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ASSESSING THE DETERIORATING FOOD SECURITY SCENARIO IN PAKISTAN AND ITS RAMIFICATIONS ON HOUSEHOLD STABILITY

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Abstract

Food security is a critical issue in developing countries, like Pakistan. Pakistan ranks 8th in wheat, 10th in rice, and 11th in maize production, making it self-sufficient in major food crops. While, despite these rankings, Pakistan is placed 78th in the world in terms of food insecurity. Around 43% of the population, mostly women, still face food insecurity due to limited access to food, 15% of children under the age of 5 suffer from acute malnutrition, while 44% are stunted. This research aims to explain the reasons for the declining food security in Pakistan, based on two hypotheses. The first hypothesis suggests that political instability and economic factors have a detrimental effect on food production, thereby hindering access to food. The second hypothesis focuses on social aspects, considering that education and family structure influence income and, consequently, access to food. We collected data, random sampling techniques were employed, including questionnaires, interviews, observations, and focus group discussions. Secondary sources such as journals, books, and relevant departments were also used for data analysis. Statistical methods, including data tabulation (frequency, percent distributions), were employed to analyze the collected data. The research findings indicate that political instability in Pakistan has negative impacts on food production and access, leading to high levels of food insecurity and poverty. Education and family structure emerged as crucial factors affecting income and food access. Addressing poverty and improving access to education, particularly in rural areas, could help enhance income levels and food security among vulnerable populations.

Keywords: Food security, Political instability, Education, Family structure, Identifying factors, Factor ranking, Pakistan.

1 INTRODUCTION

Food security means the provision and access to nutritious and culturally acceptable food for every member of the family for a healthy life, obtained through socially acceptable means. Food security is not only about having enough food, but it is also about having access to safe, nutritious, and affordable food. Food security can be threatened by various factors, including

climate change, conflict, poverty, and inequalities. In many countries, women and children are particularly vulnerable to food insecurity, as they often have limited access to resources and decision-making power. Therefore, food insecurity is becoming a global risk that's threatening almost every country in the world. Ensuring food security requires a multi-faceted approach, involving policies and programs that address the root causes of food insecurity. This includes investing in sustainable agriculture, improving infrastructure and markets for food distribution, promoting nutrition education, and addressing inequalities in access to resources and decision-making power. It is a powerful issue that it can threaten domestic law and order situations (Nicolétis, É. et al. 2019). Therefore, food should not be considered a common commodity. In fact, it is a powerful political/policy instrument that guides the political and economic decisions of nations (Driscoll, E. A, 2012). In addition, it is argued that the right to easy access to food is more important to household (especially those suffering from food insecurity) than any other basic human right, including education, health and political and social participation (Mustafa, 2018). Therefore, it can be included in the development indicators (Bashir, & Oyakhilome, W. T. 2020). Since the World Food Summit, 1996, almost all countries in the world has attached greater importance to the issue of food insecurity. Despite this emphasis, the problem continues to exist with an increasing pace. Food security and economic growth mutually reinforce each other in the development process (Shafiai, et al, 2023). Weak economy makes a state unable to produce the necessary food and do not have the resources or cannot afford to buy food in the international market to meet the demand and supply (Pinstrup-Andersen, 2011). Food security is, therefore, essential to national security, which is usually ignored (Fullbrook, 2013). Food unsafety is a growing problem, with the phenomenal rise in food prices in the second half of the 20th century, especially in the developing countries like Pakistan. Today, more than 900 million people, approximately 12% of the total worldwide population, are malnourished. Developing countries like in Asia and Africa are more affected than developed countries, with 92% of undernourished individuals residing there. Specifically, over 88% of these individuals are in Sub-Saharan Africa (239 million) and Asia and the Pacific (578 million). In South Asia alone, 337 million people affected from malnourishment, accounting for 35% of the global undernourished population (FAO, 2010, 2013). Where these numbers have increased in India and Pakistan in recent years, despite the economic growth seen in these countries (Yamamoto, *et al*, 2014). About one out of ten families are still unable to assure secure their food, despite the fact that the public and private sectors have provided substantial assistance to poor families to meet their food needs (Nord et al, 2012). According to Nord et al., (2012), about three million children still live in very low food security households. This region also remains vulnerable to various natural disasters and economic crises such as the event of 2010 flood in Pakistan. The sharp rise in global food prices since 2007 illustrates the sensitivity, especially for the development without food security for all population is an illusion for the poor (FAO, 2010). There are many aspects of food security, from global, regional, national, local and domestic to individual level. The determinants of food security vary at different levels, from global to regional and national to domestic and individual, because food security is considered a multidimensional phenomenon that includes climate change, civil conflict, natural disasters and social norms, (Arene, C. J., & Anyaeji, M. R. 2010) identified three key factors that affect food insecurity, which is food availability, food access and food consumption. Food availability means greater availability of food through production. Access to food means reduction in poverty, but availability is not enough and poor families should be able to afford it. Food consumption means food containing all the essential nutrients (Barrett, C. B. 2010). All of these components are influenced by physical, economic, political and other conditions within communities and even within households, and are often destabilised by shocks such as natural disasters and conflicts (Smith, L. C., & Haddad, L. 2015). Sub-Saharan Africa is facing a significant challenge in feeding its growing population. Approximately 90% of the

rural population relies on agriculture as their main source of livelihood. Unfortunately, they lack viable solutions to address the issue of food insecurity. This problem primarily stems from low productivity in the agricultural sector and various agro-environmental challenges, including conflicts and unrest. Since 1996, respectively, reducing hunger and tackling food insecurity have been key priorities on the agenda of the World Food Summit and international development (Gassner, A, et al, 2019). Regarding development and poverty reduction, food security has been a significant part of the global discourse (Vink, 2012). Therefore, the concept of food security was focusing on food availability (GLOPOLIS, 2013). Due to the projected increase in the global population from 7 to 9 billion in 2021, the demand for food among vulnerable populations is also expected to rise (Rayfuse & Weisfelt, 2012). With rapid growth of population in developing countries, pressure on governments is increasing to feed the increasing population (Patel, *et al.*, 2015). Pakistan the world largest grain producers despite this many people go to bed hungry, hence south Asia is one of the world food insecure region. (Asghar, & Muhammad, 2013).

Pakistan's food security has declined since the 2000s, due to a succession of Political instability, conflicts and economic crises. This has a cumulative effect on Pakistan's food security and will dramatically increase food poverty and inflation. The government of Pakistan also requires an understanding of food security dimensions and future challenges for agricultural growth and food security; and also the impact of the agricultural policy on food supply and income in the poor, vulnerable rural areas (Ahmad & Farooq, 2010). The data of 2018 about food insecurity in Pakistan show the 77 million, nearly half the country's total population were going hungry, the 45 million malnourished and the 36% of the total population subsisting below the poverty line may seem staggering. Yet unless action is taken immediately, these figures could appear modest by comparison in several decades' time. Ninety-five of Pakistan's 121 districts, according to the WFP, faced hunger and malnutrition-related disease. Predictably, this widespread food insecurity triggered civil unrest in many urban areas. Media reports declared that "hunger in Pakistan is no longer a silent killer" and told tragic stories of poor men and women jumping in front of trains, setting themselves on fire and murdering their children because of their inability to provide food for their families (WFP, 2020). Eliminating poverty and achieving food security are prerequisites for economic development. Pakistan is a developing country of south Asia with an average per capita income of \$ 1,260 in 2020 year (BSP, 2021). Its economy is mainly dependent on agriculture, which contributes around 21 % in the economy of Pakistan and employs 45 % of its workforce. For the improvement of the agriculture sector, the government of Pakistan introduced various modern and scientific methods and techniques. The agriculture sector directly or indirectly connected to other sector of economy like textile industry of Pakistan heavily depends on agriculture sectors for the supply of raw material like cotton, which is one of the largest industrial sub-sectors. More than 63 % of the country's population lives in rural areas and are directly or indirectly dependent on subsistence agriculture. Presently, Pakistan is the fifth populous country in the world having an estimated population of 207.77 million and has the world's second-largest muslim Population. Pakistan is the 33rd-largest country by area, spanning 881,913 square kilometers (340,509 square miles).with an economic growth rate of 2%. Out of the total population, about 75.58 million are living in urban areas while 132.19 million in rural areas in 2017. The percentage of rural population decrease from 63.77% to 63.56% during one year period, while that of the urban Population increased from 36.23% to 36.44% by 2017. Pakistan has made great progress in the food supply since its independence in 1947. This is proved by the FAO's (2011a) statistics for the year 2008 that shows that Pakistan is one of the world's leading manufacturers of a wide range of agricultural products. Despite this, 26% population is undernourished (FAO, 2013). The prospective vision of Pakistan 2025 is a Pakistan where "all people, at all times, have physical and economic access to sufficient,

safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (ESP, 2020). According to Global Food Security Index (GFSI), Pakistan ranked 80th out of 113 countries on the 2020 Global Food Security Index, followed by almost all South Asian countries except Bangladesh and many African countries. This means that Pakistan scored extremely low on all indicators or drivers of food insecurity from food availability, accessibility, quality and safety to natural resources and flexibility the GFSI was ranked on the index. The Global Hunger Index (GHI), which takes into account the proportion of the undernourished population, the frequency of infant mortality, increasing growth and the proportion of children's weight to height, ranks Pakistan 88th out of 132 countries surveyed last year (DAWN, July 5th, 2021). According to the World Food Program, (FAO, 2015) about 43% of Pakistanis suffer from food insecurity. Out of this number, 18% people severely lack access to food. According to the Sustainable Development Institute (SDPI) policy report, food security conditions were inadequate in 45% of the districts (54 out of 120). About half of the population, 48.6%, do not always have access to adequate food for an active and healthy life (SDPI, 2010). According to the report of SDPI, the conditions of food security were inadequate in 45% districts (i.e.; 54 out of 120). Almost half of population 48.6% doesn't have access to sufficient food for active and healthy life at all times. According to the Human Development Index (HDI), Pakistan was ranked 154th out of 189 countries and territories in 2019. The HDI value for Pakistan in that year was 0.557, which is lower than the Asia average value of 0.607 and the world average value of 0.711 (Baumann, F. (2021). This categorizes the country as having a medium level of human development. SDPI divided Food security in Pakistan into four categories (a) Extremely insecure, (b) insecure, (c) Border Limit and (d) Reasonably Secure (SDPI, 2010).

The results of the SDPI report show that the food security situation in Pakistan has worsened since 2003, nationally and domestically. The number of food insecure districts in Pakistan was 38, against 102 in 2009, which clearly shows the food insecurity situation in the country. Better agricultural production is needed for food security, which will make agricultural systems less sensitive to climate change (SDPI, 2010). Food insecurity has affected Pakistan for last decade (2008-2018) years. Many historical and important factors are responsible for this, such as the war on terror, military operations in residential areas, catastrophic floods that destroyed infrastructure and crops, and the recent earthquake. In the 2020 Global Hunger Index, Pakistan ranks 88th out of 107 countries with enough data to calculate GHI scores in 2020. With a score of 24.6, Pakistan has a severe level of hunger. The score of GHI decrease from 37.2 to 24.6 during the period 2000 to 2020, but the situation remains the same, as Pakistan is still in the category of 'serious'. In 2017, Pakistan experienced a significant achievement as it became a food surplus country and a major producer of wheat and rice. However, despite the positive growth in food production, around 43% of the Pakistani population still faces food insecurity and struggles with malnutrition. Disturbingly, 44% of children under the age of 5 in Pakistan suffer from stunting, which indicates chronic malnutrition, while 15% experience acute malnutrition (WFP & USAID, 2018). Female and childhood malnutrition rates in the Islamic Republic of Pakistan are among the highest in the world. This is due to poverty and low income, particularly women affected by inadequate and imbalance diet by less access of food. Pakistan's household average spends 50.8% of monthly income for buying food due to its high prices. According to (Shahid, I., & Venturi, L. A. B. (2022) the effects of climate changes like (due to 2010 flood) and population displacement (due to militant operation) exacerbate the situation (WFP, 2018). Pakistan divided by Provincial data, the Punjab have 32% of children living in households who have food insecurity without hunger and 42% of children living in households who have food insecurity with hunger respectively (Safansi, 2018). A weak economy can make a state incapable of producing an adequate amount of food and lacking the necessary resources or affordability to fulfil the demand and supply through international trade (Pinstrup-Andersen, 2011). Consequently, ensuring

food security becomes crucial for national security, a dimension that is frequently overlooked (Fullbrook, 2010). Additionally, the problem of food safety is escalating, particularly in developing countries like Pakistan, as evidenced by the significant surge in food prices during the latter half of the 20th century (Fullbrook, 2010). In order to achieve a food security and agricultural growth in Pakistan, the government of Pakistan has to adopt a comprehensive approach in the direction of increasing the productivity of all foods, not just to focus upon only wheat -based food security. In addition, the farmers should be able to adopt the new agricultural techniques and should be able to finance the higher cost of inputs, and diversify their livelihoods through optimal farming. According to National Nutrition Survey (2011), about 58.4% of households in Ex Federally Administered Tribal Areas (FATA) were shown to be food insecure, with 27.4% food insecure without hunger, while 8.4% were shown to be food insecure with moderate hunger, and 5.8% as food insecure with severe hunger. Food security is indeed a major issue in Khyber Pakhtunkhwa (KPK) as the province is not producing enough amounts to meet food demand and is importing food from other provinces with subsidies. Emphasis is placed on increasing the production of different crops, and modern tools and technologies are adopted to bridge the gap between food and supply (The Nation, 2017).

2 CONCEPTUAL BASE

2.1 The concept of food security

Food security can be defined as the state in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. This definition was developed by the (FAO, 2010) of the United Nations and has been widely adopted by international organizations, governments, and researchers. The four components of food security are availability, access, utilization, and stability. Availability refers to the sufficient production, distribution, and supply of food, while access refers to the ability of people to obtain food through means such as income, markets, and social safety nets. Utilization refers to the proper consumption and absorption of food, and stability refers to the ability of food systems to withstand shocks such as droughts, conflicts, or economic crises, (FAO, 2010). Food insecurity, on the other hand, is the lack of access to sufficient, safe, and nutritious food. It can be caused by a combination of factors, including poverty, conflict, environmental degradation, and climate change. Food insecurity can lead to malnutrition, which can have serious consequences for health, cognitive development, and economic productivity. In Pakistan, food security has been a major challenge due to a combination of factors, including poverty, population growth, environmental degradation, and political instability. According to a report by the Global Hunger Index, Pakistan ranks 94 out of 107 countries in terms of food security. The report highlights the need for increased investments in agriculture, social protection, and nutrition programs to improve food security in the country. The term food security refers to the access of adequate amount of food for meeting dietary energy needs that implies as much as self-sufficiency in food is required domestically (Pinstrup-Andersen, 2011). . This definition encompasses five fundamental aspects: availability, access, stability, nutritional status and preferences of food availability is achieved when sufficient quantities of food are consistently available to all individuals. Sources of such food supply could be household's own production (harvesting), other domestic output, commercial imports or food assistance (Farooq, 2010). The access refers to the capacity to buy and/or acquire appropriate nutritious food by the households and the individuals (Timmer, C.

P, 2015). Therefore, both availability and access are inseparable (Pinstrup-Andersen, 2011). Stability refers to consistent supply of nutritious food at the national level as well as stability in access to food at the household and individual levels (Magaña-Lemus, D., & Lara-Álvarez, J. (2015). Stability requires better management of domestic production, food markets integration and rational use of buffer stocks and trade (Magaña-Lemus, D., & Lara-Álvarez, J. (2015). Food insecurity, on the other hand, is uncertain or limited access to nutritious and safe food (Gerster-Bentaya, M. 2015). It exists when people do not have adequate physical, social or economic access to food (FAO, 2011). In terms of severity, it is termed as less severe and severe, suggesting that less severe food insecurity is associated with reduced quality and variety of food intake (Leung, et al, 2014), while severe food insecurity is caused by insufficient food intake to meet energy needs of the diet (FAO, 2010). Both forms are thought to be associated with a series of adverse psychological, developmental and health outcomes, especially in children (Alaimo *et al*, 2001: Cohrdes, C., & Mauz, E. 2020). Food security is multidimensional and is a major challenge for policy makers to accurately measure and target policies. However, food security means "permanent and reliable access to food suitable for an active and healthy life" (Coleman, Jensen *et al.*, 2011).

2.2 The concept of Food insecurity

The initial focus, reflecting the 1974 concerns globally, declining world food supplies and massive food shortages triggered a response from the international community that focused on increasing domestic agricultural production and building international food reserves. In World Food Summit 1974 Food security was defined as: "The availability of adequate global food supply of staple foods to sustain the ever-expanding food consumption at all times and to meet fluctuations in production and prices" (WFS, 2018). In 1983, FAO expanded its concept to provide access to available supplies for vulnerable populations, which means that the balance between supply and demand in the food security equation must be balanced: "Ensure that all people, at all times, have physical and economic access to the basic food they need." the United Nations in 1996 expanded its food security concept as "Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life".(FAO. 2013). With the realisation that hunger has more to do with inequality in distribution of quality of seeds, and agriculture new techniques that increasing food production was only part of the solution, the concept of food security is no longer just a matter of availability nutrition (national or even local) for the more complex issue of access (in family or individual level). At the family and individual level, the concept of proper nutrition is considered in both quantitative terms (i.e. calorie completeness) and in other qualitative forms conditions (meaning diversity, security and cultural acceptance). Similarly, household food security depends not only on the availability of an adequate and sustainable food supply, but also on the means by which families get the food they need. The sustainability of the household food supply depends on the family's ability to buy food regularly through the transfer of income, production and/or an adequate food supply, despite unforeseen crises (Armar-Klemesu, 2015).

2.3 The concept of food vulnerability

Vulnerability is a concept fundamental to the theoretical and practical dimensions of disasters, and is defined in terms of the following three critical dimensions as below.

1. Vulnerability to an outcome
2. From a variety of risk factors
3. Because of an inability to manage that risk

Vulnerable to food insecurity are those who are able to maintain an acceptable level of food security today, and may be at risk of becoming food insecure in future. In the broader academic literature, vulnerability is a term that has implications for many disciplines. Disaster management literature generally links vulnerability to natural hazards (Alwang, 2022), while human geography and the human ecology are related to climate change risk (Joakim, *et al*, 2021). Food insecurity and poverty, as well as the literature on social risk management, define vulnerabilities in terms of future negative effects on well-being (Carter, B., & Kelly, L. 202), Durkin, A. (2015), (Cook, S., & Kabeer, N. (Eds.). 2016), World Bank 2010). Others describe vulnerability in terms of the level of risk and its ability to recover and respond. Thus, vulnerability reflects not only the measurement of risk associated with physical, social and economic aspects, but also the ability to cope with various hazards and shocks (Wisner, B. (2016), (Harvey, *et al*,2014). Accordingly, there are two vulnerability components: the external side referring to the structural elements that determine the susceptibility and the risk of exposure. (Sileshi, M. et al, 2019), (Turner, *et al*, 2010), while the inner side is concerned with the ability of households to respond to and deal with stressors and the actions needed to overcome them (Bohle, 2010), Wisner, B. 2016). In the context of food insecurity, weakness is defined as the probability that food will fall below the poverty line or remain for a certain period of time (Capaldo *et at*, 2010), (Kuwornu, et al, 2011), (Naylor, R. (Ed.). (2014).

2 METHODOLOGY, TECHNIQUES AND DATA BASE

2.1 Geographical analysis

Methodologically, this research was oriented by the geographical analysis, i. e., an integrated and evaluative analysis of some natural and social variables in a period of time and a specific place. (Venturi, 2015). The period of study is from 2009 to 2018 and the study area is the territory of Pakistan. The variables we considered (Political stability, production, stability of food offer, education, family structure and income) would support two main hypotheses: that food security would be affected by political instability and social aspects. Therefore, we also adopted the hypothetic-deductive method (Karl Popper), through which we conducted the research to verify the hypotheses searching their corroboration.

2.2 Techniques and data base

Concerning the first and second variables, we obtained data through comparatively studies of different agriculture policies of Pakistan (2009-2018) because inconsistency of policies is one of the major issues which affect economy as well as agriculture in Pakistan. We collected these policies and data from Ministry of National Food Security & Research (<http://www.mnfsr.gov.pk/frmdetail.aspx>) Bauru of statistic Pakistan (<https://www.pbs.gov.pk/>), Directorate of Agriculture Peshawar (<https://agrires.kp.gov.pk/>) and Finance Department of Pakistan (<http://www.finance.gov.pk/>). For the second variable availability of crops we collected data from [Directorate of Agriculture Extension \(https://agriext.kp.gov.pk/\)](https://agriext.kp.gov.pk/),

Revenue & Estate Department KPK (<https://www.revenue.kp.gov.pk/>), Population department (<https://www.pbs.gov.pk>), Finance Division Pakistan (https://www.finance.gov.pk/survey_2020-21). From the above mention department we collected data regarding the prices of food for last few years and then compared these data on annual basis, so as to know about the decrease or increase of prices in the selected years. Food accessibility and stability is an important factor, which is concerned to the department of agriculture. From this department we obtained different types of crops (wheat, maize, rice, sugarcane etc) annual production yield per hectare. The obtained data proved that why the production of crops increases or decreases and the causes which are responsible for its changes. After collecting, these data was organised in the form of charts and tables and maps.

The concerning variables related to social aspects, we obtained these data from various departments which is pertaining with education like independent monitoring unit, (<http://kpimu.gov.pk>) Khyber Pakhtoonkhwa (KPK) Pakistan, Ministry of Education, Pakistan, (<http://www.mofept.gov.pk>), Population department (<https://www.pbs.gov.pk>), bureau of statistic Pakistan and District education offices of Khyber Pakhtoonkhwa (KPK) Pakistan, Population Department (<https://www.pbs.gov.pk>), Population Census reports of 2008 to 2018 and Bureau of Statistics Khyber Pakhtunkhwa KPK Pakistan (<https://kpbos.gov.pk>), Pakistan Meteorological Department (<https://www.pmd.gov.pk>). After collecting data, this variable, show the influence of income on food security in Pakistan. These data was also organised in maps, charts and tables. Additionally, we made use of surveys to obtain primary data about household income and expenditure, food security. We used primary and secondary data in this research so for primary data we used a questioner, which required and collected from the field. Main source of the data for this research is primary and secondary data and has been collected from the field, as we show subsequently.

3. RESULTS AND DISCUSSION

This first hypothesis was based on two variables: Political instability and production. Before showing results about the variables, though, we decided to show a general panorama of the political situation in Pakistan that can impact on food security.

3.1 Political instability in Pakistan 2008-18

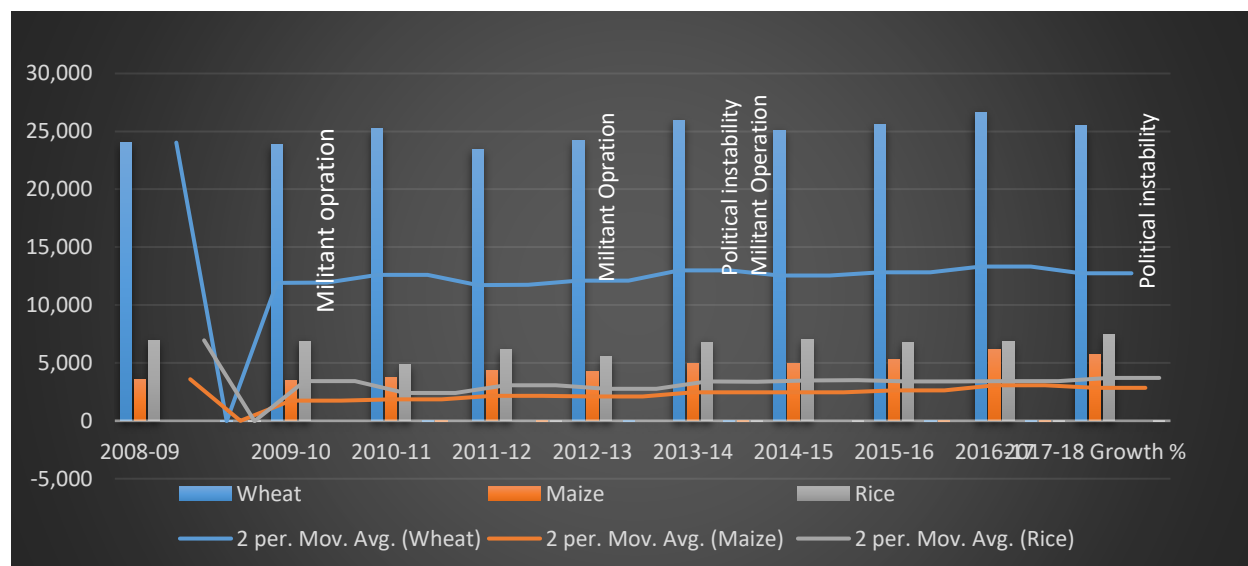
Pakistan has experienced significant political instability between 2008 and 2018, which has had a negative impact on food security in the country. Political instability in Pakistan has been characterized by several factors, including weak governance, corruption, violent conflicts, and terrorism. We will discuss some of the impacts of political instability on food security in Pakistan during this period. Firstly, political instability has led to a decrease in crop production due to various reasons. Disruptions in supply chains, a lack of investment in the agricultural sector, and the displacement of farmers due to conflicts have all contributed to the decline in agricultural production. This decrease in production has resulted in an increase in food prices. The rise in food prices has made it difficult for the poor to access sufficient food, exacerbating food insecurity. Moreover, the increase in food prices has also contributed to a rise in inflation, further worsening the food security situation. Secondly, political instability in Pakistan has led to the displacement of many people, particularly in conflict-affected areas.

The displacement of people has disrupted their livelihoods and access to food, leading to increased food insecurity. The lack of stability and ongoing conflicts have made it challenging for people to maintain their agricultural activities and sustain their food production. Thirdly, political instability has made it difficult for humanitarian organizations to deliver aid to those in need, particularly in conflict-affected areas. Limited access to humanitarian assistance has further exacerbated food insecurity among vulnerable populations.

Furthermore, political instability has also led to social instability, which has had a negative impact on food security. The breakdown of traditional support systems due to social instability has made it difficult for vulnerable populations to access food and support themselves adequately.

According to the World Bank, Pakistan's political stability risk ranked poorly compared to developed countries. The average value for Pakistan's political stability risk between 1996 and 2020 was -2.11 points, indicating a weak political situation. In 2020, Pakistan's political stability risk was -1.85 points, further highlighting the challenges the country faces in terms of political stability. Additionally, according to the Prosperity Index rankings, Pakistan is ranked 136th out of 167 countries in terms of overall prosperity. This low ranking reflects the negative impact of political instability on food crop production and access to food in the country.

Fig. 1 Political instability and conflict directly effects on crops production

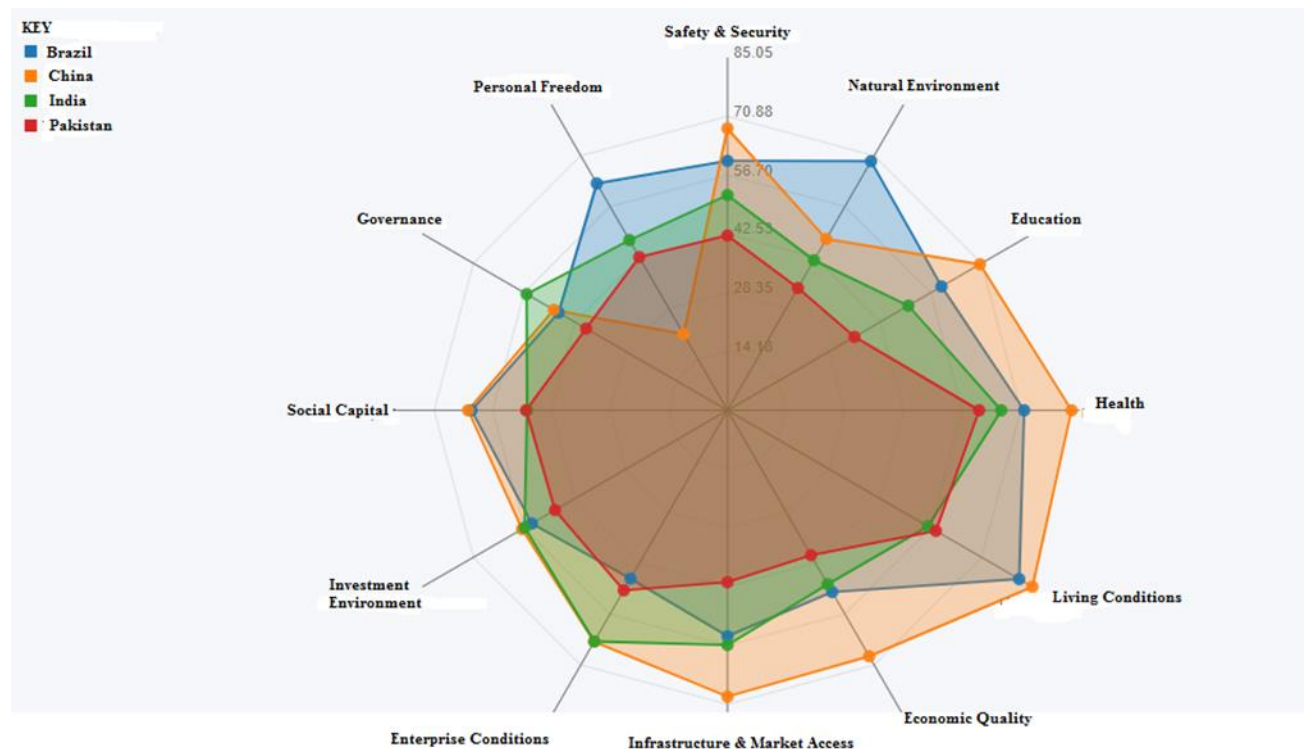


Based on the figure, 1 there is a noticeable trend indicating that when political instability increases, crop production tends to decrease. This pattern can be observed in specific instances such as the years 2009-2010 in Swat and Bajawar regions, where militant (Taliban) issues arose. The presence of militants and subsequent military operations led to the evacuation of people from these areas, resulting in a decline in agricultural production during those years. Furthermore, in 2017, when the existing prime minister was dismissed from his position and the political situation worsened, the adverse effects on food production became evident. The unstable political environment during that period likely disrupted agricultural activities and had a direct impact on crop yields. These examples highlight the connection between political instability and agricultural

productivity. When political tensions, conflicts, or disruptions occur, they can disturb the normal functioning of the agricultural sector. Farmers may face challenges in accessing inputs, receiving necessary support, or maintaining stability for their farming activities. Consequently, these factors can contribute to a decline in crop production and exacerbate food insecurity.

In conclusion, political instability in Pakistan between 2008 and 2018 has had significant adverse effects on food security. The decline in crop production, increase in food prices, displacement of people, limited access to humanitarian assistance, and social instability have all contributed to worsening food insecurity in the country. Addressing political instability and its underlying causes is crucial for improving food security and ensuring access to sufficient and nutritious food for all in Pakistan.

Fig: 2 Political instability comparison ranking of Pakistan, Brazil, china and India



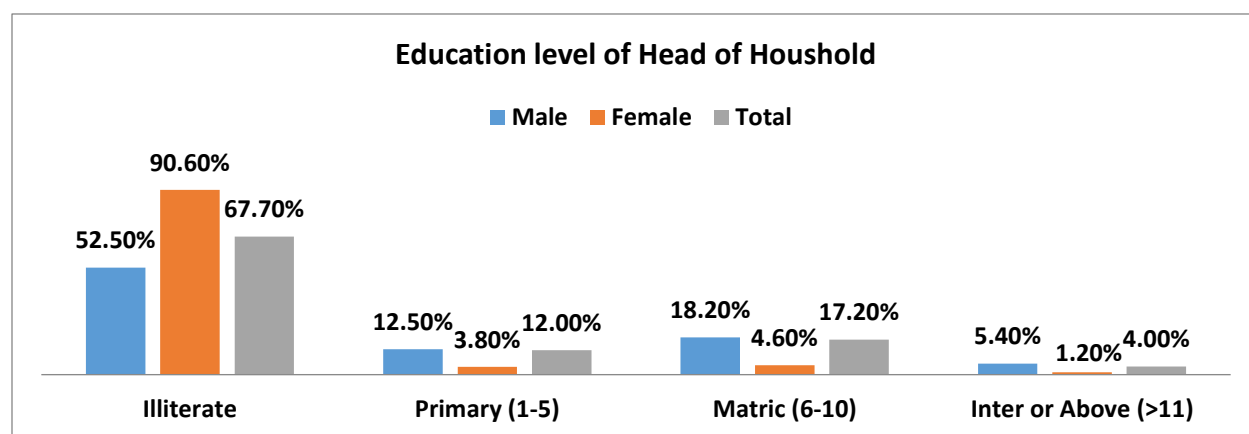
Source: LPI, 2023

Based on the figure, 2 Pakistan's position is comparatively worse compared to other countries. Data points that appear further away from the center on the spider chart represent better performance, while points closer to the center indicate poorer performance. So comparatively, it reveals that Pakistan has the weakest governance. It's due to Political instability.

3.2 Education in Pakistan and its impacts on income

Education is a crucial variable that affects income and food insecurity in Pakistan. Over the period of 2008-2018, the country has made progress in improving access to education, especially for girls. However, significant challenges still exist. Research has shown that education has a significant impact on income and food security in Pakistan. Higher levels of education are associated with better job opportunities, which, in turn, improves individuals' ability to access food and reduces food insecurity. Education also enhances people's knowledge of nutrition and healthy eating habits, further reducing food insecurity and improving overall health outcomes. Despite its importance, Pakistan faces significant challenges in the education sector. The country has one of the highest rates of out-of-school children globally, particularly among girls. This limits educational opportunities and perpetuates cycles of poverty and food insecurity. Additionally, even when education is available, many children struggle to attend school due to factors like poverty, inadequate infrastructure, and lack of transportation. These challenges are particularly pronounced in rural areas, where poverty and food insecurity are more prevalent.

Fig: 3 Education level (Head of Household)



Source: Field survey, 2018

According to the figure, 90.60% of females in the study area are illiterate. This indicates a very low literacy rate among females. This low literacy rate can be attributed to cultural barriers and low income levels.

Fig: 4 Education level and annual income of household

Schooling Years	Education	Average annual Income (PKR)	Average annual Income (US\$)
0	Illiterate	1-30,000	1-104

1-5	Primary	30,000-45,000	104-156
6-10	Matric	45,000-60,000	156-209
>11	Inter or Above	60,000- >	209->

According to figure, 04 the annual income is considerably lower for illiterate individuals compared to those with primary education and higher levels of education. The table shows that the maximum income for individuals with primary education is 45,000 rupees per year, while for those with a matriculation level of education (equivalent to completing 10 years of schooling), the maximum income is 60,000 rupees per year. For individuals with an intermediate level of education or above, the income is reported to be 60,000 rupees or higher. It is important to note that these figures are approximate and may vary depending on various factors such as occupation, industry, experience, and geographic location within Pakistan. The table suggests a positive correlation between educational attainment and income levels, indicating that individuals with higher levels of education tend to earn more.

To address the issues related to education and its impact on income and food insecurity, the government of Pakistan needs to prioritize education as a key policy area. This can involve increasing funding for education, improving access to schools and infrastructure, and addressing poverty and inequality issues that hinder children's access to education. Such efforts will ensure that more citizens have the knowledge, skills, and opportunities needed to improve income levels and reduce food insecurity in the long run. Furthermore, education is an important factor that can impact food access and food security in Pakistan. Education contributes to higher income levels, improved employment opportunities, and informed decision-making regarding food choices. The Pakistan Social and Living Standards Measurement (PSLM) survey data reveals a positive correlation between education levels and food security, with households headed by individuals with higher education levels being less likely to experience food insecurity. In addition to income and employment opportunities, education also enhances knowledge about nutrition and health. Education programs that promote healthy eating habits and proper food storage and preparation can improve food security and reduce malnutrition rates in Pakistan. However, access to education remains a challenge, particularly in rural areas where poverty rates are high and quality education is limited. Additionally, the cost of education poses a barrier, particularly for girls who may face societal expectations to prioritize household chores or early marriage.

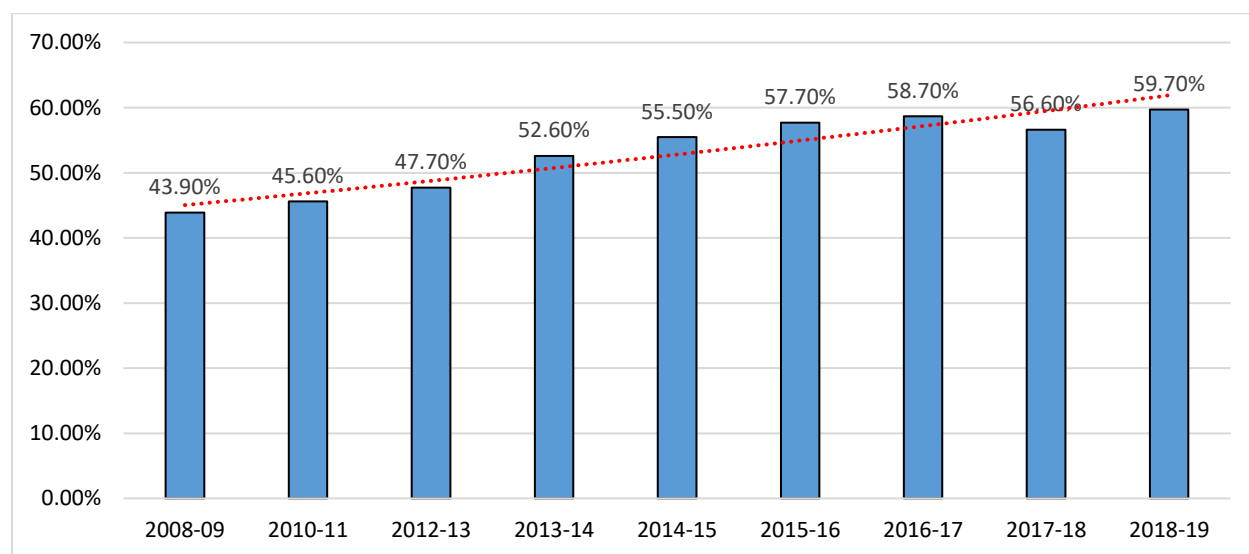
Improving access to education in Pakistan can positively impact food security by increasing income levels, employment opportunities, and knowledge about nutrition and health. However, addressing the barriers to education access requires sustained investment and commitment from the government and other stakeholders. Pakistan's low literacy rate is a significant obstacle to agricultural growth and economic development. Efforts to increase the literacy rate and improve the education system with modern technology are essential for addressing food insecurity and poverty in the country.

3.3 Family structure and household size

Family structure and household size can have a significant impact on food insecurity in Pakistan. The composition of a household, including the number of individuals and their relationship to one another, can affect factors such as household income, access to social support, and distribution of resources within the household. In terms of household income, larger family sizes can lead to increased expenses and financial strain, particularly for households with low incomes. This can make it more challenging to afford enough food to meet the needs of everyone in the household. Additionally, households with a single income earner or where one or more members are unemployed may be more vulnerable to food insecurity due to limited financial resources.

Access to social support is another important factor influenced by family structure. Families with larger support networks may be better equipped to cope with food insecurity as they can rely on assistance from family members, friends, or the community. Conversely, families with limited support networks may face greater vulnerability to food insecurity as they lack sources of external assistance. Furthermore, family structure can also impact food insecurity through the distribution of household resources. In some cases, resources may be distributed unevenly, with certain family members receiving more resources than others. This can pose challenges for vulnerable family members, such as children or elderly individuals, who may require more resources to meet their nutritional needs. The average household size in Pakistan, as reported by the Pakistan Social and Living Standards Measurement (PSLM) survey from 2008 to 2018, varies depending on the specific study area. However, it is important to note that the study area's average household size was 7.22 persons living and eating together in a single household. Additionally, about one-quarter (26 percent) of all households had four or fewer members. The average number of earners per household was 1.63.

Fig: 5 Family structure/ household size impacts on food insecurity



Source: field survey, 2018

In conclusion, family structure and household size play a crucial role in determining food security in Pakistan. Larger households, limited access to social support, and uneven distribution of resources can contribute to increased vulnerability

to food insecurity. Recognizing and addressing these factors is essential for developing effective policies and programs to alleviate food insecurity in the country.

4. Conclusion

This research has shed light on the causes of food insecurity in Pakistan, with a focus on the agricultural sector. Despite being a major producer of crops such as wheat, maize, and rice, Pakistan's ranking in terms of food insecurity has worsened over the years. Factors such as political instability, inadequate education, large family structures, and limited access to nutritious diets contribute to the high rates of malnutrition and stunted growth among Pakistani children.

Political instability has a detrimental effect on crop production and access to food. Inconsistent policies, inadequate funding, weak governance, and disruptions in supply chains hinder agricultural productivity and contribute to food insecurity. Additionally, natural disasters and armed conflicts further exacerbate the challenges faced by farmers and hinder agricultural production.

Family structure and income levels also play a significant role in limiting food access for many Pakistani households. Larger family sizes with limited income earners may struggle to afford an adequate diet, while unequal distribution of resources within the family can lead to disparities in food access. Moreover, cultural gender roles and responsibilities can restrict income-earning opportunities for women, further impacting household income and food security.

Education is crucial for improving income and food access in Pakistan. Individuals with higher levels of education are more likely to have increased income and better job prospects, enabling them to afford nutritious food. Education also empowers women and enhances health and nutrition awareness within communities.

To address food insecurity in Pakistan, it is essential to implement consistent policies, improve education, ensure effective governance, and invest in agricultural infrastructure. Targeted interventions, including investments in education, income-generating activities, and social protection programs, can help improve food access and reduce food insecurity. Additionally, addressing inflation, natural disasters, and political instability is crucial to creating a more sustainable and equitable food system in the country.

5. FURTHER STUDIES AND RECOMMENDATIONS

Pakistan is an agriculture country but the agricultural sector of Pakistan facing many problems. According to the government of Pakistan this sector cannot grow more than 1.9% in2020 financial year. The agriculture sector has been playing the main role in Pakistan's financial system since independence. In the early days, it was considered a dominant sector, but due to some local political, social, environmental and climatic conditions, its production is gradually declining and it is currently the second largest sector in Pakistan. So in my opinion for further study researcher continue analysis of food insecurity in Pakistan on the basis of flood and drought because in Pakistan flood and climatic changes is also responsible for food

insecurity. In 2010 the flood destroyed crops and livestock, and damaged irrigation systems, which led to a significant decline in food production and an increase in food insecurity. According to the World Food Programme, the flood affected more than 2.5 million hectares of agricultural land and caused an estimated loss of 1.7 million tons of crops.

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