

Topic: Agriculture decline in Pakistan how to counter it

A. Introduction

considered the backbone 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

a) 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.

q. Climate change greatest threat to Pakistan's economy (Mardig/Modik)

2. Water shortages has deteriorated

-d Pakistan's agriculture potential

q. Sindh and Punjab have faced 23% water shortage (IRSA)

3. Heatwaves and scorching heat are aggravating agriculture yield.

q. 10% decline in crop yields due to heatwaves (Dawn article)

4. Continuous floods have destroyed agriculture crops
a) 85 billion in agriculture losses (Ministry of Climate)
5. Old methods of cultivation has underutilized the potential of agriculture sector
a) Pakistan has used decades old methods of cultivation
6. Lack of research in agriculture sector has paved wastage 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 adopted to overcome climate induced disasters
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 advance countries to enhance agriculture potential

E. Conclusion

has been considered the

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 of Pakistan is dependent on agriculture sector. Cotton, one of the important export products of 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

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sector truly the bedrock of Pakistan's economy.

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

First, climate change has is 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 Ahsan Iqbal, 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.

This 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

consumption of
resources has increased in the
agriculture sector of the
Country. According to the Indian
River system authority (IRSA),
Rajasthan and Sindh have faced
23% of water shortage. Both
Rajasthan and Sindh are considered
as of the agricultural hubs of
the country. Shortages of water
have deteriorated the agricultural
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 scarcity
heat are destroying crop yields
and push millions of people
into extreme poverty line. Agri-
culture sector requires balance
temperature and friendly atmospheric
environment to enhance its produc-
tivity capacity; however, scorching
heat and heatwaves are affecting
the actual potential of agriculture
sector. According to the

Plan office, 10 to 12% shortage
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 agricultural 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 materialized the actual potential of the agriculture sector of the country. In the twenty-first century, modern methods of cultivation have doubled the agricultural yield of a 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 used 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" works 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 affect the production capacity of the land. Natural composition of land such as biodiversity is very important for agriculture production. Unfortunately, ninety percent 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, drip

Irrigation system must be adopted in under 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 provinces distribute water resources transparency.

Similarly, there are several Diamer Bhasha dam and Kalabagh Dam. These dams must be

accomplished to ensure water availability and future storage.

Moreover, the Indus River Authority (IRA) must be reformed 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 models.

Key countries for Pakistan 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.

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 and rural areas of Pakistan. They must be assist in terms of money and other basic necessities.

Moreover, artificial intelligence has 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 proactive

strategies to overcome crop loss.

Last but not the least, collaboration with advanced 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 ~~most~~ ^{most} 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,

70% of Pakistan's export
depends 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 transpa-
rent distribution, advance methods
of cultivation must be ensured
to overcome Pakistan's agricul-
ture losses. Thus, Pakistan's
agriculture sector has immense
potential in the form of
livestock, fishing and mining.
These resources must be utilized
to revive Pakistan's agriculture
sector and the entire economy
of the country.

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