

Agricultural decline in Pakistan and how to counter it

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1. Introduction

- a. Agriculture, once the cornerstone of Pakistan's economy, now suffers from stagnation with a mere contribution of 23.5 pc to GDP (Economic Survey 2024-25) from a historical 45%.
- b. Thesis statement: the agriculture sector in Pakistan suffers from a myriad of challenges, new and old, that can be successfully overcome by harnessing technology, data-driven policies and climate-smart modernisation.

2. Importance of agriculture in Pakistan's economy

- a. Employs 37% of labour force.
- b. Source of food security and exports.
- c. Biodiversity and a nutrient-rich soil with eco-friendly agricultural practices.

3. Causes of agricultural decline in Pakistan and resulting consequences

- a. Misplaced policies and lack of proper regulation has lead to elite capture. Case in point: Sugar sector - water-intensive crops in place of crop rotation.

- b. Pakistan's lowest labour in South Asia - more pronounced in the agriculture sector
- c. Climate change - the combined havoc of floods, pests and drought.
- d. Water scarcity and mismanagement - loss of valuable fertile land.
- e. Lack of land reforms has strengthened ~~the~~ feudalism to the disadvantage of small farmers.

4. Reviving the agricultural sector: Way forward.

- a. Policy direction: Co-operative farming over corporate farming.
- b. De-regulation that is phased, with proper monitoring infrastructure in place to prevent elite capture.
- c. Technology harnessing: the use of solar tubewells in Punjab.
- d. Climate resistant seeds via genetic engineering.
- e. Implementation of the Water Policy 2018.
- f. A strong domestic commerce ecosystem: logistics, warehousing for farm-fresh produce.
- g. Empowering farmers through sustainable farming practices: careful and controlled use of pesticides.

5. Counter argument: Despite its importance, should agriculture really be the 'focus' of Pakistan's economic policy makers.

6. Conclusion

Pakistan's national emblem, adopted in 1954, features a crescent and a star (symbols of Islam) above a quartered shield showing Pakistan's main crops (cotton, wheat, tea, jute) representing its agricultural base. This is not merely a symbol but represents the pre-eminence of agriculture in the early economy of Pakistan. This is also the legacy of large fertile lands, all four seasons, a well-developed canal irrigation system and the mighty river Indus flowing year round. Today, livestock contributes 60% to the agriculture sector and more than 80% of Pakistan's exports are a product of the agriculture sector. Why then is Pakistan in the headlines for a declining agricultural sector? Facts such as fallen contribution to 23.5% of agricultural products sector, lowest productivity in South Asia point towards a grave crisis. There are myriad problems that plague this sector which include political elite capture, climate change, inefficient labour force and lack of technology upgradation. Despite all these challenges, there is ample potential for revival as this essay shall explore in-depth.

The importance of agriculture can not be undermined. According to the Economic Survey of Pakistan, this sector employs 37 per cent of Pakistan's labour force. Majority of that labour

force is rural, reflecting its importance for low-income rural households. Any policy impacting agriculture impacts the most marginalised in society who often do not have other sources of livelihood. In addition, agricultural production is a source of food security and exports for the country. Agricultural produce contributes \$5 billion to Pakistan's \$28 billion total exports. Other major industries such as the textile industry, having a share of 60% exports, also rely on agricultural goods as an input. Further, the production of staple crops such as ~~food~~ wheat which is an essential part of the Pakistani diet is crucial to meet food availability and accessibility needs. Lastly, a sustainable agricultural practices ensure the proliferation of flora and fauna, maintaining the biodiversity of Pakistan. ~~For example,~~

The causes of agricultural decline and its ~~con~~ current day manifestations is not an exhaustive list. However, the foremost cause is the lack of policy continuity and effective regulation in the past. According to the Rice Exporters Association of Pakistan, rice exports have surged to \$4 billion in the recent past because rice does not have the same ~~re~~ state intervention that sugarcane and wheat do. Pakistan's crop production is dominated by a handful of crops which have suffered from misplaced

government policies. For example, after the 25th IMF loan, the government in complying with IMF conditions removed the minimum support price for wheat. The irony is that the government eventually had to reverse it. Without proper warehousing and monitoring by the government, the farmers were at a loss at the hands of sugar mafia and wheat hoarders. The crux is that the government did not have the necessary

infrastructure to regulate. Leading to a loss of morale of farmers who wanted to shift away from wheat production. Further, in the past year, Trading Corporation of Pakistan exported wheat without gauging domestic production accurately again leading to a wheat crisis. To sum up, weak and ineffective policies have significantly hampered the agricultural sector.

Second, Pakistan's agricultural productivity has significantly decreased in the past fifty years. The new labour force survey 2022-25 shows that one-third of jobs are still in low productivity agriculture. Female participation remains the lowest in South Asia. Pakistan also shows the worst labour productivity in the entire South Asian region. According to a recent report published by Dawn (November 2024), almost 80% of the farms in Pakistan are small.

landholding which prevents the mechanisation of farms. The lack of technology upgradation has led to reduced agricultural output. To increase the labour productivity also requires a skilled workforce. However, this is currently stalled in Pakistan.

Third, Climate change has led to host of unforeseen and unpredictable problems that have affected agricultural output. Pakistan's groundwater depletion is occurring at an accelerating pace as temperatures rise. Home to over 7000 glaciers, Pakistan has one of the greatest number of glaciers outside the Arctic region. Their melting leads to flash floods whereby Pakistan also does not have the requisite capacity to store enough water. In the past, inter-provincial mistrust has led to the lack of building of storage dams in the upper riparian regions of the river Indus. Lack of climate resistant seeds has led to the reduction of cotton output to 6.5 million bales annually (Cotton Ginners Association). Thus Pakistan has become the 6th largest cotton producer whereas it was previously the third. Temperature fluctuations because of climate change have also led to pests that cause millions of losses annually.

Fourth, the mis-management of water at all levels has affected the agriculture sector at different levels. Too little water flow and water wastage has led to reduced water flow to the South impacting the fisheries sector. According to a 2019 study by the Pakistan Council of Research in Water Resources, approximately 2.2 million acres of fertile land have been rendered unproductive due to sea water encroachment as less Indus water flows to the delta region. The loss of Palla fish in the South as it nearly becomes extinct has impacted the fisheries sector as it requires constantly moving water. Pakistan is one of six countries with the highest levels of inefficient agricultural water use amid increasingly arid conditions, contributing to the annual global loss of 324 billion cubic metres of freshwater, according to the first edition of the global water monitoring report by World Bank.

Lastly, the presence of feudalistic structures in ~~some~~ provinces have entrenched elite capture to the detriment of small farmers. Pakistan could not successfully implement land reforms to the same scale and scope as neighbouring India did right in the early years of its

independence. When feudals dictate policies, it only leads to an elite capture that is hard to escape from. Renowned agricultural experts have mentioned that crop rotation is crucial to maintain soil fertility and nutrient enrichment. However, the elite capture of rice and sugar millers have led to unsustainable agricultural practices. These Feudal collision with millers have only led to the detriment of farmers without increase in overall agricultural output of the country.

While the agricultural sector is riddled with challenges, proposed measures can ensure that ~~a~~ ^{both} positive qualitative and quantitative impact can ensue. The first such measure is introducing a policy measures for co-operative farming. Co-operative farming is a system where farmers voluntarily join together to form organisations (cooperatives) with the intention of mutual benefit under the core of collective. Utk Academic Mr Ally Memou elaborates that it is a way of organising whereby joint purchasing of inputs occurs. Produce is collectively marketed to get better prices, equipment and labour is shared, financial services are provided to members of the cooperative and so on. Success in cooperative farming is measured by its contribution to the incomes of farmers are part of cooperatives. Thus.

system can ensure the benefits of corporate farming are reaped without the ensuing corporate greed.

Second, the government should ensure "phased" deregulation of the agriculture sector. The forces of market supply and demand should persist and price fixing should be abhorred. To prevent wheat hoarding and accompanying farmer losses, there should be infrastructure in place to monitor the wheat input and output by millers. Electronic ~~warehouses~~ data can give real-time information for better data-driven policies. Unfair and uncompetitive practices in the sugar sector should be legally dealt by the Competition Commission of Pakistan under the Competition Act 2010 especially with regards to cartelisation.

Third, targeted subsidies should be given to farmers for technology adoption. ~~For example,~~ the use of drip irrigation can reduce water wastage considerably. The mechanisation of farms and use of tractors is possible through co-operative farming. Technology can also lead to more sustainable agriculture practices. For example, the Sindh Solid Waste Management Board has recently

installed the first biogas plant to generate natural gas from the vast amount of agricultural waste. In a similar vein, the solarisation of tubewells has increased agricultural productivity in Punjab. However, it must be acknowledged that it has been done to the detriment of ground water levels.

Fourth, it is crucial that the National Seed Authority and the provincial agricultural authorities work in synchrony to introduce new climate-resilient varieties of seeds. Simultaneously, smuggling of low quality seeds from across the border needs to be controlled. The real driving force behind the Green Revolution of the 1960s and 1970s was the breakthrough in high yielding crop varieties - most notably the semi-dwarf wheat bred by Nobel Laureate Norman Borlaug (introduced in Pakistan as Mexi-Pak and the International Rice Research Institute varieties). It is crucial that this momentum ~~was~~ sustained. It can also help reduce the import bill as raw cotton ^{imported} from the USA is still one of Pakistan's main imports.

Fifth, for better water management, it is crucial that already existing policies such as the National Water

Policy 2018 are implemented in letter and spirit. High efficiency irrigation can be promoted through incentivising ~~the~~ laser levelling, mandatory watercourse lining in critical reaches. Planned irrigation techniques can be introduced such as canal automation/telemetry for predictable releases. Failing water tables and salinity can be countered by promoting recharge for example checking dams, percolation tanks. Combating salinity and waterlogging through drainage can also reclaim lost agricultural land.

Additionally, a strong domestic commerce ecosystem by introducing Domestic ~~Water~~ Commerce Policy can give more autonomy to farmers and empower them to sell their produce directly rather than through middle-men. This policy can include guidelines for promoting a strong logistics ecosystem. For example, in Pakistan over 94 pc of cargo is transported by road, while rail carries just 6 pc, despite being a cheaper and more sustainable option. It can also introduce guidelines for small farmers to readily access loans without any collateral. Improving access to finance for farmers can help with input costs and lead to better agricultural incentives overall.

hastly, farmers awareness needs to be increased to implement sustainable agricultural practices. Even today, while Pakistan produces a variety of fruits and vegetables, a large number of them go to waste. Meeting international standards for export comes with traceability, certification requirements. Increasing use of pesticide by farmers renders agriculture food harmful for human health and unsuitable for exports. It is important that farmers are made aware of biological pest control methods.

Despite the aforementioned arguments, it is argued that agriculture sector should not receive the priority focus that it is currently receiving for example, it is listed as a key sector for investment by the Special Investment Facilitation Council. Critics argue that all developed economies have transitioned to an industrial base and expansion of services sector. However, it must be noted that while industrialising rapidly, advanced economies such as the Netherlands and the USA have modernised their agriculture sector to such an extent that it meets all their food security needs and availability needs. In a similar vein, Pakistan has rich agricultural resources that it should not neglect.

"When tillage begins, other arts follow.
the farmers, therefore, are the
founders of human civilisation"

The aforementioned quote by Daniel
Webster highlights the grave importance
of agriculture as the bedrock of
human civilisation. In today's modern
world as well, it is important
that economies like Pakistan reap
the benefits of the agricultural
sector. To conclude, despite facing
several challenges, it is important
to reverse the current decline and
stagnation of the agricultural sector
so that Pakistan can meet its
population needs, rising import bill and
retain the ecological balance. As
discussed, the right policies, infrastructure,
modernisation and political continuity
can make a world of difference
and help Pakistan break away from
the resource curse.