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PIDE's GUIDE TO POLICY & RESEARCH



# Food Secure Pakistan

CONVERTING A DREAM INTO REALITY



# PIDE P&R

PIDE's GUIDE TO POLICY & RESEARCH

**VOLUME II – ISSUE X**



**Pakistan Institute of Development Economics (PIDE)**

### **Associate Editor**

Fizzah Khalid Butt

### **Founders**

Nadeem ul Haque

Durr-e-Nayab

### **Design**

Fiza Zia ul Hannan

Muhammad Ahsan Zeb

### **Contributing Members**

Dr Abedullah Anjum

Dr Uzma Zia

Farah Naz

### **Picture Gallery**

Mir Muhammad

Aqsa Noor Sheikh



“ Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough food to eat. ”

- (Amartya Sen)





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# Pandora Papers: Is it illegal to setup an offshore company?

AHMAD FRAZ, FARHAT MAHMOOD AND HENNA AHSAN

Offshore companies refer to any business activity that takes place outside of the resident country. This term is usually used in the financial sectors to describe locations where regulations are different than that of the home country. Offshore locations are generally island nations, where entities set up their corporations, investments, and deposits e.g. British Virgin Islands, Seychelles, The Caribbean, Hong Kong and Belize.

There exists an impression that an offshore company is not a legal entity but this isn't the case because offshore company incorporation doesn't exclude the company from the law, instead, the company owner is bound by the laws of that location/country and hence matters such as compliance, accounting, filing, and licensing must all be taken earnestly. The benefits available to offshore companies include favorable tax laws, relaxed regulations, asset protection, some level of confidentiality and reduced risk due to diversified portfolio formation. But critics suggest that offshoring helps hide tax liabilities and money laundering.

Although offshore institutions can also be used for illicit purposes but they aren't considered illegal. Loopholes in the law allow people to legally avoid paying some taxes by moving their money or setting up companies in tax havens, but it is often seen as unethical. In Pakistan whenever an investigation based on leaked documents of offshore companies is released, the same question comes in the mind of the general people: is having an offshore company legal or illegal? Like elsewhere in Pakistan, the law requires the owners of such entities to declare them to the tax authorities and the Security and Exchange Commission of Pakistan (SECP). Once it is done, there should be no legal implications unless there exists a misrepresentation of facts.

About 2.94 terabyte data comprising 12 million documents from 14 sources uncover the offshore secrets of wealthy elites from more than 200 countries and territories. The investigative revelations were done by more than 600 journalists from around 150 media outlets residing in about 117 countries. Most of the data gathered and analyzed spans the period from 1996 to 2000 that exposed the hidden wealth, tax avoidance and,

## Registration procedure of offshore company:

1. Registration form
2. Support documents (i.e. Proof of ID - e.g. passport copy or national ID card, Proof of address, Professional reference written by a lawyer
3. Make the payment.

in some cases, money laundering by some of the world's rich and powerful people. The investigation took 18 months and was led by ICIJ-International Consortium of Investigative Journalists.

## Pandora papers comparison to other leaks:

1. Offshore Leaks (260 GB, 2013)
2. Panama papers (2.6 TB, 2016)
3. Panama papers (2.94 TB, 2021)

**Source:** International Consortium of Investigative Journalists (ICIJ)

It wouldn't be wrong to call Pandora Papers the world's largest investigation done so far. The famous 2016 Panama papers investigation was too based on the scrutiny of huge amount of data, about 2.6 terabytes, but the difference lies in the number of sources from which data has been gathered. The Pandora Papers information came from 14 providers that offer services in at least 38 jurisdictions while the Panama Papers investigation was based on documents from a single provider, the now-defunct Mossack Fonseca law firm. Further the Pandora Papers gathered information on more than 27,000 companies and 29,000 so-called ultimate beneficial owners which is more than twice the number of beneficial owners identified in the Panama Papers. The cache of almost 12 million files – dubbed the 'Pandora Papers' – is said to cover the activities of some 35 current or former world leaders, more than 400 public officials and 100 billionaires. There are twelve names of current head of states and 10 are former head of states from different countries in these papers, none of them were Pakistanis are available on Wikipedia.

Head of states	Former head of states
Ilham Aliyev, President of Azerbaijan	César Gaviria, former President of Colombia.
Sebastián Piñera, President of Chile	Andrés Pastrana, former President of Colombia.
Denis Sassou Nguesso, President of the Republic of the Congo	Alfredo Cristiani, former President of El Salvador
Nicos Anastasiades, President of Cyprus	Francisco Flores Pérez, former President of El Salvador
Luis Abinader, President of the Dominican Republic	Porfirio Lobo Sosa, former President of Honduras
Guillermo Lasso, President of Ecuador	Ricardo Martinelli, former President of Panama
Ali Bongo Ondimba, President of Gabon	Ernesto Pérez Balladares, former President of Panama
Abdullah II, King of Jordan	Juan Carlos Varela, former President of Panama
Uhuru Kenyatta, President of Kenya	Horacio Cartes, former President of Paraguay
Milo Đukanović, President of Montenegro	Pedro Pablo Kuczynski, former President of Peru
Tamim bin Hamad Al Thani, Emir of Qatar	
Volodymyr Zelensky, President of Ukraine	

In Pakistan ICIJ media partner is a small media outlet “Center for Investigative Reporting” (CIRP) registered under Trust Act and ICIJ members in Pakistan include Aamir Latif, Ahmed Rashid and Umar Cheema. Umar Cheema and another journalist Fakhar Durrani, who is not listed as a member on ICIJ website, are the key players which contributed to unravel the network of these offshore companies in reference to Pakistan. The names exposed by these two journalists include politicians, generals, bureaucrats, businessmen, media houses owners and their facilitators. As per Umar Cheema they contacted most of these people during finalization of their findings for Pandora Papers and in most of the cases found unsatisfactory explanations.

A report by Statista.com lists the countries with the most number of politicians listed in the Pandora Papers shared by the ICIJ. According to its calculations, Ukraine tops the list with 38 members, followed by Russia, 19, and the UAE, 11. In all, over 300 current and former politicians have been implicated in this list, with the United Kingdom being the only European country to feature in the Top 10 list.

One can find both positive and negative examples of businesspersons in the Pandora papers . For example, on the positive side, Khalid Adamjee of the Adamjee Group, when contacted about his foreign assets (Catio Trust and Creek Resources Limited), he not only said they are declared in Pakistan, he also shared his wealth statement to prove this fact. Being a resident of Singapore, he is involved in international commodity trading, he said, and therefore he required such a structure for buying and sourcing globally.

# Where Politicians Are Named in the Pandora Papers

Countries with the most politicians included in the Pandora Papers release



Source: ICJ

On the negative side. Bashir Dawood is one such example. In the Pandora Papers, he has been found, together with his wife, as the owner of three offshore companies: Green Ethics Ltd, S. Minor Investments Ltd and Garden Investments Ltd. Earlier. The Federal Board of Revenue made the highest recovery in its history from him in connection with a money laundering case for which he had used an offshore company. Therefore, all involved 700 persons of the Pandora box should be contacted about offshore-related queries in order to get explanation of their part of the story.

Australia, Britain and Pakistan vowed to investigate the revelations. Prime Minister of Pakistan is critically evaluating the situation and has set up a high-level committee under the Prime Minister's Inspection Commission to investigate the Pandora leaks. The development came soon after the leaks when PM Khan held a meeting with senior PTI leaders and federal ministers to discuss the matter and overall country's political situation. It has been learnt that National Accountability Bureau (NAB), Federal Investigation Agency (FIA) and other investigative bodies have been tasked to probe the matter and to bring the right facts in front of the nation.

An offshore company is not itself illegal, and in some transactions it is required for genuine reasons. At the same time the confidentiality provided by tax havens has misused by tax evaders, deceivers and money launderers.

<sup>1</sup> 700 Pakistanis named in the leaks including the current Finance Minister Shaukat Tarin, Senator Faisal Vawda, Pakistan Muslim League-Quaid leader and Federal Minister for Water Resources, Chaudhry Moonis Elahi, Ishaq Dar's son, PPP's Sharjeel Memon, the family of Minister for Industries and Production Khusro Bakhtiar, PTI leader Abdul Aleem Khan and Axaact CEO Shoaib Sheikh, Arif Naqvi of Abraaj group, along with the renowned businessmen, retired army generals and their family members have been named among those with alleged links to offshore companies.

# Revelations to Revitalize Agriculture Sector

DR. ABEDULLAH

**“Yield of all major and minor crops in Pakistan is below the world’s average, making our products uncompetitive.”**

Agriculture is the lifeblood of Pakistan’s economy because it contributes about 18.5% to GDP, provides livelihood to 64% rural inhabitants and employs 38.5% of the total national labor force. In contrast to high contribution of agriculture sector to Pakistan’s GDP, a very meager amount of financial resources is spent on research and development (Figure 1). Investment in other sectors may generate higher growth than agriculture sector but 70% of total population is residing in rural areas, implying that such investment will not help to alleviate rural poverty. It is the only sector that provides raw materials to the industries and helps in poverty alleviation. In addition, it is also one of the major contributors to the foreign exchange earnings.

It is observed that output growth in agricultural sector is mainly driven by input growth and contribution of technology is negligible. Yield of all major and minor crops in Pakistan is below the world’s average, making our products uncompetitive in the international markets. Injudicious use of chemical pesticide and fertilizer has adversely affected the natural resources like soil, water, air and quality and safety of food. On one hand, majority of farmers in Pakistan are smallholder, resource-poor and illiterate, limiting their capacity to quickly adopt modern production

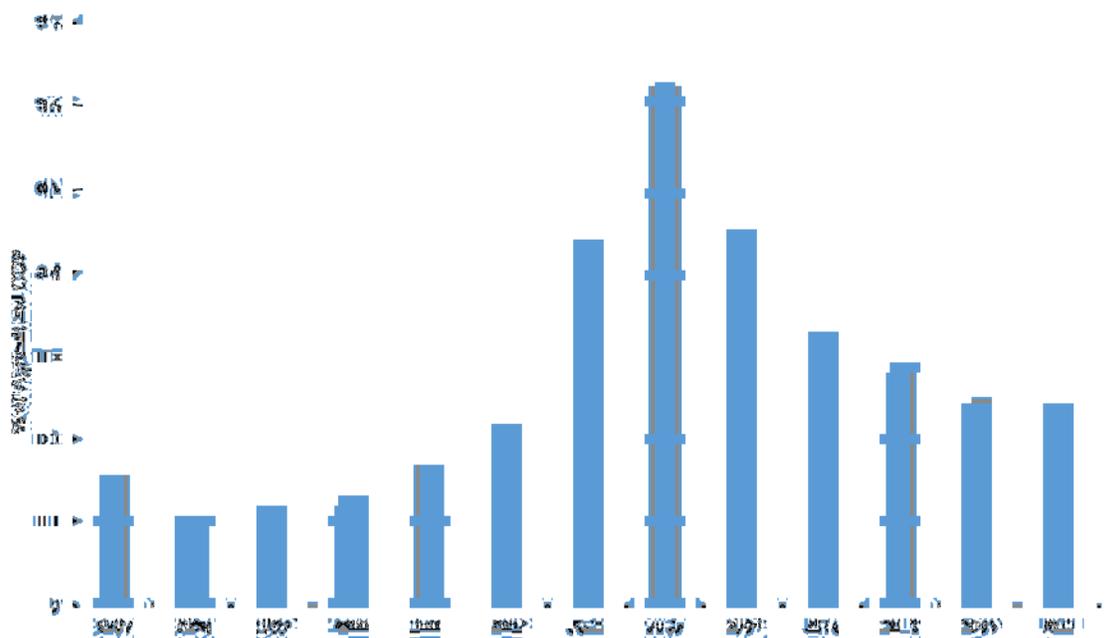


techniques but on the other hand, extension service system is completely outdated especially after fourth industrial revolution. All these issues are jointly making Pakistan uncompetitive in the international markets and also affecting the welfare of local consumers adversely. High cost of production and low quality provides more space for imported products to occupy our local markets.

Water being a critical input for agriculture sector is getting scarce but still Pakistan’s water use efficiency in the crop production system is extremely low. Thus, increasing pressure on natural resources is contributing to increase cost of production. Moreover, per capita availability of land for producing food and other agricultural products are declining overtime but food requirements is continuously increasing lead by increasing population pressure and per capita income growth. This is posing serious threat to future food security and poverty alleviation strategies. It is warranted, if government do not address the aforementioned problems and challenges faced by agriculture sector then it will not only adversely affect the food security of future



“My research showed that one needed to find a balance between markets, government, and other institutions, including not-for-profits and cooperatives, and that the successful countries were those that had found that balance.” - (Joseph Stiglitz, Nobel laureate in economics, 2009)



**Figure 1: R&D investment as percentage of agricultural GDP over the years**

Source: UN (2017). [https://www.theglobaleconomy.com/Pakistan/Research\\_and\\_development/](https://www.theglobaleconomy.com/Pakistan/Research_and_development/)

generations but it may also upset the prospects and development in manufacturing sector and add to the woes of trade deficit and balance of payments.

In contrast to high contribution in GDP, a very meager amount of financial resources like 0.18% of agricultural GDP is being spent on this sector. This has made Pakistan net food importing country since 2013- putting additional burden of US\$2 billion per annum. Yield gap between average and progressive farmers is about 40%, which is even higher between research stations and farming communities (40 to 80%). Similarly, livestock has 7% lower yield in milk production than world average and 2% in major crops. Although we are food self-sufficient in sugar, wheat and rice but bias policies (input subsidy, support price etc.) encouraged farmers to grow these crops, resulted in halting the shifts from low value to high value crops.

The existing processing and marketing structure is afflicted by cartels - leaving no or fewer opportunity for poor and unorganized farmers. Low returns are restricting them to invest in modern technologies, compelling poor farmers to operate at the low level of global production frontier. Resource poor farmers are facing serious credit constraints to adopt innovations on one hand and on the other hand very little public investment has been made on R&D to make these innovations available at low price. It increases the dependency on imported innovations which are not only expensive but also risky. This limits the adoption of innovation to progressive farmers and production at small farms is costly- making Pakistan uncompetitive in international markets.

Macro and micro level policy measures could help to revitalize the agriculture sector. The low private investment in agriculture sector is mainly because of wider gap between social and economic returns on innovation in agriculture sector. Because production in agriculture takes place in open space and imitation becomes easier. This is discouraging private investment unless like in industry where production takes place in close environment and imitation is not possible. Contract farming and development of agro-industrial clusters (AIC) could be a viable option but contract farming is not sustainable if different stake holders in the value chain do not have the capacity to observe innovations. However, it derives research from academic to problem solving research and public funding to private funding research. Moreover,

it helps to transfer government emphasis from broad-based subsidies to need-based support and general infrastructure to human resource development. The development of agro-industrial cluster could generate over US\$22 billion additional income in the agriculture sector but private investments are not coming to harness these potentials. Therefore, unless development of innovations at different nodes of value chains and necessary infrastructure is created through public investment, current situation is unlikely to change. Hence, investment in agriculture sector needs to divert from subsidy to innovate technologies (varieties, breeds and machineries) and to enhance farmer's capacity to absorb these technologies efficiently. This will not only help to improve productivity but also reduce cost of production – improve competitiveness in international markets. In the light of above discussions, the following policy interventions are proposed.

1. Increasing public investment in research and development activities to innovate technologies and strengthening public-private partnership to disseminate these technologies.
2. Divert public investment from direct and indirect subsidies to need based research, capacity building of stakeholders, innovations, establishing vocational institutes and science parks and incubators.
3. Promote contract/cooperative and corporate farming to overcome the existing inefficient production and marketing system.
4. Institutional and policy reforms that can lead to slow down the process of transforming agriculture land into housing societies and industries.

## New Initiative by Pakistan's Government: Prime Minister Agriculture Emergency Programme



Vision "Food Secure Pakistan"



Worth Rs 277 billion



Boost to Agriculture and Livestock



Improvements in water availability



Soil conservation



Shrimp farming



Establishing new agriculture markets



Protecting farmers from exploitation

Contribution by Dr. Uzma Zia

Source: Pakistan Economic Survey (2019-20)

A low-angle photograph of golden wheat stalks against a clear blue sky. The wheat stalks are in the foreground, some in sharp focus and others blurred, creating a sense of depth. The sky is a uniform, vibrant blue, occupying the upper two-thirds of the frame.

“If agriculture goes wrong, nothing else will have a chance to go right.”

- (Mankombu Sambasivan Swaminathan)

# A journey to a Wheat Market

## How to Avert Wheat Crises Permanently?

**ABEDULLAH ANJUM**



Wheat is the most important agricultural crop of Pakistan. It is grown by 80 percent of farmers and planted on about 22 million acres, which is approximately 40 percent of the country's total cultivated land. Punjab plays a major role in wheat production by allocating 16 million acres (71.5 percent), followed by Sindh, Khyber Pakhtunkhwa and Baluchistan with almost similar trends in production. Wheat also contributes 37 percent to both food energy and protein intake. Being staple food, it contributes 72 percent to the food basket of Pakistan, with the highest per capita consumption of 124 kg per person per annum in the world. A significant increase in wheat production has been observed in the past four decades, that is, from 11 million tons, in 1980 to 25 million tons in 2020, while, during this period, the area under wheat has increased from 17.2 million acres to 21.8 million acres. The yield of wheat has increased by over 75 pc during the last eleven years – at an average growth rate of about 2 percent per annum, while the area under cultivation has increased only at a rate of around 0.65 percent per annum. Thus technology has played a major role, albeit at a slow rate, in increasing the size of wheat crop.

The government of Pakistan fixes wheat production targets and the minimum support price, ahead of the Rabi season. After the 18th amendment, provincial governments are responsible to procure wheat from the farmers at the minimum support price and releasing it to the flour mills at a fixed price. Wheat prices and movements are managed at the provincial and district levels. The farming community of Pakistan annually retains 60 percent of the wheat crop for seeding purpose and domestic consumption. To meet food security goals, the government ensures procuring between 25–30 percent of the total wheat production, while the remaining 10–15 pc is left for purchase by the private sector. Provincial governments should procure wheat according to their demand, but this requires financial resources and the provinces governments, especially the smaller ones, are reluctant to spend their money on wheat procurement. Ultimately, the federal government has to procure additional wheat and stock it for the entire year.

IFDS estimates suggest that procurement and distribution of just 30 pc of total wheat production costs the government Rs. 48 billion per annum – buying 7.3 million tons at Rs.35/kg costs Rs. 255 billion. Borrowing this amount from banks at an interest rate of 7.3 pc costs Rs. 11.8 billion, and then storage and transportation costs Rs. 36.2 billion to PASSCO. This makes a total of Rs. 48 billion. The government often fails to timely pay off the loan that it borrows from the banks for procurement of wheat. This has led to a circular debt of more than Rs. 700 billion on account of wheat only.

However, if Government stops intervening in the wheat market and allows the private sector to participate in wheat marketing, then the cost of procurement and storage will have to be borne by the private sector. The cost of the private sector will be ultimately transferred to consumers causing the wheat price to increase by around Rs. 5.0/kg (16 pc) against the Government wished price (Rs.35/kg) (Table 1). Since, the private sector was competing with the Government in procuring wheat from the farmers; they offered higher prices to farmers (Rs.40/kg). Therefore, from the perspective of private sector, the retail prices of Rs.46.6/kg would be justified. Even if we add a profit of Rs.2.0/kg of private sector then prices will remain close to Rs.49.0/kg which is still less than the current price of Rs. Rs.60–65/kg.

On the other hand, government's intervention in the market, including barriers on import and export, give wrong signals to the market, leading to volatility in wheat prices. If the government exits from the wheat market, the volatility in wheat prices will be avoided to the benefit of consumers. In the current year, the government strongly intervened in the wheat market by fixing the support price at Rs. 35/kg and releasing stock but still failed to stabilize the price of wheat flour close to target price. Moreover, the benefit of price increase is neither enjoyed by the farmers nor the government rather it goes to the traders.

If we let the market mechanism to prevail in wheat it is highly unlikely that this will lead to more than normal profits for the traders. Before any wheat shortage occurs the private sector will start

Prices paid by/to	Unit price (Rs./kg) at farm gate and fob prices	Cost of handling, transportation and storage (Rs./kg)	Cost of freight, storage and transportation within the country (Rs./kg)	Prices at retail level (Rs./kg)
Price of wheat purchased by the Government from farmers	35	6.6	-	41.6
Price of wheat purchased by private sector from farmers after adding profit of Rs.2.0/kg	40	6.6	-	48.6
Prices of wheat imported by the Government	44.9	-	4.5	49.4
Prices of wheat imported by the private sector	37.6	-	4.5	42.1
Existing international prices	33.8		4.5	38.3

importing wheat to earn a profit, which will pull down the price. Moreover, farmers can participate in wheat marketing and can stock their produce according to their future anticipations about wheat price. They can also directly supply wheat to the market at the prevailing market price. If at the harvesting stage, local price tends to increase beyond the international price, then the private sector will automatically be motivated to import given economic incentives.

This would ultimately eliminate the wheat crisis and allow consumers to enjoy low prices. However, the government can reserve a certain amount of buffer stock to deal with any emergency but it should be used to distort the market in a normal situation.



### 1. What policy interventions could play a vital role to enhance agricultural productivity in sustainable manners in Pakistan?

Over the past fifty years, Pakistan has achieved substantial growth in yields and production of wheat, rice and cotton. Continued investments in agricultural research and extension are crucial for promoting technical change in agriculture especially in the presence of climate change. Investments in physical infrastructure are also needed to maintain irrigation canals, water courses and drains. In addition, it is important to adopt appropriate soil conservation techniques on upland areas

highly susceptible to erosion, so that land productivity in these areas does not suffer; lands facing increased salinity will also require significant conservation efforts.

### 2. How can Pakistan achieve food security with increasing population pressure?

Achieving food security requires ensuring sufficient access to food, as well as adequate supply of food. Increasing food production in Pakistan can help ensure supply of food but broad-based economic growth that raises incomes of the poor will be essential to enable these population groups to be able

to purchase enough food at affordable prices. Well-targeted safety nets can help, but they are not a substitute for pro-poor economic growth. Finally, food security also includes adequate nutrition, which requires not only sufficient calorie consumption, but also sufficient micro-nutrients and adequate sanitation and health so that nutrients from food can be effectively utilized by individuals. In all these areas, appropriate policies towards international trade will aid food security.

### 3. Rural areas are centers of food production but then why are rural areas more food insecure than urban areas in Pakistan?

<sup>9</sup> Paul A. Dorosh is the Director of the Development Strategy and Governance Division of the International Food Policy Research Institute (IFPRI). He earned his PhD from the Food Research Institute, Stanford University, and has published research on agricultural and food policy of Pakistan, Bangladesh, Ethiopia and other countries in Asia and Africa, including: *Agriculture and the Rural Economy in Pakistan: Issues, Outlooks, and Policy Priorities* co-edited with David Spielman, Sohail J. Malik and Nuzhat Ahmad, (2016).

Food insecurity in rural areas is to a large degree a problem of rural poverty. Poor rural households in Pakistan lack sufficient resources (particularly land and livestock) to produce enough food or earn enough non-farm income to purchase enough food.

#### 4. What policy initiatives can help to improve food security in Pakistan?

In addition to the economic policies described above that promote increased agricultural productivity and increased incomes of the poor, etc., research in many countries has shown that increased education and empowerment of women can lead to improved health and nutrition outcomes for infants and young children.

#### 5. What kind of land reforms encourage adoption of modern technologies? Do you think it has any link with land use efficiency?

Land reform does not necessarily lead to adoption of modern technologies and increased land efficiency. However, if those who acquire more land through land reform also have adequate access to agricultural inputs, extension services, affordable credit and markets for their output, it is likely that land use efficiency would improve as smaller farmers may be able to devote more labor resources per hectare than larger farmers do. The Government may also consider voluntary consolidation of land and promoting contract farming to address the high level of land fragmentation and commercialization of agriculture

produce of small farmers.

#### 6. Can you suggest some policy interventions that can lead to improved water use efficiency in the agriculture sector of Pakistan?

Maintenance of the physical infrastructure (dams, canals, water courses, etc.) is, of course, essential. Strengthening water user associations has also proven effective in many cases in helping to increase water use efficiency in parts of Pakistan, as well as other countries. Public policy needs to focus on creating awareness for efficient use of water, increasing water productivity, and moving to crops that use less water. Pricing water in irrigation systems, as done in many countries, also could be considered as an option for providing incentives for farmers to use water in the most efficient ways.

#### 7. Rural transformation leads to alleviate poverty but how can Pakistan speed up the process of rural transformation?

Rapid economic growth will itself encourage structural transformation in the economy in which the share of agriculture in total employment and economic output (GDP) declines over time. Successful economies with large rural populations have achieved this structural transformation by rapid growth in non-agriculture accompanied by substantial growth in the agricultural sector, as well.

Growth in the urban economy can benefit agriculture and the rural economy by increasing demand for agricultural products and by providing job

opportunities for rural laborers that migrate to cities (or work in nearby small towns). But without adequate investment in the rural sector, slow growth in the rural economy can be a drag on the overall economy.

Evidence from successful transforming economies suggest that for countries with large rural populations like Pakistan, agricultural growth is crucial for rapid economic growth and poverty reduction. Continued investment that raise agricultural productivity (such as agricultural research and extension, irrigation infrastructure, etc.) could help ensure rapid economic growth in Pakistan likewise results in positive outcomes for both urban and rural populations.



ABEDULLAH Chief of Research PIDE  
MADEEHA GOHAR QURESHI Research Economist PIDE  
OMER SIDDIQUE Senior Research Economist PIDE  
UZMA ZIA Senior Research Economist PIDE

## Sugarcane Market Secret Scenario

# The Sugar Industry of Pakistan □ Understanding Structural and Regulatory Underpinnings of the Current Sugar Crisis of Pakistan

**Keywords:** Sugarcane, Competing Crops, Water Use Efficiency, Sugar Crisis, Export Subsidy

### 1. Background

Pakistan is ranked 7th both in terms of production and export of sugar and is ranked 8th in consumption. Since 2010-11, Pakistan consistently has a surplus in sugar production and has earned \$2.3 billion through exports. However, the recent sugar crisis has brought to the focus the important issue of export subsidy for sugar. Prior to Government permission of sugar export in December 2018, the retail prices of sugar were Rs.55 but then continuously start to increase with the increase of export. The export subsidy was granted at the rate of Rs.5.35 per kg amounting to Rs.2.47 billion which boost up the export and created deficit between demand and supply. This lead to increase prices in the local market.



### 2. Protection through Regulatory Distortions

It has been argued that the perennial nature of the sugarcane crop, non-storability, and non-transportability create demand for the protection both at the farm and sugar mills level to get the industry to flourish and survive. In this context, several regulatory distortions at the farm and industry level have been introduced to protect the interests of both farmers and millers (Box 1). However, in fact, the majority of distortions are introduced to protect the interest of sugar mills only and in some cases even at the cost of farmers' welfare.

### 3. Dissecting the Recent Sugar Crisis

It is observed that support prices had not been

## BOX 1:

### Details of different Distortions to protect Sugar mills and farmers

- Mills get benefits by not paying minimum support price to the farmers.
- Domestic Industry is protected through 40% customs duty on sugar imports. This creates economic distortions in favour of sugar mills.
- Crop zone changes with changing climate patterns but geographical barriers to the shifting of milling plants discourage competition and create inefficiencies in the sugar industry. Removing such barriers could lead to developing a cluster of sugarcane production in specialized areas of sugar production.
- License Raj: The new entry has been restricted in the sugar industry by introducing license Raj as a barrier because each new entrant requires a NOC from the province.
- However, mandatory crushing law provides protection to farmers, which cannot be ignored.

increased since 2015-16. In 2019, the support prices announced very late when the crushing season had already started. Resultantly, there was a slight decrease in sugarcane cultivated area. This leads to competition between sugar mills to purchase sugarcane during the 2019-20 crushing season. This forced the sugar mills against the usual practice to offer about 15% higher prices than the announced support prices to meet their demands, indicating the gap between supply and

demand.

However, Economic Coordination Committee (ECC) at the recommendation of Sugar Advisory Board (SAB) approved the export of 1.00 and 0.10 million tons of sugar on October 2, 2018, and December 4, 2018, respectively. During the same meeting, secretary Ministry of National Food Security and Research raised the concern over low production of sugarcane due to water shortages and reduction in the area allocated to the crop.



**Figure 2: Sugar Exports and Retail Prices**

Source: Pakistan Bureau of Statistics and State Pakistan

The retail price of sugar started to increase in December 2018 when the export of sugar was allowed (Figure 1). The retail price was the lowest at Rs.55.99 per kg on November 18 but by June 2019 it had reached to Rs.71.44 per kg and the retail prices further increased from Rs.71.44 to Rs.74.64 from July 2019 to January 2020.

In the subsequent meeting of SAB, Punjab raised the concern about the increasing prices of sugar in the local market but ban on export was not recommended by SAB. Even though estimates clearly demonstrate that net stocks is at negative 0.191 million tons and facts was also presented in the meeting. However, SAB was continuously believing that increasing prices of sugar is mainly the result of hoarding but not of export. It is important to note that there was no increase in GST or other taxes and prices of other inputs remained stable during this period.

#### 4. Key Takeaways

The support price for sugarcane is only national because the government does not procure sugar and, hence, there is no mechanism in place to enforce it.

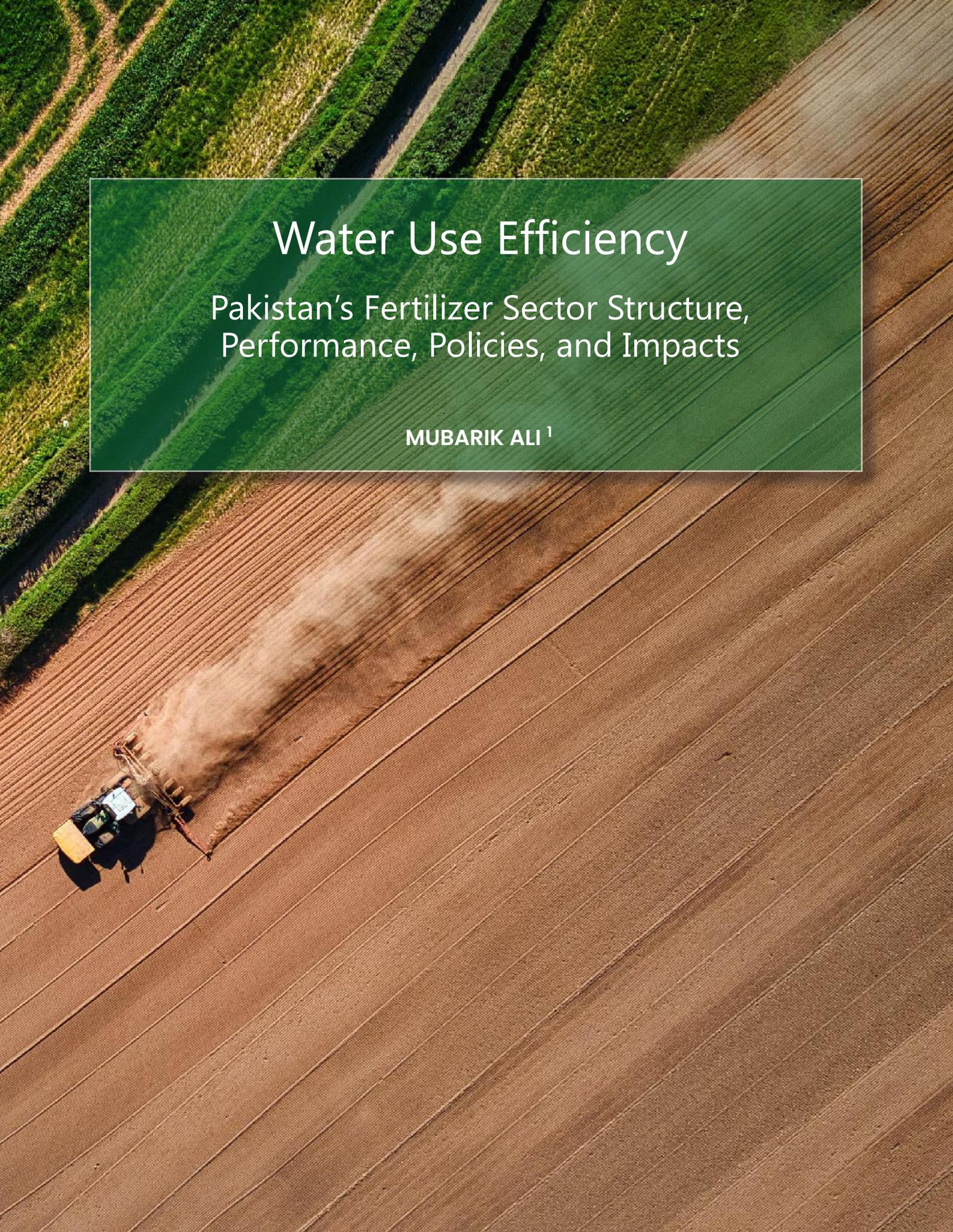
Sugarcane is sold above the support price whenever there is a shortage and below the support price when there is a surplus.

The License Raj limits new entrants into the sugar industry. It creates cartelization and leads to an increase in the profitability of sugar mills only. Similarly, trade barriers like import tariffs need to be removed or rationalized. Both these measures may lead to an efficient allocation of resources in this sector and an improvement in the welfare of local consumers.

Price quota and subsidies have been used as a tool for offloading the surplus supply of sugar and to fill the gap between supply and demand. However, the government failed to take a timely decision in light of available information, which led to the recent sugar crisis.

Deregulation of the sugar market is extremely important to promote free trade mechanism where price signals can be effectively conveyed to all stakeholders to attract investment and increase competitiveness.





# Water Use Efficiency

Pakistan's Fertilizer Sector Structure,  
Performance, Policies, and Impacts

MUBARIK ALI <sup>1</sup>

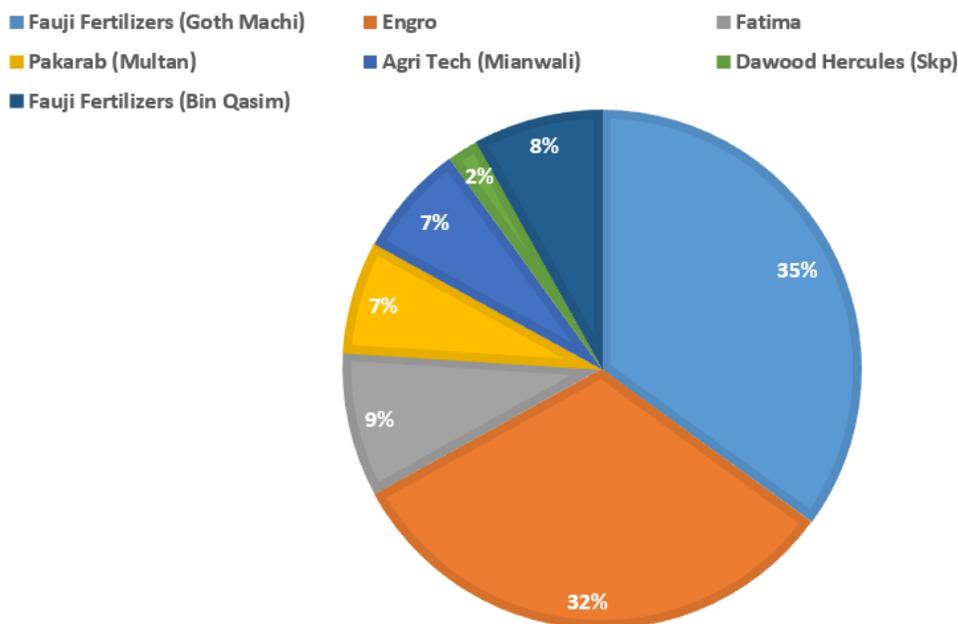
## Introduction

The fertilizer industry in Pakistan, with US\$3.74 billion per year in sales, now stands at a crossroads where, after an initial substantial contribution in boosting crop productivity, its future potential is being challenged. Fertilizer-responsive crop varieties, supplementary irrigation water, and a favorable policy environment in Pakistan have induced fast growth in fertilizer demand. On the supply side, the availability of gas at low prices along with a favorable investment environment resulted in the buildup of excessive manufacturing capacity. But recently, a shortage of gas and monopolistic behavior has led to underutilization and greater imports. Restrictive laws put fertilizer processing and marketing in a few hands, which has also affected its efficiency. Moreover, the yield response of fertilizer has tapered off and

per hectare use is fast reaching its optimal level. The existing policy environment leads to higher costs, inefficient use, and a heavy burden on the government as it charges one-fourth of the market price for feedstock gas used in fertilizer manufacturing. In addition, the government normally imports urea and absorbs the difference in international and domestic prices.

## Structure of Fertilizer Industry

The production capacity and marketing power in the fertilizer industry in Pakistan is concentrated in a relatively few firms. The two big players, Fauji Fertilizers Company (FFC) (Gorth Machi) and Engro Fertilizer Limited, hold more than two-thirds of the total installed urea capacity (Figure 1).



**Figure 1: Share (%) of urea manufacturing firms in Pakistan 2015-16**

With respect to DAP, the situation is slightly different. The Fauji Fertilizer Bin Qasim (FFBL) is also the only producer of DAP in the country, with about 54 percent of its demand met by that domestic producer, and with the rest being imported by a large number of smaller firms. As such, there is likely greater competition in the market for DAP, and domestic DAP prices tend to be more closely linked to its international price. But

with this comes greater exposure to international price volatility and currency risk.

There is evidence suggesting anti-competitive behavior exists in Pakistan's fertilizer industry. In 2012, the CCP fined FFC and Dawood Hercules Corporation Limited approximately 6 billion Pakistani rupees (PKR) for employing collusion tactics in an effort to manipulate the fertilizer

<sup>1</sup> This paper is derived from Ali, M., F. Ahmad, S. Davies, and H. Chana. 2016. Pakistan's Fertilizer Sector: Structure, Policies, Performance and Impacts, IFPRI Working Paper 01516, Development Strategy and Governance Division, International Food Policy Research Institute, March 2016, Page 66.

market. Meanwhile, the return on equity in the industry is well above international comparators, suggesting the possibility of anti-competitive behavior that rewards investors. In Pakistan, the return on equity (taken as an average for the years 2004–2008) for the fertilizer industry was 33 percent, compared to 9 percent in China and 16 percent in India (CCP 2010).

### Support to Fertilizer Industry

The growth of fertilizer production and use in Pakistan gave rise to a series of policies designed to regulate the industry. First and foremost, from 1954 until the present, the government maintained control of the supply and allocation of natural gas to the fertilizer industry at almost one-half of the average national price of gas charged to other industries or domestic consumers. Other policies that have been deployed over the past 40 years include subsidies on fertilizer importation and distribution, and occasional sales tax exemptions on farmers' fertilizer purchases. Until recently, these subsidies have been highly in favor of nitrogenous fertilizer, thus creating nutrient imbalance in fertilizer use. These subsidies, during 2020, cost the exchequer to the tune of Rs. 95 billion.

### Control of Fertilizer Industry

In addition to the control through subsidies to processors and users (i.e., farmers), the fertilizer market is highly controlled through various regulations. The Provincial Essential Commodity Act (PECA) (amended in 1973), placed fertilizer production and marketing under the direct regulatory purview of the federal government. At the provincial level, the Punjab Fertilizer (Control) Order of 1973 further strengthened the power of regulators by rendering provincial management of fertilizer subservient to PECA. These laws provide almost complete powers to the controller<sup>5</sup> in the management of prices, imports, and even the size of daily fertilizer transactions.

### Impact of Alternative Policy Scenarios

We use an equilibrium displacement model (EDM) to estimate the impact of exogenous policy shocks on the market for urea and DAP as well as on major crops: cotton, rice, wheat, and

other crops. Simulations were made for various policy scenarios as: 1) Removing the Subsidy on Natural Gas (Scenario 1); 2) Removal of General Sales Tax (GST) (Scenario 2); 3) Removal of Gas Subsidy and GST Simultaneously (Scenario 3); 4) Removal of Gas Shortage while Maintaining its Subsidized Price (Scenario 4); 5) Subsidizing DAP and the Removal of the Gas Subsidy (Scenario 5); 6) Investing in R&D and Combining it with the Removal of the Gas Subsidy (Scenario 6). We simulate the results in each scenario with two import elasticities, at 1 and 5, to judge how ease of import will affect the outcomes. The results of all scenarios (in percentage changes) with import elasticity of 1 are presented in Table 1 (detailed results are available in Ali et. al. 2016).

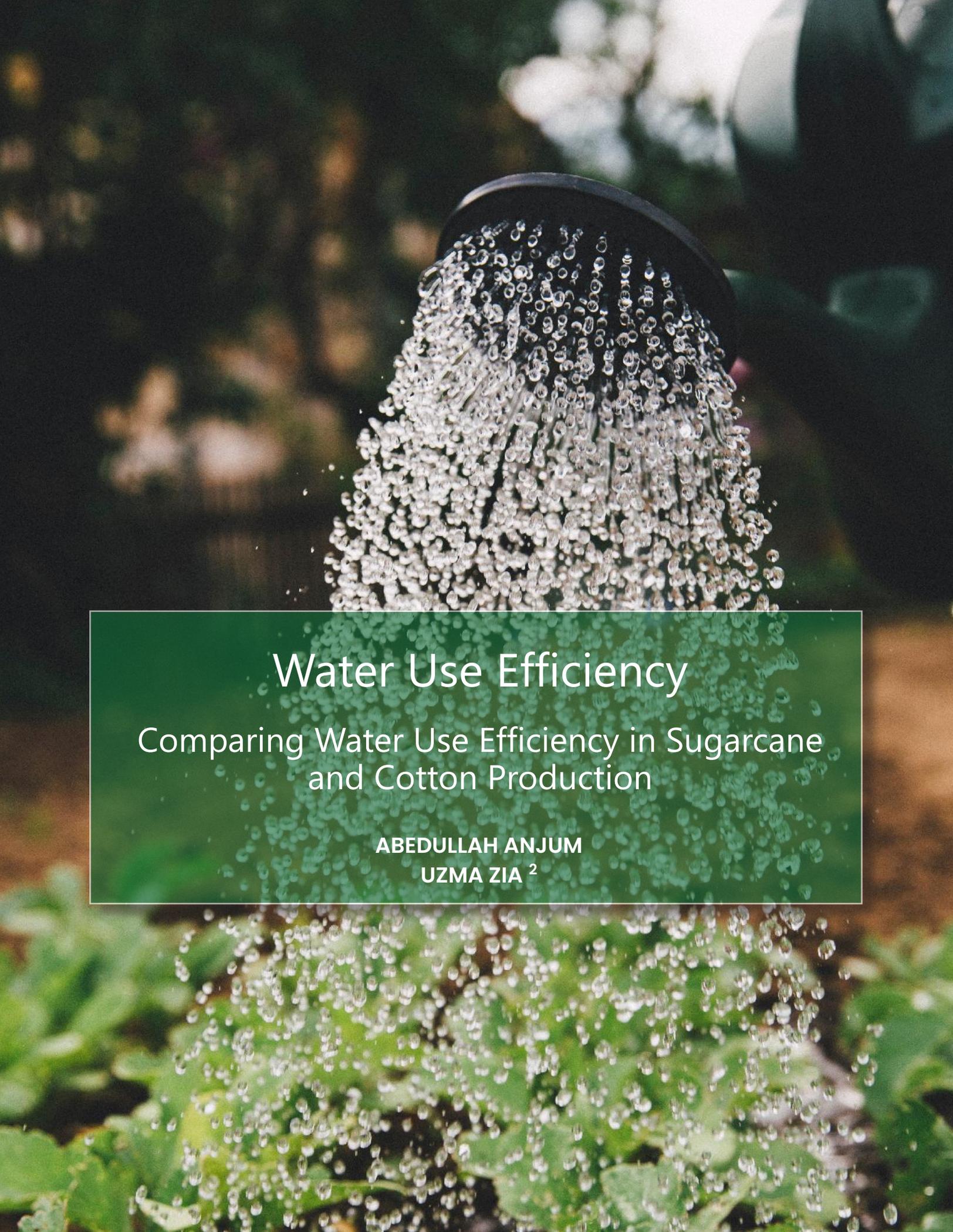


The simulation under various policy scenario using the DM suggests that removing the gas subsidy results in an increase in government revenue but losses to manufacturers, consumers, and farmers. Additionally, removing the gas subsidy and sales tax simultaneously reduces losses to farmers and manufacturers, but the government gain is nullified. Increasing the gas supply results in small benefits to consumers, manufacturers, and farmers, but government expenditure also increases due to increased gas subsidies. However, removing the gas subsidy and investing in agriculture research and development will result in the highest social benefit, where all major stakeholders benefit to some degree and the return to society is highest. The research and development investment could also result in the highest increase in agricultural productivity and a trade surplus, relative to the other simulations. Finally, removing the gas subsidy also makes sense because increased imports of fertilizer will occur in any case within a decade or so, and it is not wise to exhaust existing gas resources quickly through subsidies.

**Figure 1: Share (%) of urea manufacturing firms in Pakistan 2015-16**

Variables	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario
	1	2	3	4	5	6
<b>Fertilizer Market</b>						
Domestic supply of urea	-14.1	2.4	-11.7	5.7	-13.9	-11.6
Domestic supply of DAP	-7.1	1.9	-5.2	3.6	-3.9	-6.5
Import supply of urea	10.2	3.1	13.3	-4.1	10.5	13.3
Import supply of DAP	4.5	4.8	9.3	-2.3	12.5	5.9
Demand of urea	-9.5	2.6	-6.9	3.8	-9.3	-6.9
Demand of DAP	-0.5	3.6	3.1	0.2	5.5	0.6
Farmer price of urea (inclusive GST)	10.2	-14.0	-3.8	-4.1	10.5	13.3
Farmer price of DAP (inclusive GST)	4.5	-12.2	-7.7	-2.3	-17.5	5.9
Factory price of urea (exclusive GST)	10.2	3.1	13.3	-4.1	10.5	13.3
Factory price of DAP (exclusive GST)	4.5	4.8	9.3	-2.3	12.5	5.9
Import cost of fertilizer	15.2	8.7	24.5	-6.3	25.6	20.2
<b>Output Market</b>						
Overall pressure on output prices	0.1	-0.1	0.0	0.0	0.0	-0.4
Overall trade surplus	-0.5	0.8	0.3	0.2	-0.2	4.6
Total crop production gain	-0.3	0.5	0.2	0.1	-0.1	2.2
Fertilizer expense for farmers	1.2	-10.8	-8.5	-1.0	-4.4	5.9
Production revenue	-0.3	0.4	0.2	0.1	-0.1	2.0
Overall farmer benefit	-0.5	2.1	1.5	0.3	0.5	1.4
Gas expense	242.4	2.4	252.0	5.6	243.8	251.9
Fertilizer revenue	-4.8	5.8	0.8	1.3	-2.1	-0.1
Overall manufacturer benefit	-32.3	6.2	-27.1	0.9	-29.4	-28.2
Production subsidy (urea)	-100.0	2.4	-100.0	5.6	-100.0	-100.0
Distribution subsidy	16.0	3.0	13.3	-6.1	16.4	21.0
Tax revenue from fertilizer sales	1.2	-100.0	-100.0	-1.0	-34.6	5.9
All subsidies	23.6	102.5	10.9	103.2	46.4	24.6
Consumer crop demand	-0.3	0.4	0.2	0.1	-0.1	1.9

Source: Authors' results



# Water Use Efficiency

Comparing Water Use Efficiency in Sugarcane  
and Cotton Production

ABEDULLAH ANJUM

UZMA ZIA <sup>2</sup>

Sugar requires 1500-2000 litres of water per kg, while lint cotton requires 10,000 litres of water per kg. Based on these information it is misleading to conclude that sugarcane is a more water-efficient crop.

The average yield of cotton lint and sugar are 358kg/acre and 6167 kg/acre, respectively. We converted lint cotton to seed cotton (phutti) and sugar to sugarcane by using the conversion factor of 0.43 and 0.25, respectively. By using yield and per kg water requirement we estimated the per acreage water requirement for both cotton and sugarcane (Table 1). We then estimate the water ratio of sugarcane verses cotton (3.4) by dividing the water requirement of sugarcane by cotton in one acreage. Our estimation reveals that relieving one acre from sugarcane can provide water to about 3.4 acres of the cotton crop.

Cotton-wheat cropping system competes with sugarcane, implying that sugarcane is substituting two crops i.e. cotton and wheat. For this purpose, we estimated water use efficiency per annum basis. Our results reveal that relieving one acre of sugarcane can support 2.1 acres of both cotton and wheat, implying that cotton-wheat as a system is also more water-efficient than sugarcane alone.

**Water use efficiency should not be based on quantity rather monetary value it generates because price of one kg of cotton is 25 times higher than one kg of sugarcane. Therefore, water use efficiency criterion based on the quantity [weight] of crop produced presents an erroneous picture because higher quantity [weight/acre] produced does not warrant higher monetary value.**

**Table 1: Water Requirements and monetary benefits**

Crops	Water requirement (litter/kg)	Yield (kg/acre)	Per acre water requirement (litter/acre)	Water use ratio per acre (sugar/cotton)
Cotton (phutti)	4300	833	3581473=a	b/a=3.4
Sugarcane	500	24,668	12334028=b	
Wheat	1909	1167	2227250=c	(b/(a+c)) =2.1
<b>Crops</b>	<b>Monetary benefits from water usage [Rs/Litter]</b>			
	Net benefit at the farm-gate (Rs/litter)	Benefit ratio	Retail level (Revenue Rs./ liter)	Benefit ratio= (e/d)
	Cotton (Lint)(b)	(d/e)=3.9	0.013=g	g/h=3.8
	Sugar		0.004=h	
	Wheat (c)		0.021=i	((g+i)/2)/h=4.9

Source: Authors' results

By employing farm-gate prices for the year 2018-19 and cost of production SBP (2020), this study estimates the net return of each litre of water used in sugarcane and raw cotton. At the farm-gate, one litre of water in sugarcane and cotton production generates a monetary value of Rs.0.0026/liter and Rs.0.0100/liter, respectively. This simple analysis demonstrates that cotton production is about 4 times more water-efficient than sugarcane production. Our yearly analysis reveal that one liter of water used in cotton-wheat system generates 2.3 times higher net return than sugarcane.

This difference in the monetary value reduces slightly when the same analysis is repeated at the second stage of value chain i.e. after converting sugarcane to sugar and raw cotton to cotton lint. The difference reduces because, in the case of sugar, value addition takes place while in case of cotton lint only cottonseed is separated from raw cotton. It is important to note that one kg of sugarcane is producing less than 100 grams of sugar (SRDB, 2019) having a market value of Rs.7 (under the assumption that retail price is

<sup>2</sup> The authors thank to Dr. Nadeem Ul Haque and Dr. Durre Nayab for their valuable inputs, and Mr. Mudassar Ali for providing useful tips in the analysis. Any error is the sole responsibility of the authors.

Rs.70/kg), while one kg of cotton contains 43% fibre (cotton lint) and 54% seed and remaining 3% wastes. Cottonseed is used to extract edible oil, with 10 kgs of seed cotton giving one litre of edible oil (CIRAD, 2009).

In our analysis, the total revenue is estimated from edible oil and cotton lint by using standard market prices. Wheat is converted into wheat flour, and the price of wheat flour used in the analysis is Rs.40/kg. Our results demonstrate that each liter of water used in raw cotton production generates 3.8 times higher revenue than sugarcane at the second stage of the value chain. However, our analysis on per annum basis demonstrates that each liter of water used in cotton-wheat system generates 3.9 times higher revenue than sugarcane (Table 1).

It is well documented that 250 grams of cotton produce one shirt (Hoekstra, 2013) and each shirt has an average market value in the range of Rs.1000 to Rs.2000. If we assume the average price of a shirt at Rs.1500, then 10,000 litres of water would generate Rs.6000, which is equivalent to Rs.0.6/litre at the retail level. However, one litre in the sugarcane production generates a monetary benefit of only Rs.0.004 at the retail level. Again, analysis at the retail level unravels that each litre of water used in cotton production generates about 150 times higher monetary benefits than sugarcane (Table 1).

Moreover, the textile industry processes raw cotton to finished products by providing employment that is manifolds higher than the sugar industry. However, these additional employment benefits

are not included here. This demonstrates that the monetary benefits of water use efficiency in cotton production are significantly higher than that of sugarcane at both farm and retail levels if measured accurately.

One question remains unanswered that why cotton is not competing with sugarcane at the farm level. To let cotton production compete with other crops, the government needs to refrain from interfering in the free market mechanism by eliminating subsidies and price support.

### Sensitivity Analysis

- Using the per-acre cost estimated by the SBP (2019), we find that at the current abiana fixed rate, the net profit per acre of cotton and sugarcane is Rs.35975 and Rs.31,839, respectively\_a small difference.
- When we increase the water price from a fixed-rate (of Rs. 200 per annum) to Rs.0.0026 per litre (the actual cost) the net profit of sugarcane approaches to negative while the net profit of cotton reduces by 24% from Rs.35975 to Rs.26663 per acre. It is important to note that the price of 5000 liters of water tanker ranges between Rs.1000 to Rs.3000 in Islamabad while the price we induced in the sensitivity analysis is just Rs.13 per tanker of the same capacity.

## PIDE's Recommendations

- Let the sugar market work without government intervention, by allowing it to generate signals for the farmers to respond to the market.
- Remove support price, subsidy on export and control/slash high tariffs on the import of sugar.
- Abolish the current flat rate for water and appropriately price it by usage and covering the costs of maintenance and storage.

# Three Bills That Shook India

## Indian Agricultural Reforms, Lessons for Pakistan

ABEDULLAH ANJUM  
FARAH NAZ

Keeping their electoral promise of reforming the Indian agriculture sector, the BJP government introduced agricultural reforms in the form of three farm legislative bills 2020 a few months ago. These bills intend to empower, protect, promote and facilitate Indian farmers. This is to be done by liberalizing the marketing structure of agricultural produce and by giving farmers direct access to consumers. These laws allow farmers to sell their produce to anyone outside state-owned 'mandis'(markets). They can also stock their produce as long as they want.

Before the introduction of the bills, the Indian government used to announce a minimum support price for certain crops, especially wheat, and would buy at least a part of the produce from the farmers at this price. This practice on one hand offered an assured price to the farmers and on the other hand, made essential agricultural commodities available to the government for supply to the citizens at an affordable price. In practice, this at times prevented the farmers from securing better prices in markets. Low profits for the farmers also discouraged them to produce more.

The new laws will allow farmers to get rid of three types of costs, transportation cost, commission paid to aarhti, and mandi fee [charged by the government]. The farmers are not entitled to receive a minimum support price [MSP] as the government will not buy the produce.



These bills allow free trade outside the state-owned mandis as the government will not impose any levy on the sale and purchase of farm produce outside the mandis. The government believes that this will transform Indian agriculture and attract private investment. Clearly, the legislation provides the farmers an opportunity to sell their produce at good prices outside the state-owned mandis, and this was the demand of farmers for many decades. However, due to the information gap between the government and the peasants, the legislation has not been well-received by the farmers. Hence they are agitating and demanding the laws to be repealed.

Through the inheritance system, the agricultural land has been sub-divided into small farms. Given fragmentation, it is not viable for owners of small farms to deploy modern technologies and productivity cannot be increased without using modern technology.

One of the objectives of the new bills introduced by the Indian government is to promote contract farming. The new legislation will enable farmers to enter into a pre-agreed price-contract with

agribusiness companies or large retailers to sell their produce. Contract farming will transfer the risk of price volatility faced by small and marginal farmers, to large firms. Moreover, contract farming would enable small farmers to reap scale economies by using community farming. In India, cluster farming is already getting popular and the new laws will further boost cluster farming, which would increase the bargaining power of the farming community. The large firms buying the produce will have a strong incentive to facilitate farmers in using the latest technology and modern farming practices, which the government had failed to encourage.

The farmers apprehend that powerful corporate investors would dominate and may use the liability clauses included in the new laws against them. However, with a strong and fair judicial system in place unfairly blaming the farmers will not be easy. Moreover, farmers can always choose not to extend their contract with the contracting firms, if their practices are exploitative. The competition among different contracting firms will also make it difficult for the firms to exploit farmers.

The major losers of contract farming are the present 'commission agents' and they are playing a major role in organizing the protests and giving it the look of farmers' protest. Based on economic theory, we believe these changes will entirely transform the agriculture sector on modern lines.



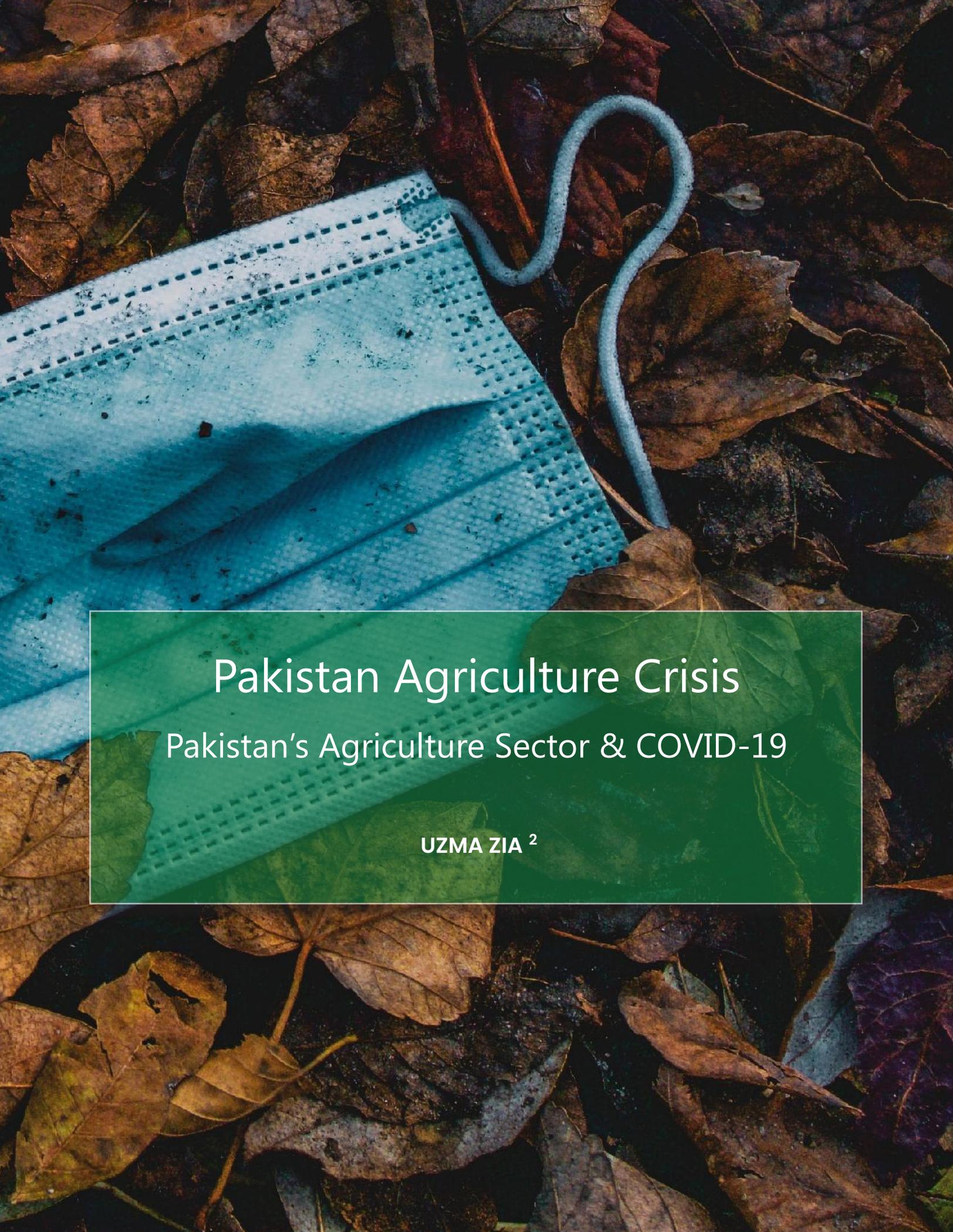
— PARLIAMENT OF INDIA —

The government of Pakistan, just like India, also very actively intervenes in the agricultural market at various stages of production and distribution in an attempt to maintain low prices for consumers, particularly in the wheat and sugar markets. In 2020, the government strongly intervened in the wheat market by fixing the minimum support price (MSP) of wheat and releasing the stock as needed but still could not stabilize the price of wheat flour. Rather the market price reigned at almost twice the MSP fixed by the government. The efforts to control prices through (MSP) have led to a circular debt of Rs.757 billion, as the government is borrowing from the banks to fund the purchase of wheat. The government does not find it easy to repay the banks. This shows that intervention in the wheat market is not a sustainable activity for the government. Moreover, the benefit of price increase is neither enjoyed by the farmers nor the government; rather it goes to the traders.

The Indian government has learned from experience and has taken bold steps to liberalize agricultural markets. These will serve the Indian economy and the farmers' community very well. The new laws introduced in India are quite relevant to Pakistan for improving the welfare of farmers and increasing the size as well as the yield of crops. Sooner or later Pakistan has to liberalize the agricultural markets after thorough planning and preparation.

**One lesson from the Indian experience is that before we introduce the agricultural reform of the Indian kind, the stakeholders, especially farmers need to be taken on board through advocacy at a wider scale.**



A blue surgical mask is lying on a bed of brown, dried leaves. The mask is partially visible, showing its pleated surface and the top edge with a dotted pattern. The leaves are scattered around the mask, some overlapping it. The overall scene suggests a connection between agriculture and health, particularly in the context of COVID-19.

# Pakistan Agriculture Crisis

## Pakistan's Agriculture Sector & COVID-19

UZMA ZIA <sup>2</sup>

Pakistan's economy is mainly agrarian. Agriculture contributes to the country's Gross Domestic Product (GDP) with about 43 percent labor force employed in this sector. The sector gains foreign exchange earnings and is a good source of dealing with food insecurity. Agriculture sector is mainly based on traditional techniques. Recently some new technology has also been adopted. The sector has been a source of employment for rural and unskilled labor force. A part of industrial sector is also dependent on agriculture produce. Key examples are flour mills & industry, sugar industry, cotton ginning and textiles, solvent extraction unit of edible oils and some food processing units.

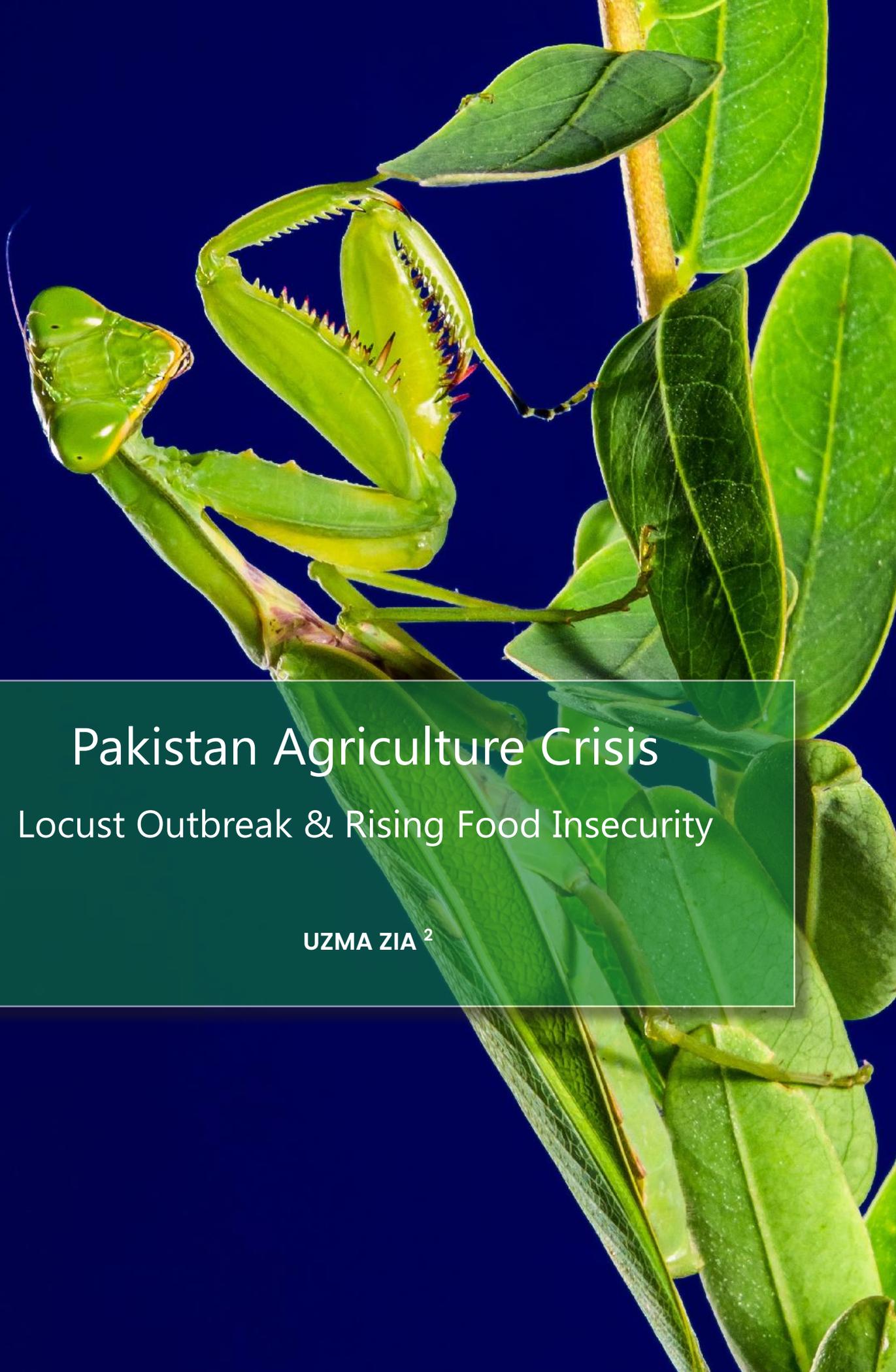
The current situation of COVID-19 has given rise to number of economic problems in the country and it was also expected to affect the agriculture sector.

**As indicated in the latest Pakistan Economic Survey 2019-20, the agriculture sector is not very much affected in 2019-20. The growth of 2.67 percent is observed in 2019-20 as compared to 0.58 percent achieved in 2018-19 reducing the threat of food insecurity.**

### Policy Initiatives by Government

- Prime Minister Imran Khan announced Rs1.13 trillion (\$7 billion) relief package for country during COVID-19.
- About Rs280 billion (\$1.76 billion) allocated specially for wheat procurement, and around Rs100 billion (\$63 million) is announced for deferred payment of loans for small and medium enterprises and agriculture sector.
- The government has decreased the subsidy given to PASSCO from Rs15.5 billion to Rs7 billion.
- The government has allocated Rs2 billion for wheat operations, Rs5 billion for reserving wheat stock, Rs6 billion for giving subsidy on wheat to Gilgit-Baltistan, and Rs6 billion for fertilizer plants. (Budget FY 21)
- COVID-19 has reduced global economic growth rates and government of Pakistan has also revised its growth targets.

Policy Initiatives/Regulatory Institutions	Steps taken for Agriculture Sector
Punjab Government Initiative	1. The Punjab government offered Rs15 billion worth interest-free loans to farmers, crop insurance for 250,000 farmers and 1.2 million sacks of seeds for the next wheat crops.
Sindh Government Initiatives	2. Sindh government has redirected the release of 132 million rupees for corona virus emergency measures.
Lead Regulatory Institutions dealing with COVID-19	3. Federal government of Pakistan and Ministry of Agriculture. 4. Provincial Governments and Departments.



# Pakistan Agriculture Crisis

Locust Outbreak & Rising Food Insecurity

UZMA ZIA <sup>2</sup>

Pakistan's agriculture faced a desert locust attack in 2019-20. Agricultural crops in two provinces (Balochistan and Sindh) were badly affected. The presence of prolonged locust swarms since March 2108 was quite worrisome. The event has been declared as national emergency on February 1st,2020. In past years Locust swarms attack were also seen in the 1950s, 1960s and 1990s have caused immense losses to Pakistan's agriculture. Current attack has also brought Pakistan at the brim of food security risk and agriculture crop damage. According to Food and Agriculture Organization (FAO) Pakistan is under threat of an intense second-wave of invasion of locust. If the situation is not controlled, it will spread in the west of the country. Locust infestation may cause a loss of Rs 600 billion to Pakistani economy as added by FAO. The locusts swarms entrance routes in Pakistan:

- Iran to Balochistan
- Indian Rajasthan to Cholistan
- Tharparkar desert area

Initially the swarms entered in Balochistan and spread fastly by June 2019 into the Sindh and Punjab provinces. The locusts migrated to Indian Rajasthan deserts in July but re-entered in Tarparkar (Sindh) in October 2019. The locust outbreak turned serious and agriculture losses were reported to main crop production areas in Balochistan, Punjab and Sindh provinces. Over 115,000 hectares of crops including wheat, oil seed crops, cotton, gram, fruits and vegetables, as well as grazing field losses are also observed. Infact the Locust outbreak has damaged Agriculture more than COVID-19.



A hand holding a green plant stem with several leaves against a light background. The plant stem is dark brown and has several green, oval-shaped leaves. The hand is positioned at the bottom of the frame, holding the stem. The background is a plain, light-colored wall.

# Agriculture Sector Innovation

ICTs and agriculture transformation: Insights  
and lessons from China

ALI SHER<sup>1</sup>  
GUANGHUA LIN<sup>1</sup>

Information and communication technologies (ICTs) have offered diverse technological resources and tools to create, communicate, disseminate, and use information in agriculture. Such gadgets have fostered access to markets, agriculture advisory services, climate-smart solutions, financial services, data generation and traceability, and framework(s) to implement and monitor the policies and progress. Through improved communication, it has enabled the business nurturing environment and unlocked the influx of new opportunities and widens smallholder farmers' reach to far-off markets. With growing uptake, ICTs are believed to shed the ripples effect on smallholder farmers in developing countries regarding improved productivity, economic sustainability, and social development.

**In recent years, the development of ICTs in the People Republic of China [PRC] has set a hallmark of poverty alleviation and inclusive growth for developing countries. Amongst other ICTs, the adoption of mobile phone technologies and e-commerce has largely transformed the landscape of smallholder agriculture in PRC.**

To facilitate the broader application of ICTs in general and e-commercial agriculture in particular, the government has vigorously improved the infrastructure and financial capacity of resource-poor farmers. Begin in 2007, with internet adoption of 16% (210 million) to 70% (989 million) in 2020; the online sales have surpassed CNY 11600 billion (approximately USD 1700 billion), where the establishment of "taobao villages" paved a broader trajectory for e-commercial agriculture. During a similar period, the number of taobao villages has grown from 3 to 5445, and taobao – an online selling platform – presents a worth mentioning and an interesting case. According to Alibaba Research Institute (ARI), there are some requirements to establish a taobao village: I) a village must have at least 100 active online stores, or at least 10% of the village households (farmer and/or non-farmer) operate online shops, II) collective annual sale volume of a village on

taobao must be over CNY 10 million, and III) village must be located in the declared rural area. The role of taobao villages in agriculture divided into two groups: 1) farmers selling primary or processed agricultural commodities, and 2) non-agricultural villages that sell industrial products, such as shoes, clothes, ornaments, electric appliances, etc.



Using online platforms – like Taobao, Jindong, Tmall, and Pinduoduo – entails easily operated digital transactions linked with fast and low-cost courier services. Currently, over 13 million farmers sold their agricultural commodities during the Covid-19 shaded year. Interestingly, small-scale farmers are selling online both own agricultural produce and collected from other farmers in their premises. The uniformity in farm-gate prices and wholesale market prices fosters a greater demand for online sellers. Likewise, well established regional storage and delivery platforms help farmers avoid perishability, post-harvest and long-distance delivery losses. A recent report published in 2020 note that farmers in PRC are positively oriented toward online purchase of crop inputs like fertilizer, pesticides, agricultural machinery, and seeds. And, most of the farmers are now buying online agricultural custom services – such as ploughing, seeding, fertilizing, weeding, harvesting, etc. – due to lower prices and convenience. Moreover, most of the e-commerce platforms push the use of ICT-based smart-agriculture by supporting entrepreneurs and farmers with blockchain, artificial intelligence and the internet of things to promote data-driven approaches to improve yield efficiency.

<sup>1</sup> College of Economics and Management, China Center for Food Security Studie, Nanjing Agricultural University, Nanjing 210095, China

While 2020 hailed as the deadline for absolute poverty in China, the country provides interesting insights on the role of ICTs in agriculture for poverty alleviation and inclusive growth. As e-commerce grows in depth and scope, it creates employment opportunities and narrows the income gaps.

E-commerce provides a new frontier and helped regions with distinctive skills to explore and exploit their potential(s), resulting in new prospects for growth and rejuvenation. It boosted the sale of agricultural commodities and this development proves the effectiveness of e-commerce in driving change and inclusive growth.



Notably, e-commercial agricultural do not include salary for self-employment, fixed cost and market intermediaries, and therefore, it offered higher output prices to farmers and slightly lower prices to household consumers than that of off-line buying. Using online platforms, farmers are now directly connected with household consumers, local industries and merchants. This development might be a nightmare without consciously planned manoeuvres, collaborative and integrated actions ensuring the longer-term sustainability of e-commerce in agriculture. We compiled and elaborated the key contents of national policies executed during 2006-2020 to develop e-commercial agriculture in China (see Figure 1).



The idea behind taobao village development has attracted significant attention from entrepreneurs who want to replicate China's home model. To implement this model, Pakistan needs to establish the e-commerce platform(s). However, existing e-commerce platforms – like Daraz – might be

encouraged to expand their commodity range and include farmers as online sellers. Apart from adequate infrastructures and local conditions in Pakistan, like the rural internet and roads, the other vital steps that might help drive e-commercial agriculture in the country includes:

1. Facilitating the electronic transactions and connecting e-commerce based applications with mobile money transfer having zero transfer charges – using “Wechat” mobile application model – might boost the uptake of e-commerce among farmers and household consumers.

2. Established agricultural industry: Well-founded agricultural industry can put more responsibilities on e-commerce. For example, South Punjab is famous for producing mangoes where most farmers sell their produce to local markets and intermediaries. E-commerce can help farmers to reach far-off markets and household consumers.

3. Establishing commercial retailers: Empower farmers and local entrepreneurs to start their own e-commerce business, particularly large-scale e-commercial retailers engaging in selling locally produced agricultural commodities.

4. Empowering resource-poor farmers to engage in e-commercial agriculture through interest-free credit – like credit provision using Akhuwat Foundation – and leveraging support from their social capital.

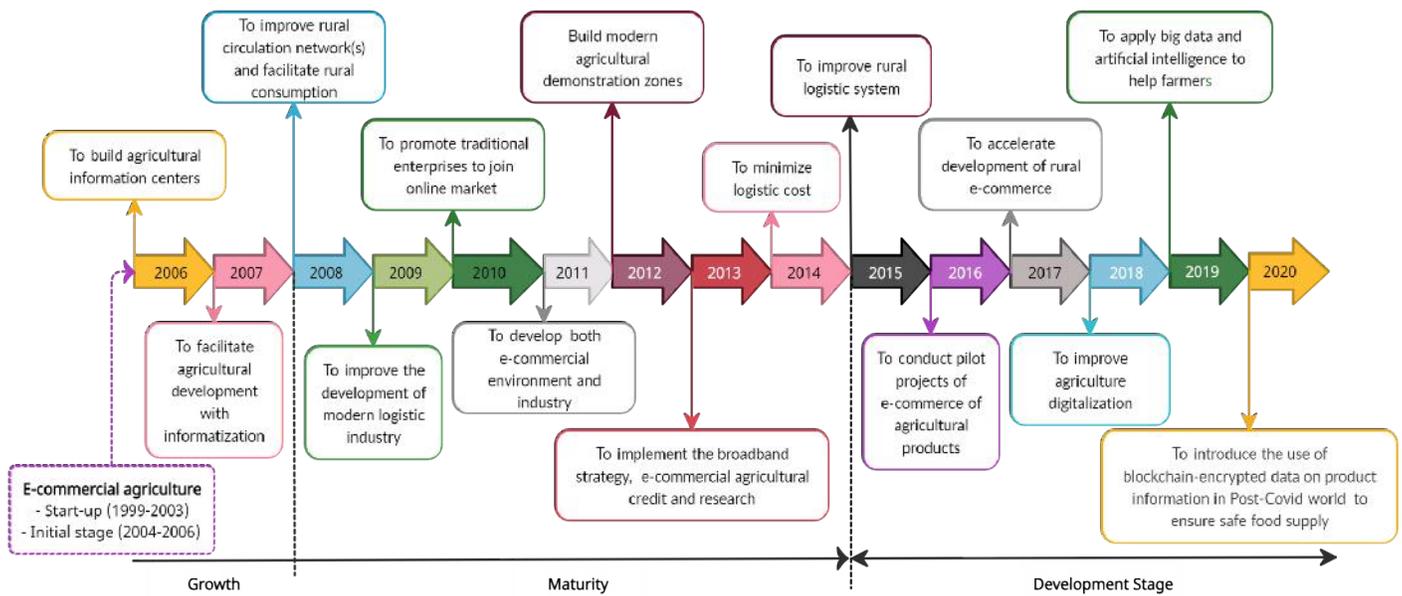
5. Role of government: The local government can play a profound role through integrating farmers with already established networks of the Pakistan Postal Service and encouraging private players – like Tranzum Courier Service (TCS), Leopards, DHL, etc. – to be the part of e-commercial agriculture drive. Likewise, creating awareness and capacity building on e-commercial agriculture, providing training through the agriculture extension department, and improving the connectivity and infrastructure in rural areas, such as roads, postal service and the internet, would provide supplementary support and help engage smallholder farmers in e-commerce.

Lastly, a coordinated response mechanism to leap youths' participation in e-commercial agriculture

might be an instrumental gauge. This can be accomplished through encouraging agricultural, business management, and e-commerce students to kick-off agri-food based start-ups. This would increase the volume of processed foods, transform

value-chains, establish diversified industrial networks, and realize a more resilient and digital economy.

**Figure 1**  
**Contents of national policies & documents on E-commercial development in China- 2006-2020**



Source: Authors' compilation based on websites of the State Council of China, Ministry of Agriculture and Rural, Ministry of Commerce, and Ministry of Industry and Information Technology.

# Role of the Middleman & Neglected Aspects

MISBAH BASHIR <sup>1</sup>  
DR. NASIR IQBAL <sup>1</sup>



Middleman most commonly known as commission agents, arhtis, beopari and retailers are the bridge between buyers and farmers for auction facilitation, arranging finance for the farmer, taking the responsibility of loading and unloading and delivering the product to the buyer. Middleman play key role in agriculture sector of Pakistan owing to inefficient and poorly managed agriculture market.

During the field interview of farmers, arhtis, and brokers in Pakpattan and Arifwala mandi, we find that arhtis offer range of services depends upon the serving market. Commonly, arhtis offer two main services, provide inputs on credit in sowing season and act as seller in harvesting. By taking advance from middleman farmer is bound to sell yield to same arhti and he took control over cash inflow of farmer.

Similarly, arhti earn a commission from the sale of the production of the borrower, his percentage lies between 2 to 4 percent depending upon crop and client. To calculate the interest rate which is charged by arhti, we get info about per acre input requirements for the set of basic four crops which are grown in this area like wheat, maize, rice, and cotton. The survey is conducted in Pakpattan and Arfiwala mandi which reveals the truth that, despite differences, farmers are forced to go to middleman due to the complicated and lengthy credit disbursement process of the formal sector and intermediaries took the advantage of marginalized class. During survey, we do not use seed because most of the time farmers used the previously saved part of the production for sowing or purchase it in cash.

A farmer approached arhti in the dry season to buy inputs for sowing is a prolonged phenomenon. The players in the agriculture market are well aware of the average cost of cultivation for a particular crop. Those who involved in the informal sector are quite active in making funds available, about half of the arhtis disbursed on the spot while others took a week. The term of the loan depends upon the crop cycle, mostly tied with the sale of the yield. In this procedure arhti frequently took

the 60% to 80% of the farmer's earning and farmer remained hand to mouth. <sup>4</sup>

### The Neglected Aspect

In the agriculture market farmer prefer the informal sector because, the formal sector required a guarantee against payment and farmers don't have anything to offer. The procedure of credit disbursement is very complicated so, farmers mostly avoid it. Thakedar took the advantage of these circumstances, they lease land from leazer and contact arhitya for inputs. By using his mind along with the land of the landowner and money of arhti thekadar sow the crop and earn money. There is no record of the thekdar earning in government offices. So, it can be said the real threat for the government is not the arhti but the thekedar. If the government relax the term and condition for agriculture loaning and skip the guarantee of land papers etc. All of these thekedars will go to the banks for availing credit facilities (because of the differences in interest rates charged by banks and arhitya) and government can generate revenues.



### Who Took the Advantage of Price Support?

Every year the government uses a price support policy to support farmers, especially in the wheat market. The farmer produces an excessive amount to sell government but at the time of harvesting due to the lack of capital government unable to purchase the total production. For example, according to PITB Wheat Procurement, the Punjab government buy 40% of the wheat produced in

<sup>7</sup> Zeeshan, I (2019). "Analysis of Determinants and the Role of Commission Agent in Wheat Supply Chain: A Case Study of Pakpattan, Punjab.

<sup>8</sup> Abdul Jalil, F. Z., Muhammad Aqeel Anwar, Nasir Iqbal, Saud Ahmad Khan, (2020). "Wheat Support Price: A Note for Policy-makers "

the province but the remaining 60%? The farmer sells the remaining part of their production into the market where market forces set the prices which are lower than government prices. Due to the surplus prices remain low and farmers suffer. At the same time, arhti took advantage and earned a sale commission.

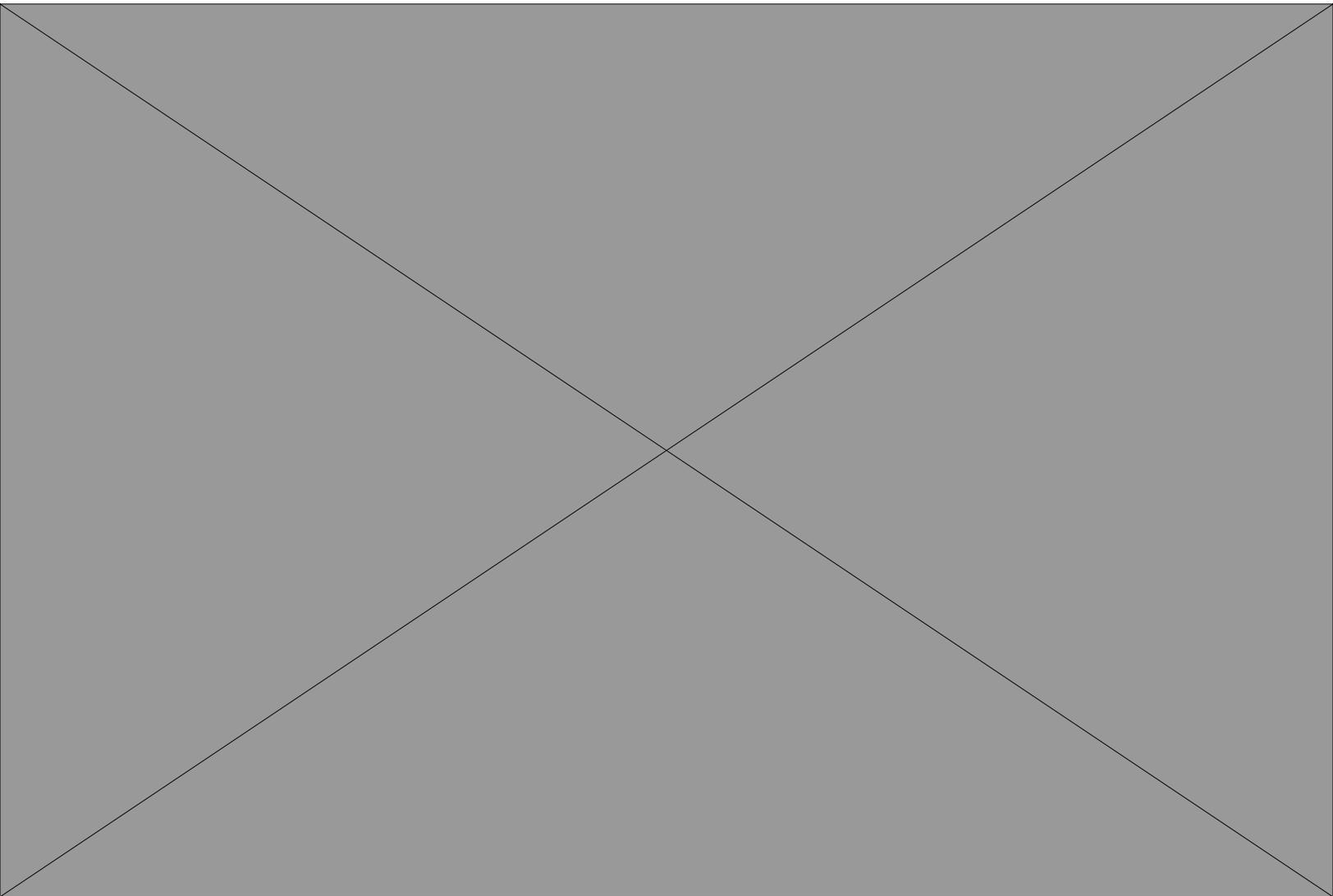
### Concluding Remarks

To conclude, no one can deny the importance of the intermediaries being a larger financier of credit and input providers in Pakistan's agriculture market. However, the dilemma is that they earned a high interest against credit from small farmers. Arhtis are not only provide inputs and credit but also they receive a major share of output from farmers on low prices and in return for credit and provision of inputs. Additionally, the thekadars in the market are a real threat to the economy, as the government do not have any kind of record of their transactions. To ease the burden of small farmers' government should consider a favorable regulatory framework concerning credit provision. Besides, by getting thekadars into the net government can enhance their revenue too.

Similarly, credit on a profit\output sharing basis can meet two objectives at one time: grain sufficiency and repayment of loan without involving any third party. Liberalize spot markets to allow entry and competition.<sup>8</sup>

Intermediaries (Arhti) being a larger financier of credit and input providers is a basic component of Pakistan's agriculture market. However, the dilemma is that they earned a high interest against credit from farmers. They took 60% to 80% of the farmer's income as their facilitation charges. The survey, of the Pkapattan and Arfiwala mandi reveals the truth that, despite differences, farmers are forced to go to middleman due to the complicated and lengthy credit disbursement process of the formal sector. On the other hand, thekedar who use the land on lease get loans from arhti and grow their crops. There is no record of the production and earning of the thekedar, we highlighted them as neglected aspects. Based on the ground realities, we proposed that the government should consider a favorable regulatory framework concerning credit provision, enter the thekedar into the net and liberalize spot markets.

# Agricultural Development: New Perspectives in a Changing World\*



**AUTHORS**

Keijiro Otsuka & Shenggen Fan

<sup>7</sup>Zeeshan, I (2019). "Analysis of Determinants and the Role of Commission Agent in Wheat Supply Chain: A Case Study of Pakpattan, Punjab.

<sup>8</sup>Abdul Jalil, F. Z., Muhammad Aqeel Anwar, Nasir Iqbal, Saud Ahmad Khan, (2020). "Wheat Support Price: A Note for Policy-makers "

**A**gricultural Development: New Perspectives in a Changing World is the principal extensive investigation of key issues confronting developing nations today, from fast urbanization to environmental change. In this four-section volume, more than 40 researchers offer the most recent examination of themes like nutrition and health, gender and household decision-making, trade liberalization, government policies (price support and input subsidies etc) agrifood value chains, natural resource management, and political economy. Integrating this, Agricultural Development investigates alternative strategies and techniques for developing economically viable agricultural production systems and lessening food uncertainty and ailing health.

Part 1 presents global overview of agriculture sector. With the help of global trends it explains how the changes are occurring worldwide with new technologies and better understanding to modernize food value chains. This leads to reduce inequality by making better food value chains, guaranteeing satisfactory nourishment, improving ecological sustainability, and advancing gender orientation uniformity.

In introductory chapter book focuses on the evolution of macro and microeconomic literature on agricultural development and explains how global trends in agricultural development are changing overtime. It also identifies emerging issues associated with the process of global agricultural development. The debate in the following chapter revolves around agricultural development, policies, and technological changes to reduce or eliminate food insecurity and attain sustainable development. The role of agricultural development policies such as public investment in irrigation, agricultural research & development, price support, input subsidy, credit, crop insurance, and trade liberalization has been discussed extensively. The linkages of sustainability of natural resources (Land, water and environment) with food security of future generation have been established and highlighted.

The first five chapter of part 2 discuss the dynamics of agriculture in different regions. In East Asia comparative advantage has been shifting from agriculture to nonagriculture sectors. A part of

the reason could be the small farm size which requires labor intensive cultivation. However, farm size expansion is difficult to realize due to imperfection of land market. As a result, high income countries (Japan, Korea and Taiwan) in the regions are increasingly depends on imported foods. If small farms continue to dominate and become a major constraint on large-scale mechanization in high-wage Asian economies, the continent could become a gigantic importer of food grains. However, China took aggressive measures for land consolidation - resultantly their farm size has started to increase. Successful economic growth and rapid urbanization in high income countries have also changed the nature of food demands, which is intimately related to the nutrition transition. Consumers, especially in urban areas, demand high-value and high- quality foods. The rising demand for safe, high-value, and differentiated agricultural products have created large opportunities for farmers to participate in improved value chains (e.g. contract farming which improves access to technology, information, and capital) to potentially improve productivity and increase incomes.

South Asia has one of the highest labor-land ratio in the world but finally it has started to shift towards the transformation process with greater increase in labor productivity than land productivity. Institutional failures in developing land markets can become increasingly important bottlenecks in rural transformation. Similarly, collective actions in milk production, improved food safety practices, and management of common resources including irrigation facilities and forests is required. Liberalization and regional integration might help to facilitate the trade.

Unprecedented decade of impressive growth in Africa change the prediction of early researchers about extreme food shortages in the regions. Increasing productivity growth & expanding urbanization in some regions are changing the consumption behaviour of the people in Africa which creates more opportunities in the food value chains. The share of the labor force engaged in small-scale farming has declined substantially and highest declined is observed in countries enjoying the highest rates of agricultural productivity growth.

Latin American and Caribbean (LAC) is a heterogeneous region having different characteristics than other parts of the world. World markets and global developments, instead of domestic markets, have a stronger impact on agricultural developments. Large farm size, and chronicle ties with the American and western world make the region more prosper and most developed in agriculture among all other regions. Income inequality, rapid urbanization, and obesity are major issues in LACs countries. Governments in this region have made huge investments in research and development sector to get the sustainable agricultural productivity in the region. Eastern Europe & Central Asian (ECA) countries are performing differently but they share a common Institutional Structure in past as the Soviet bloc. The low productivity of the region in the past was mainly due to state ownership and centralized decision making process. However, agricultural output started to increase after completing the transitional process in 2000 and rise in output was driven largely by input productivity growth. Heavy investments in value-chains and moving towards market oriented economy played an important role in augmenting the growth of agricultural productivity in these countries.

The regional overview presents inclusive picture of issues in agriculture development and the process how agriculture food systems transform overtime. A combination of different strategies including input intensification, improvement in land use management and labor productivity, investment in food value chains and R&D are considered major drivers of agricultural growth. Different regions follow different approaches to achieve highest growth and consequently the outcome also vary. Some countries get success in achieving high prosperity but others worsened. The authors have discussed these issues in more detail in section 3 of this book.

Cross-country empirical evidence is presented on the relationship between urbanization, structural change, and poverty reduction. The results suggest that contrary to national policies in many developing countries, faster urbanization is not a constraint on, but instead a potential catalyst for, economic development. Urbanization can accelerate national economic growth and

structural change and spur rural transformation and poverty reduction. The analysis, however, cautions against reducing investments in rural agriculture to finance urban development. Further research is needed to better understand the economies of small towns and their rural/agricultural linkages to gauge the urban extent of agricultural value chains and the interactions between these value chains. The growth in real incomes and poverty reduction, influencing the relative price of nutritious foods and managing food price variation, and transformation of agricultural livelihoods are considered important policy outcome that can contribute to nutritious security.

Increasing productivity of staple crops through technological change, shifting of resources from staple food production to high-value crops, lucrative employment opportunities in rural non-farm sector are considered important parameters to measure the speed of rural transformation. Contract farming is an effective institutional arrangement to organize the production of high-value crops. To provide lucrative nonfarm employment opportunities, governments should recognize the importance of indigenous rural industrial clusters and facilitate their growth through various local policies, such as improving access to markets, organizing training, and inspecting product quality. Policies that help expand markets and address externality problems should be greatly encouraged.

Transformation of food value chains is an important component of rural transformation but literature reveals there has been a relative dearth of surveys of and analysis of the off-farm components of value chains such as traders, logistics enterprises, and processors. Trade liberalization maximize the benefit that international trade can offer to boost global food security and ensure the world's agricultural resources are used sustainably. If the gains outweigh the losses of any public policy (such trade liberalization, reducing government foot prints), it is socially optimal to implement the reforms or make the investment since the gains of those who win are more than sufficient to compensate the losers. An important question is therefore how to design mechanisms that constrain policymakers, to bring the discretionary



political equilibrium closer to the social optimum. Gender inequality in an agricultural society is mainly due to the accumulation of hold and power on resources by the male dominants. However, financial inclusion through financial institutions and insurance provision is playing a vital role in uplifting the backward women in agriculture sector. Smart communication systems and Artificial Intelligence helping small holder agriculture, especially women in daily transactions, access to credits and savings. Evidence suggests that institutional credit and crop insurance plays an important role in enhancing investment and productivity in smallholder agriculture. However, it is suggested that governments should support innovations and institutional development but never subsidize interest rates on lending to support agricultural finance. The abundance of natural resources affects total agricultural production but the health, state, or quality of natural resources affects both total production and productivity of agriculture. Well define property rights leads to efficient use of natural resources in sustainable manners.

The last section of this book talks about future risks and opportunities in agriculture at the global

level. Agricultural research is challenged to address multiple societal issues, including sufficient and healthy foods, improved protection of the environment, and growing income for the agro food sector. A clear understanding of the major features of the agricultural sector, and agricultural technology in particular, is critical in designing policies to allow agricultural research to be a source of value and benefit for society. Therefore, agricultural research is likely to play a major role in guiding agriculture through adaptation to climate change, changes in land use, adoption of new technologies, and relocation, as well as provision of new sources of income from mitigation efforts. Hence, to achieve multiple goals of sustainable, healthy, and inclusive agricultural development all over the world, national, regional, and global collaborative efforts are clearly called for to reshape global agro food systems in line with the recommendations proposed in this book.

Contribution by

*Abdullah Anjum  
Mansoor Muhammad Isani*



“

Without hard work, nothing grows but weeds.  
- (Gorden B, Hinckley)

”

# The Norman Ernest Borlaug contribution to the South Asian Agricultural system of Pakistan

**“Yield of all major and minor crops in Pakistan is below the world’s average,**

**HAMZA SHAKEEL**

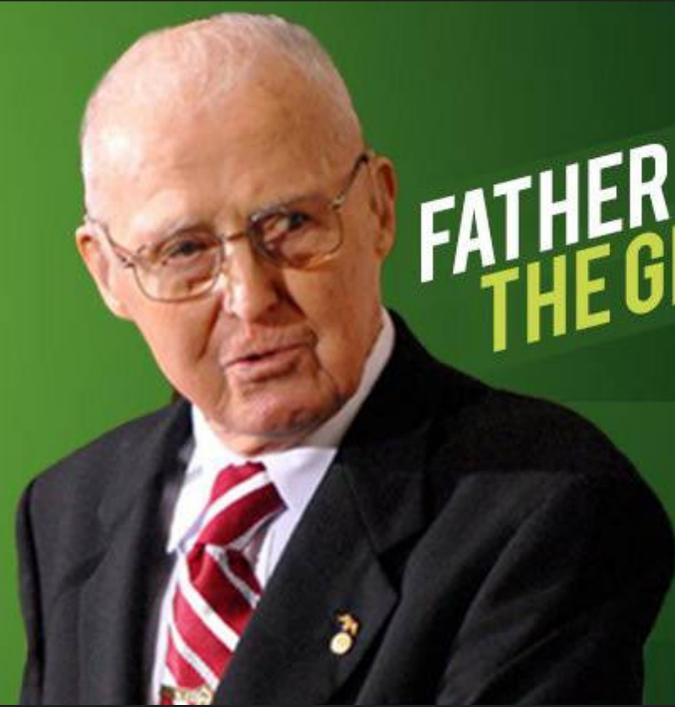
**NORMAN  
ERNEST  
BORLAUG**

**A** Noble laureate “Norman Ernest Borlaug” is known for laying the foundation of technological advancements in the agriculture and also known as the Pioneer of Green Revolution, his manifesto was to reduce the hunger with science. He helped in alleviating the food hunger & poverty in developing economies across the globe like assisting in the agricultural program for Mexico, reducing poverty & hunger in Africa through green revolution, executing the policies for an adequate supply of grain in China. Due to his noteworthy accomplishments in green revolution and contributions in enhanced agricultural productivity in Mexico, Borlaug was further approached by the South Asian countries mainly: India & Pakistan in late 1960s through the support of the Rockefeller foundation & UN food & Agricultural Organization. Several unfortunate events like, starvation, shortage of food due to severe outcomes of the World War II and sudden surge in the population growth rate grave repercussion in the Indian subcontinent along with the other parts of the world.

The panache of Borlaug’s approach carried out a crucial role in South Asia by introducing his dwarf wheat; a disease-resistant wheat in both India & Pakistan responsible for increasing the harvests by 60-percent in early 1970s and making these countries self-reliant in enhancing agricultural productivity in a short span of time. Eventually, saving billions of lives from deadly deterioration and starvation in these countries.

High yielding and disease-resistant varieties of wheat along with advanced agricultural techniques helped Pakistan increasing wheat production from 4.6 million tons in year 1965 to 7.3 million tons in year 1970 and furthermore in year 2000, the wheat production got increased by 21 million tons. India harvested about 10 million tons of wheat in year 1963 and, the output of wheat got doubled by 20 million tons in year 1970 from 10 million tons in year 1963. In both countries, the production of food increased rapidly than the population growth rate since the 1960s. The wheat varieties pioneered by the Borlaug proved to be pliant easily, as they gave the comparable outcomes in Pakistan & India as they gave in Mexico.

Borlaug has been dispensing significant advantages to the developing countries in the 21st century. Since the 1960s till now, the Green revolution transfigured the production of agricultural items & crops, launched new varieties of wheat & seeds and secure the food in Pakistan and India since then; these countries are generating maximal revenue from the agricultural sector.



# FATHER OF THE GREEN REVOLUTION

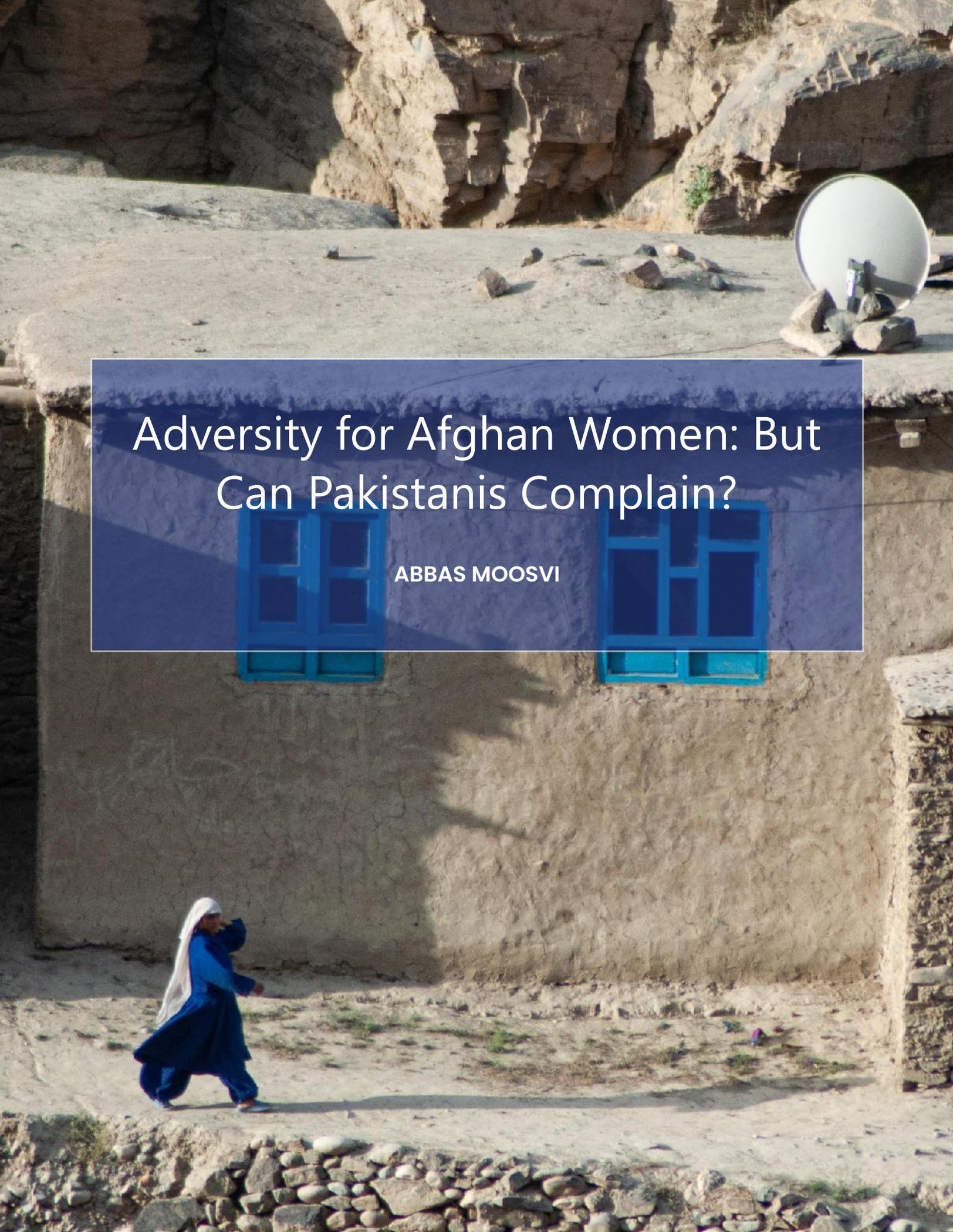
## AMERICAN AGRONOMIST

Today, the modern farming practices & diseases-resistant varieties of these “wheat” proposed by the Borlaug has been dispensing significant advantages to the developing countries in the 21st century. Since the 1960s till now, the Green revolution transfigured the production of agricultural items & crops, launched new varieties of wheat & seeds and secure the food in Pakistan and India since then; these countries are generating maximal revenue from the agricultural sector.



**Illustration: Because of Norman Borlaug’s bold action to help impoverished farmers, Mexico became self-sufficient in wheat production and a grain exporter to other countries by 1963!**

Source: Bold Business



# Adversity for Afghan Women: But Can Pakistanis Complain?

ABBAS MOOSVI

On Tuesday the 7th of September, less than a month after assuming power of Afghanistan, the Taliban announced the structure of their government – along with the various individuals that would occupy ministerial roles in the days and months (years? decades?) ahead. Despite the nature of the buildup to this momentous event, which was colored by rhetoric of ‘inclusion, equality, and dignity’, not a single woman was granted a seat at the table for political office – which constituted 33 males. Notions of Taliban 2.0, therefore, slowly seem to be disintegrating. This was preceded by the announcement of mandatory abaya robes and niqabs (full coverings of the face, leaving only the eyes visible) for women at universities. A general culture of segregation also seems to be prevailing, with classes for women not just separate from those of men but also scheduled to end 5 minutes earlier so as to prevent any possibility of interaction. A ban on sports for women may also be imminent. In response to all this, several women have taken to the streets in Kabul to protest – triggering a violent response from security forces, beating them with heavy objects and fostering an environment of fear around ideas of change, resistance, dialogue, and dissent. (HRW) All this, of course, is regrettable. The question, however, is whether Pakistan – which is ranked 153rd out of 156 countries assessed in the World Economic Forum’s Global Gender Gap of 2021 – is in any position to play the ‘holier than thou’ role in response. (WEF).

In a report cited by Geo News in 2020, it was estimated that a minimum of 11 rape cases are reported in Pakistan on a daily basis – with over 22,000 cases filed during the 2014-2020 period. Furthermore, as many as 22,037 cases of sexual abuse were registered across the nation during the period 2015-2020 as per the same publication. (The Diplomat) It is also true that a miniscule figure of 77 (0.3% of total accused) of these have actually been convicted, with only 12% of total reported cases being filed in courts. This demonstrates the dire straits the judicial system is in, which has led to an estimated 59% of cases not being reported in the first place. (The News International) Also, 53 cases of gang rape were reported by the Punjab Police in just the first four months of 2021. Beyond this, a total of 430 cases of honor killing were recorded in 2020 by the

Human Rights Commission of Pakistan, and 2,297 cases of ‘violence against women’ were identified during 2020 in a report by the Aurat Foundation – the latter of which includes “murder, abduction/kidnapping, rape/gang rape, honor killing, and domestic abuse.” (The Diplomat) Linked to this is the prevalence of acid attacks – estimated at 9,340 cases during the period 1994-2018. (Dawn) Then there is the issue of early/forced marriages and child sexual abuse. This was documented in UNICEF’s State of the World’s Children report in 2017 – which estimated “that 18% of girls in Pakistan are married before their 18th birthday and 4% before the age of 15 while 5% of boys are married before the age of 18.” (Tribune) This is also linked to the issue of forced conversions, whereby young girls from minority communities (particularly Hindu, concentrated in Sindh) are compelled to abandon their faiths in favor of Islam due to pressure from their would-be spouses. It is estimated that up to 1,000 cases of this occur in Pakistan on an annual basis. (Gandhara) Finally, the education system – which is one of the primary determinants of life outcomes – also contains strong biases against females, with an estimated 32% of primary school aged girls lacking access: compared to 21% of boys. (EduFinance) Keeping all this in mind, why has the media narrative in Pakistan slowly tilted towards ‘saving the women’ in Afghanistan – at a time when its own mothers, sisters, and daughters aren’t guaranteed basic rights and safety? What are the origins of this line of thought?

In the aftermath of 9/11, when a plethora of justifications were peddled by the United States for maintaining a military presence in Afghanistan in order to curb ‘global terrorism’ and instill democratic norms, one facet of Afghan society that was identified as in need of rapid reform was culture/religion. The implication here was that there was something inherent to the Islamic faith which was producing violent tendencies in its adherents – particularly men. This not only led them to gravitate towards extremist groupings, but also resulted in the subjugation of ‘women and children’ – who were denied their individuality and forced to abide by strict codes of conduct including remaining confined to household duties, wearing clothing that covered their entire bodies, and not engaging with any men

besides their spouses. This narrative was carefully crafted to justify going on the offensive against a grouping that the USA itself helped build in the first place. In the aftermath of the Soviet invasion of Afghanistan in the 1980s, narrative building of another sort was taking place - but at precisely the same scale. At that time, notions of 'jihad' and 'resistance to a godless Communism' were advanced – thus artificially promoting a reactionary form of Islam that was based around discipline, warfare, and hyper-conservatism. This worked well for the United States, allowing it to recruit a massive army of 'mujahideen' (freedom fighters) to preserve its interests during the Cold War, in which the containment of Communist ideology was top priority. Pakistan was involved as a key actor during this period, in which the military dictatorship of General Zia ul Haq was assigned the task of recruitment, training, and organization of freedom fighters – which involved not only logistics and arms distribution but also a domestic ideology that promoted the cause to the masses through media and madressa networks. Following the fall of the Soviet Union and growing frustration on the part of the mujahideen, who quickly realized that the United States was not actually interested in preserving their faith/culture but was rather leveraging it in order to suit its needs at the time, frictions between the two parties grew and a different narrative building project was initiated by the USA – this time critical of the 'backwardness' that was prevailing and threatening vulnerable groups. The objective, however, was the same – which was to justify military presence

and intervention in a valuable geopolitical region of the world located between the Middle East and Central Asia. It is unfortunate that groups like the Taliban, Al Qaeda, and ISIS were never able to (or were perhaps unwilling to) pinpoint that the USA was not only leveraging the Islamic faith during the Soviet resistance but also redefining it in the process, magnifying and distorting it to inculcate certain values and traditions. Instead, that same concocted ideology was embraced and romanticized – serving as a political tool for the Taliban to exert control over the Afghan people, which we see to this day. (Ahmad, 2011).

There is a grave need today, within Pakistan, for political analysts, pundits, and journalists – as well as academics, politicians, and even civil society – to learn from the mistakes of the past and adopt a skeptical attitude towards US-led narratives about 'saving' other communities. Instead, Pakistan would do well to pay attention to the problems plaguing women domestically – and focus on addressing their concerns through informed, nuanced, and long-term policy interventions through a multisectoral approach. This is only achievable if/when relevant stakeholders realize that the idea of an external force acting in altruism to benefit the people (also applies to foreign aid) has never worked – and it is only through large-scale, participatory democracy can an organic, bottom-up, and effective push towards betterment take place. This applies not only to Pakistan, but to the entirety of the developing world. Our fate is in our own hands – not anyone else's.

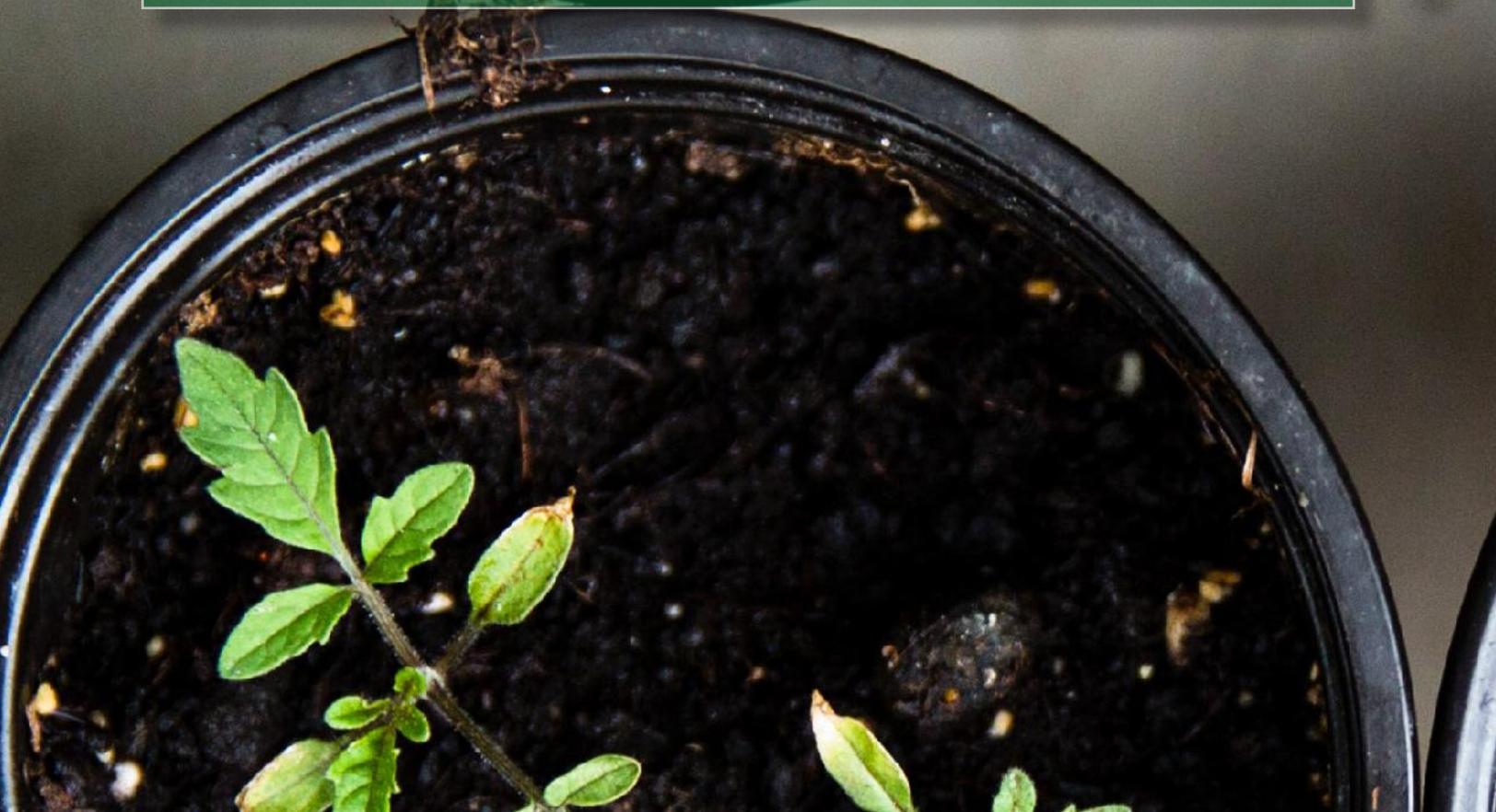
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# Regulatory Issues in Pakistan's Seed Sector

MUHAMMAD AHSAN RANA <sup>1</sup>



62% of farmers' seed requirement in Pakistan is met by the informal sector. In the absence of regulatory oversight, most of the informally provided seed is of low quality. Consequently, farmers are unable to harness the full potential of their labour. Ironically, this widespread informality is a product of an archaic and bureaucratic legal and institutional structure, which was created in the 1970s and has failed to keep pace with structural changes in agriculture.

Let me illustrate this using cotton as an example. Based on a province-wide sample of cotton cultivation in 2020, Punjab's Crop Reporting Services observed that 21 approved varieties were being cultivated on 50.56% of cotton area in the province and 52 unapproved varieties were being cultivated on the remaining area (i.e. 49.44%). All but 5 of the unapproved varieties were genetically modified (GM) insect-resistant varieties. This means in Punjab – and there is no reason for other provinces to be any different – about half of cotton seed is provided by the informal sector.

This is an alarming situation and shows how irrelevant government's regulation has become. In addition to the usual evaluation and approval by the Federal Seed Certification and Registration Department (FSC&RD), GM varieties must undergo assessment for their biosafety. Above data shows that this was not the case for 47 GM varieties in 2020 whose seeds were produced and sold by the informal sector. No wonder several GM cotton varieties in Pakistan express insufficient toxin level to kill target pests (viz. bollworms), which have started to develop resistance.

The informal sector comprises of seed companies, public and private breeders, seed dealers and large farmers. They not only develop their own varieties of various crops but also produce seed of approved varieties. Often, they have a breeding infrastructure ranging from basic to advanced and have a significant market presence. The question arises why these actors prefer to commercialize their new crop varieties in the informal, rather than the formal sector. This is largely due to the bureaucratic and lengthy procedure for va-

riety testing and approval. Once a breeder wants to commercialize a new variety, he is required to submit its seeds for evaluation, which takes at least two years. Since the breeder is ready to enter the market, this is an unnecessary wait for him. More importantly, the new variety is vulnerable to piracy during various stages of evaluation, which is carried out in various parts of Pakistan on research stations and farmers' fields. It is necessary to conduct such large-scale evaluation to assess new varieties' suitability for different agro-ecological zones. But this effectively puts a breeder's innovation in his competitors' hands, who may unscrupulously produce and sell new seeds while he awaits formal approval from the regulator. Furthermore, it becomes possible for public institutes to rig evaluation data in favour of their varieties.

Due to these reasons, most breeders prefer to commercialize their new varieties in the informal sector, i.e. without submitting them to FSC&RD for evaluation. This option is exercised by serious players with an established market presence as well as fly-by-night operations seeking to make a quick buck. Seeds of these new varieties are clearly identifiable to their breeder and are often sold under company labels. After a few years when the new variety has exhausted its commercial potential, the breeder would put it in the formal approval process. Thus, most seed sector actors are simultaneously part of the formal and the informal sectors, boundaries between which are more blurred than often realized.

In 2015, the government tried to address the seed sector issues by amending the Seed Act of 1976. But this made the matters worse. Instead of reducing the administrative burden, the 2015 amendment increased it. The sector now suffers from restrictive governance more than ever before. Not only regulation extends to all crops, including commercially insignificant ones, all seed businesses – companies, processing plants, dealers, etc. – need to register with the regulator and periodically renew it. Ironically, there is a gross mismatch between institutional capacity of the regulator, viz. FSC&RD and its responsibilities. For example, seed certification, which is to be

<sup>1</sup> Associate Professor. Suleman Dawood School of Business LUMS, Lahore

done through periodic inspections while seed is being produced on farmers' fields across the country, is a mandatory activity but there are only 29 inspectors for doing this mammoth task. Consequently, regulation is spread too thin to be effective. FSC&RD will require a standing army of thousands of inspectors and other staff if it wants to meaningfully perform the multiple functions assigned to it by the Seed Act.

Clearly, there exists a strong case for rethinking the regulatory framework. Regulation should extend only to crops of commercial importance. This would allow FSC&RD to focus its regulatory capacity on important crops. Even for these crops, variety development and seed production should be liberalized. Companies and public institutes should be able to commercialize their new varieties with as little restriction as possible. Government's role should be restricted to specifying standards and ensuring that new varieties conform to them. This can be done through rigorous testing post-

commercialization. FSC&RD can take samples from various sale outlets and evaluate seeds against specified standards. Any company that has commercialized low quality seed should be penalized according to the extent of deviation from prescribed standards. As for varieties that meet these standards, farmers' buying choices should decide which ones stay in the market and which ones perish.

It is worth noting that similar systems are in place in most countries of the world, including India. In the US, Australia, India, etc., breeders can commercialize their varieties/hybrids without mandatory regulatory approval. The regulator rigorously tests them post-release for compliance of standards. In fact, Pakistan is one of the handful of countries that still require variety evaluation prior to commercialization. It is high time Pakistan too moves to reduce administrative burden on seed producers. Restrictive governance serves no purpose other than to stifle growth of the seed



# Northern Pakistan is no Switzerland

OBAID KHAN

I have had the privilege of living in an eclectic mix of cities over the years; Geneva, Istanbul, Dhaka, and London to name a few. Due to my fond memories of my time in Switzerland, comparisons of Northern Pakistan to Switzerland have always piqued my curiosity. I used to often ask myself, 'Is Northern Pakistan really Switzerland-esque?' On my recent trip to Kumrat Valley, I found the answer to this question. Northern Pakistan is no Switzerland. There is an extreme dearth of airports in the region. The closest international airport is in Islamabad. A road trip from Islamabad to Kumrat Valley is an agonising 14-hour journey. And it takes this long when everything goes according to plan, which often does not. Traffic jams caused by landslides, vehicles breaking down due to being driven on unforgiving, unpaved roads and the general shortage and unavailability of fuel can increase travel times severalfold. The shorter route, taking a flight from Islamabad to Chitral, the closest domestic airport to Kumrat Valley, still involves a 7-hour road trip under perfect conditions. On the other hand, a cross-country drive from Geneva Airport to Chamonix-Mont-Blanc, located in the French Alps and bordering both Italy and Switzerland, takes a mere 70 minutes.

Never mind the lack of provision of alcohol for foreigners (although a major pull for places such as Turkey and Dubai), the region lacks the necessities required for tourism to thrive. In Kumrat Valley, there are no high-quality hotels. In winter, unlike Chamonix-Mont-Blanc, much of the region shuts down rather than doubling down as a skiing resort. Instead of cable cars making the area accessible, tourists are forced to rely on visibly overworked and overburdened horses and donkeys to commute, perpetuating the cycle of animal abuse. Moreover, tour guides and travel agencies are often deceptive in terms of over-promising and underdelivering to their clients. Shockingly, at times, these 'experts' have never been to the region and are navigating the space for the very first time themselves, much like their clients. Although one might view the aforementioned services as luxuries, rest assured, the region does not offer access to basic necessities such as waste collection or sanitation facilities either. In my 4-day trip, I did not come across any clinics or hospitals, yet I was approached by numerous individuals raising funds for mosques and madrasas. Being an

economist at heart (and by profession), one cannot help but ponder what mosques contribute to the development of the region and where our priorities lie as a nation. Currently, no development-related index incorporates churches, mosques, or temples, as an indicator of development. Used here as a proxy, the Human Development Index, developed by Pakistani economist Mahbub ul Haq, measures development in terms of life expectancy at birth, mean and expected years of schooling and gross national income per capita. Although madrasas are technically educational institutions, for context, Pakistan's Single National Curriculum does not touch on interest/mark-up in mathematics, sex education in general studies and only briefly brushes over the theory of evolution as well as human sexual reproduction, without providing illustrations. By doing so, our education system will produce individuals who are ill-equipped to function in the real world and are resultantly, at risk of getting left behind. If the residents of Northern Pakistan do not realise what schools and hospitals contribute to human development, ironically due to a lack of education, Government intervention is needed to improve the standard of living of the region. This, in turn, will make the region feel more welcoming to tourists.

Then there is the aspect of safety and security. During my trip, I did not come across any teenage or adult women in public. Later, I realised why this was the case. Despite being accompanied by a group of 7 men, the 3 women in our group were constantly harassed. Locals would often express their disapproval at their sheer existence by shouting 'Astaghfirullah' from near and afar. This issue of safety is made worse by a lack of police presence in the area, combined with a lack of internet and cellular reception to call for help, individuals roaming freely in the streets with guns and people openly injecting themselves with drugs at public campsites. In these circumstances, a lack of social distancing and defiance of COVID-19 related SOPs becomes the least of your concerns. Northern Pakistan is years behind Switzerland in terms of services being provided to tourists in the region. However, it is perhaps decades behind Switzerland in terms of how unsafe and unwelcoming it makes its tourists, in particular, women, feel.







**PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS**

## **CONTACT US**

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**Pakistan Institute of Development  
Economics (PIDE),  
P.O. Box. 1091, Islamabad,  
44000, Pakistan.  
Tel: +92-51-9248051  
Fax: +92-51-9248065**