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Agricultural decline in Pakistan and how to counter it.

Outline

I- Introduction.

a - Hook

b - Background information

c - Thesis Statement

A land well-known of its agricultural capacity is now a victim of chronic internal, external and environmental factors that declined its agricultural capacity, however, with some strong, advance and proactive strategies Pakistan can effectively counter its agricultural downfall.

II- Why Pakistan's agriculture sector faces a sharp decline

a - The acute water shortage and scarcity in Pakistan.

b - Weak management capacities in agricultural sector of Pakistan.

c- Poor technological advancement in agricultural arena in Pakistan

d- Changing Climate Patterns and agricultural vulnerability of Pakistan

III - How to counter this agricultural decline in Pakistan.

a- By ensuring strong water management strategies in Pakistan.

b- By Enforcing Advance technological techniques and methods in agricultural sector

c- By promoting a culture of Research and development in Pakistan.

d- By introducing effective market reforms and support Programmes for farmers in agriculture sector.

IV - Conclusion.

The Essay

Pakistan, once known as a land of five rivers; today those same rivers are unable to guarantee fertile fields.

A state that is well-known of its strategic location and potential and whose 40% labor tied to agriculture is showing a sharp decline in its fertile capacity. The chronic issues like water scarcity, its weak management, poor technological advancement, and changing climate induce weather patterns imposes a sharp decline in its agricultural productivity.

However, such declined parameters do not the ultimate fate of Pakistan, by ensuring effective water management strategies, by implementing technological methods, promoting a culture of Research and development and last but not the least through support programmes, it can restore its agriculture supremacy and soon become a regional agricultural powerhouse.

To begin with some issues that contribute to Pakistan agriculture productivity decline is first the water scarcity factor that Pakistan is facing. A country whose 80% of agriculture feeds on its rivers are facing a sharp scarcity of water. According to the recent research of the **PIDE** "Pakistan ranked 14th out of 17th high water risk countries". Pakistan and its rivers are facing a water risk also from its neighbour's foul tactics. The India's constant stoppage of water as upper riparian and its suspension of **Indus Water Treaty (1960)** and violation of construction rules also creates problems for water availability in Pakistan and as a result ~~one~~ ^{it} see the agricultural water availability decline that shortage creates food and employment crisis and resulted in low productivity in Pakistan.

Furthermore, in Pakistan's agriculture sector there is a problem

of weak management capacities. The poor irrigation system in the agriculture sector and the wastage of water is very common in Pakistan.

According to water management PCRWR

Pakistan estimatedly loss 60% of clean water in its irrigation process due to weak canal system and poor irrigation methods. The country lacks in water storage capacity, has only Tarbela and Mangla dam that only have the capacity to store the water of 30 days and most of the rainwater in monsoon period is not stored for future use also contributes to the country's fragile water management capability. A country that despite having opportunities of water availability, still faces the water scarcity due to its own failure to manage that water resource effectively in irrigation processes and for storage purposes.

Moreover, the country's use of obsolete traditional methods and its

passion to stick with old cultivation and irrigation techniques also shows a visible decline in agricultural sector in Pakistan. In this arena of AI, modern technological advancement country's farmers are still wasting resources and water in poor methodologies that resulted in limited production. According to the News, Pakistan is 10 to 15 years behind countries like Brazil and Argentina, in adopting modern farming and cultivation methods. Farmers are unable to use modern methods and processes despite contributing and investing huge sum of resources they confronted with limited productivity due to backwardness in deploying the modern methods and technologies in agriculture sector. and contributes to decline in agriculture productivity.

Last but not the least, the environmental factor also adversely inflicts a huge impact on country's agricultural decline. The erratic

rainfalls, heat waves, constant droughts, rapid melting of glaciers, the flash floods largely disturb the crops and fertile lands through salinity, soil erosion and degradation that completely and greatly decreases the crop production.

According to **FAO**, "The Pakistan flash flood, affected ~~over~~ **9m** people and destroyed **849000** hectares of crops

coming just one year after the catastrophic 2022 floods." The major crops of Pakistan like cotton shows ^{loss in} **30%** decline, wheat farmer faces **↑ billions**

The over all **13.5%** decline in production of major crops according to Pakistan Economic survey faced by Pakistan, all due to the extreme weather patterns and changing environmental catastrophic events that country is facing since its inception. This climate induced agricultural vulnerability greatly impacts on agricultural productivity of Pakistan.

Agriculture contributes 24% of GDP, nearly a quarter to Pakistan's GDP and these structural and environmental impacts can easily be managed and improved through various efficient ways that can effectively contribute to its agricultural boom. Below are some of the counter ways that if Pakistan deployed them in its agriculture sector it can bring its sector productivity towards the paths of growth and prosperity.

First, Pakistan needs to ensure strong and effective water management strategies in Pakistan in the aim of boosting its growth and productivity. The use of better irrigation methods like China the sprinkle method to irrigate fields without using over and wasting the water resource. There is a need to improve the canal system in Pakistan, the rebuilding of leakages canals and to control the wastage of resource. Pakistan needs to build

more reservoirs, dams for storage of the water. In order to cope the issue of water scarcity Pakistan needs to focus on water storage as its already in the red zone regarding high water risk. The rain water, flash flood water, the glaciers melting water should be stored effectively for use in time of crisis. In addition to that Pakistan should improve its negotiation and diplomacy with India on IWT (1960) with improve reforms and actions to save itself and its water resource from external illegal threats. By introducing water infrastructure and water diplomacy Pakistan can cope its water scarcity issue and galvanize its agriculture sector.

Second, Pakistan by enforcing advance technological techniques and methods in agriculture sector can also bring the country's agricultural productivity back on the path of

prosperity and growth. The use of climate-resilient crop, the early ~~Reduce~~ Predictability methods in the area of agriculture crops yielding, drought-resilient seeds, and use of modern ways of cultivation by farmers can contribute greatly to manage this issue of poor productivity. From drip irrigation to vertical farming every modern technique can bring Pakistan closer to sustainable food security and productivity.

In the era of climate stress, modern agricultural techniques offer a rare gift; of more crop with less water, land and resource.

So, in this era of AI and modern methodologies sticking to the old, obsolete methodologies is nothing but wasting of resources and energy. By shifting to advance techniques Pakistan can restore its agriculture growth.

Third, there is a dire need to introduce the culture of research and development in Pakistan agriculture sector. The farmers are using old methods and wastage of resources and over-cultivation of the land not only because of lack of resources but also due to the lack of awareness, weak and fragile research developments related to agriculture sector, crop related information. There is no as such agriculture related research departments found in Pakistan that work on agriculture related projects. 5% of budget is both federal and Provincial level spend on agriculture research sector. The underfunding and a huge gap in weak linkages between farmer and researches affects badly on Pakistan agricultural production. Therefore, there is a dire need to strengthen the Pakistan agricultural research institutions like NARC and PARC to work on technology,

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crops, production awareness among farmers by introducing modern ways and strategies to them. Through R&D process Pakistan would be able to counter the widening gap between researcher and farmers and improve its agricultural growth.

Lastly, the need of the hour is to strengthen the farmer sector and their support, so that they can energetically and efficiently work in agriculture sector. Due to climate related disasters many farmers left the agriculture related activities because of the lack of support resources and programmes that consequently decreases the agriculture production. Moreover, they face market prices issues also in selling their crops. Therefore, there is necessary to introduce the fair market prices schemes for farmers to save their exploitation in the markets and furthermore by the introduction of Kisaan Programme / cards

System in which they can get the climate - crop insurance and discount. In case of any climate related disaster or catastrophe they would have their crop insurance so that they can exchange the crops and seeds.

In this way government can shoulder the farmer's burden and also reduce the ratio of decline in agriculture growth sector and in this way increase farmers contribution in agriculture productivity and it will resultantly increase the overall country's growth in agri sector.

To conclude, the country's agriculture sector is very imperative for the country's food security and economic stability. By addressing the water scarcity, management issues, lack in modern methodologies and climate related catastrophes through ensuring strategic management, modern farming practices, promoting a culture of R&D and market reforms and programmes

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Pakistan can lay the foundation for a more sustainable and resilient agriculture future. These counter measures ensure the prosperity and flourishing of the country's agricultural sector and a foundation shift from agricultural decline to agricultural boom of the country.