision of quality education, improved health service, better sanitation and drainage system; continuous supply of electricity and gas, and access to internet connection will slow down migration of people from villages to cities. Majority of people contemplate of moving to cities, because of the lack of basic facilities in villages; which culminates in people abandoning

Farming. Better living standard in villages will encourage farmers, to not only stick with farming, but also expand their farming. Thus, better living standards in villages are imperative to counter the scourge of food insecurity.

Furthermore, encouraging professionals to take up farming - those who have secured degrees in agriculture, animal husbandry, horticulture and botany - as they possess the scientific knowledge about agriculture, poultry farming, livestock breeding and fish farming. A number of professionals pass out from universities every year. Some of these professionals join agricultural or other disciplines research team in government sector, while others enter the field of teaching, the remaining either switch their field, or move to other countries for better opportunities. As it can be observed, that these professionals are segregated from commercial farming, their expertise is thus, limited to research and not used in ongoing farming process. Government should offer the fresh graduate internships in commercial farming sector by public private partnership. After these interns gain enough experience they should be enrolled in management courses. After achieving certain proficiency, government

these professionals must be provided with the money or capital to start their business. So, integrating professional knowledge with commercial production can work wonders for Pakistan in improving its food security.

As food security represents, the availability of ample and nutritious food to public, it can be said that it serves as an engine to growth and prosperity of a country. So, in order to ensure a prosperous and healthy Pakistan, its food security is required to be enhanced.

As a lower middle income country, Pakistan is facing many problems in maintaining its food security, and, if remained un-addressed, these problems will exacerbate the already existing issues. The major problems that are already hurting Pakistan's prospects in achieving food security, and will be cause of concern in future include, changing climate and its harmful effects, economic woes of the country, rapidly diminishing water resources; old and out-dated methods and techniques still being used in agriculture; fast growing population, and many other such problems. It is imperative to take immediate action, otherwise

situation may run out of control in coming years. Some of the actions, which can help in improving the situation, include, improvement of water resource management, diversification of food production, improvement in water resource management and many such actions. It is an established fact that Pakistan's current food security is not satisfactory and it may become more severe in days to come if it remains unattended. But, Pakistan is blessed with plenty of natural resources which can help it in overcoming these problems by effective policy making and efficient implementation of those policies, which may help Pakistan in achieving food security along with prosperity and growth.