

Topic: Agriculture decline in Pakistan how to counter it

A. Introduction

Agriculture sector is considered the bedrock of Pakistan's economy; however, climate change, old method of farming, floods and stubble burning have jeopardized Pakistan's agriculture sector potential. Hence, certain measures must be adopted to revive Pakistan's agriculture sector potential.

B. Importance of agriculture sector for Pakistan's economy

- 1) Contribute 24% of Pakistan's economy and engage 37% workforce. (SBP)

C. Factors that are responsible of declining of Pakistan's agriculture sector.

1. Climate change has devastated Pakistan's agriculture sector

1. "Climate change greatest threat to Pakistan's economy" (Morning Media)

2. Water shortages has deteriorated Pakistan's agriculture potential

1. Sindh and Punjab have faced 23% water shortage (IRSI)

3. Heatwaves and scorching heat are aggravating agriculture yield.

- 1) 10% decline in crop yields due to heatwaves (Dawn article)

4. Continuous floods have destroyed agriculture crops
 - a) \$5 billion in agriculture losses (Ministry of Climate Change)
5. Old methods of cultivation have underutilized the potential of agriculture sector
 - a) Pakistan has used decades old methods of cultivation
6. Lack of research in agriculture sector has paved waste of resources
 - b) only one university "University of Faisalabad"
7. Stubble burning has caused diminishing of land fertility
 - a) Eradicate biodiversity and land fertility

D. Approaches to revive Pakistan's agriculture sector by eradicating all these shortcomings

1. Climate resilient practices must be ensured to overcome climate induced disaster
2. Transparent distribution of water resources to ensure water availability
3. Modern methods of cultivation must be adopted to enhance agriculture yield
4. Small scale loan must be provided to small farm holders
5. Use of artificial intelligence to overcome crop diseases
6. Collaboration with advanced countries to enhance agriculture potential

E. Conclusion

Agriculture sector has considered the bedrock of developing economies. Similarly, Pakistan despite being a developing country, agriculture sector has played an important role in maintaining the entire economic system of the country. Unfortunately, climate change, water shortages, floods and old methods of farming are the main causes of Pakistan's agriculture decline. Similarly, stubble burning, lack of research and scorching heatwaves have deteriorated the actual agriculture potential of the country. Furthermore, climate change has considered the primary cause of Pakistan's agriculture backwardness. Every year, continuous floods, drought, and scorching temperature are causing the decline of agriculture potential. Developed countries have utilized their agriculture sector through advance methods of agricultural research and use of modern agriculture techniques; however, Pakistan has been used decades old methods of cultivation that further deteriorating

the actual production capacity of the country. Similarly, lack of research and collaboration with advance countries have further exposed the agriculture potential of the country.

To begin with, agriculture sector has played an important role in maintaining the entire economy of the country by providing raw material to industries, contribution to the GDP of the country and engaging handsome number of workforce.

According to the State Bank report, agriculture sector has contributed 24% to the GDP, 37% workforce and provide raw material to Pakistan's industrial sector.

Similarly, over sixty percent of the population has depended on agriculture sector. Cotton one of the important export products of Pakistan export sector and Pakistan is the fifth largest producer of Cotton Crop in the world. Moreover, agriculture sector provides food to local people to survive their lives and sell out to fulfill their domestic needs. Thus, agriculture

sector truly the bedrock of Pakistan's economy.

There are several factors that have deteriorated the actual potential of Pakistan's agriculture sector which are discussed below.

First, Climate change has considered the primary cause of Pakistan's agriculture underdevelopment. Continuous floods, scorching heatwaves, water shortages are the primary consequences of climate change. According to climate minister Musadiah Malik, Climate change is the greatest threat to Pakistan's economy and agriculture sector. This highlights the harshness of climate change to demolish the agriculture sector of the country. Climate change not only disturbs the agriculture sector but also pushes millions of people into extreme poverty. Thus, climate change is causing huge impact toward the agriculture sector.

Second, water is considered the lifeline of every agricultural country. However, over eighty percent of Pakistan's water

resources has consumed the
agriculture sector of the
country. According to Indus
River System Authority (IRSA),
Punjab and Sindh have faced
33% of water shortages. Both
Punjab and Sindh are consider-
ed the agricultural hub of
the country. Shortages of water
have deteriorated the actual
potential of these two provinces.
Similarly, water scarcity not only
disturb the agricultural potential
of these two provinces but also
affects the livelihoods of indigenous
people.

Third, heatwaves and scorching
heat are destroying crop yields
and push millions of people
into extreme poverty line. Agric-
ulture sector requires balance
temperature and friendly atmospheric
environment to enhance its produ-
ction capacity; however, scorching
heat and heatwaves are affecting
the actual potential of agricul-
ture sector.

According to the
Dawn article, 10 to 12% shortages
has occurred in the yields
of agricultural crops due
to scorching heat and heatwaves.
Thus, agriculture potential is

declining due to unfriendly atmospheric patterns.

Fourth, floods have deteriorated the agriculture sector of the country. Every year, continuous floods have destroyed year-to-year crops of the country. The floods of 2010 and 2011 were destroyed the entire economic system of the country. According to the Ministry of Climate Change, Pakistan has faced \$5 billion agriculture losses due to monsoon floods. Similarly, continuous floods in every year are diminishing the actual potential of the country.

The entire monsoon season from June to September, Pakistan has faced the dire consequence of floods in the country. Hence, persistent floods have aggravated the food need of the country.

Fifth, Old methods of cultivation has underutilized the actual potential of the agriculture sector of the country. In the twenty-first century, modern methods of cultivation have doubled the agriculture yield of advance country. Unfortunately, Pakistan, has failed to

to adopt modern methods of cultivation to enhance its national wealth and agriculture export. According to a report, Pakistan has been using the decades old methods of cultivation which further deteriorated the potential of the agriculture sector.

Therefore, modern methods of cultivation are very important to enhance the agriculture potential of the country.

Since, lack of research in agriculture sector has narrowed down the opportunities for the development of agriculture sector. Every country now prefers to modern techniques of production and research on crop yields in order to fulfill domestic needs and to enhance national wealth. However, Pakistan has failed to develop modern methods of cultivation and research to diversify its agriculture sector. According to Dawn article, Pakistan has only one university "Agriculture University of Faisalabad" work on research. This shows Pakistan's backwardness in the field of research.

Last but not the least, stubble burning has caused diminishing of land fertility which automatically affects the production capacity of the land. Natural composition of land such as biodiversity is very important for agriculture production. Unfortunately, ninety percent of ~~of~~ agriculture residue is burnt in Pakistan. This burning not only deteriorates the fertility of land but also eradicates biodiversity on the surface of land which is very important for human survival on Earth.

It's not enough to explain the main causes of Pakistan's agriculture decline, but there are some effective measures to overcome it.

Climate resilient practices must be ensured to mitigate the severe consequences of climate change. Transition to renewable energy, reforestation and afforestation must be prioritized to overcome the havoc of climate change on agriculture sector of the country. Similarly, crop

Irrigation system must be adopted in water scarce region of the country to fulfill agriculture demand of the country.

Similarly, water shortage is one of the primary causes of Pakistan's agriculture underdevelopment. However, to ensure water availability, both Center and units distribute water resources transparently.

Similarly, there are several pending projects such as Diamer Basha dam and Kalabagh Dam. These dams must be accomplished to ensure water availability and future storage. Moreover, the Indus River Authority (IRA) must be deposited to ensure equal distribution of water in the country.

Furthermore, modern methods of cultivation must be adopted to enhance the agriculture potential of the country. India and Israel are the best model countries for Pakistan. They have adopted modern methods of cultivation such as drip irrigation and

rain harvesting system.
Similarly, agriculture research
must be prioritized to
understand crop disease and
effective supply of nutrients
for the land.

In addition, small scale
loan must be provided to
small-farm holders to fulfill
their production needs such
as basic nutrients like "Urea"
and other medicines to eradicate
crop diseases. Moreover, continuous
floods have jeopardized the
land of people both in urban
rural areas of Pakistan. They
must be assist in terms of
money and other basic necessities.

Moreover, artificial
intelligence has been used in
multiple sector to enhance
work efficiency and production
capacity. Similarly, Pakistani farmer
must be educated about
artificial intelligence. For example,
'drone surveillance system' and
Aerial Spray Carried out
through artificial intelligence.
Similarly, artificial intelligence
provides time information about
land fertility and disease. This
help farmer to formulate productive

strategies to overcome crop loss.

Last but not the least, Collaboration with advance countries regarding agriculture research and production efficiency. For example, China is one of the primary example of agriculture boom in the twenty-first century. Pakistan must works with China through China Pakistan Economic Corridor (CPEC) to enhance agriculture production and new methods of cultivation. Similarly, modern technique such as utilization of artificial intelligence and Aerial spraying for locusts to enhance agriculture yield of the country.

In a nutshell, Pakistan's agriculture sector is declining due to climate change, water shortages, old methods of cultivation, lack of research in agriculture sector and persistent floods. Similarly, the agriculture sector of Pakistan has played an important role in the development of a country. For example,

50% of Pakistan's ~~as~~ export depend on agriculture sector. However, these shortcomings have eradicated the actual potential of the agriculture sector. Hence, Certain primary measures must be implemented to revive Pakistan's agriculture sector. For example, Climate resilient practices, water availability through transparent distribution, advance methods of cultivation must be ensured to overcome Pakistan's agricultural losses. Thus, Pakistan's agriculture sector has immense potential in the form of livestock, fishing and minerals. These resources must be utilized to revive Pakistan's agriculture sector and the entire economy of the country.