




DIVERSIFICATION OF ECONOMY - AN INSIGHT INTO INCLUSIVE GROWTH & FOOD SECURITY WITH SPECIAL REFERENCE TO PAKISTAN'S AGRICULTURE ECONOMY

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ABSTRACT

In order to improve agricultural economies, diversification is an important step to deal with the challenges of both the present and the future. This research attempted to deal with the above challenges of different economies as well as Pakistan's economy to achieve inclusive growth through internal diversification and reforms. The main objective of this paper is to see how internal diversification and land reform can prove to be a milestone in tackling the above challenges. In order to perform numerical and qualitative analysis of primary and secondary data, the descriptive statistics is being used. As a result, it was shown that through internal diversification and land reforms, Pakistan's agricultural economy can be strengthened. At the end of the paper, some effective suggestions have been proposed, which will be important in achieving the aforementioned objectives.

Contribution/ Originality

This study is important in present & future perspective of Pakistan which is going through the difficult time of food inflation and financial crisis. The contribution of this research emphasized to deal with the above challenges of different economy as well as Pakistan to achieve inclusive growth through given economic diversification strategies and land reforms in agriculture.

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1. INTRODUCTION

Pakistan is the South Asian developing country with a population of 197 million (World Bank, 2017). It is sixth largest populous country but it's ranked 43rd (Statistics Times, 2018) in rate of GDP. Agriculture is prime moving force in Pakistan's economy as growth is concern; traditional agricultural practices with obsolete technology responsible for stagnant growth. Agriculture contribute a substantial part about 18.9% in GDP of Pakistan. (Pakistan Bureau of Statistics, 2017-18); and also among the major earner of foreign exchange reserve through export. Subsequently, agriculture contribute a great role in the financial inclusion of the nation.

According to Pakistan bureau of statistics, Employment Trends 2018 reveals that 37.4% of the total workforce employed in the agriculture sector. Approximately 64% population of Pakistan is directly or indirectly depends on agriculture. Agriculture and allied sector also support cottage industries, dairy and food industries (Barbiero and Brown, 1991; Mehraraa and Baghbanpour, 2016). It's a high remunerative sector in term of agricultural export. Agriculture also play a major role in livestock development that support meat production (Abdul-Rehman *et al.*, 2017). It's also fulfil protein necessity in diet that provide a healthy lifestyle to people of Pakistan. Thus, it is evident from above fact that agriculture plays a multi-dimensional role in the economy of Pakistan. Hence it is called an agricultural based economy. But as per GDP statistics contribution of agriculture is decreasing since 1947, it might be due to inverse size-productivity relationship (Chaudhry, 1982; Cornia, 1985; Johnston and Tomich, 1985; Chaudhry and Chaudhry, 1997). It's become third largest sector from largest contributor of GDP. Its mean greater part of population depend on 18% of GDP. Which indicates lower per capita income, highly financial divisive society and lower purchasing power of majority of population. Lower purchasing power results in stagnant industrial sector. Majority of the population is facing nutritional insecurity, unemployment and stagnant growth in every sector of economy (Ahmad and Farooq, 2010).

Pakistan has two agro climatic seasons, "Kharif" being the first sowing season beginning from April-June and is harvested in October-December. Rice, sugarcane, cotton, maize, moong, mash, bajra and jowar are major "Kharif" crops. "Rabi", the second sowing season, starts in October-December and is harvested in April-May. Wheat, gram, lentil (masoor), tobacco, rapeseed, grain and mustard are "Rabi" crops. Mono-cropping agriculture in Pakistan are playing vital role in terms of mass agriculture production but in terms of food security nutritional security is lacking in food basket of its people (Siddiqui *et al.*, 2012).

This paper tries to find the problem and solution of Pakistan agriculture through the crops diversification with reforms in the agriculture sector. The assumptions of this paper are the agricultural Diversification can change the picture of Pakistan agriculture through seasonal crops diversification from existing mono-cropping to multi-cropping methods and securing traditional variety of crops for maintaining genetic diversification of crops that is indigenous. Others reform includes timely cheap credit access, corporate investment opportunity as Corporate Agribusiness practices and Crops Diversification includes low remunerative to high remunerative crops, Less nutritive to multi-nutrition value crops and Import substitutive production. The present government focusing on quantitative agriculture growth but the demand today is qualitative production needed for nutritional security. Qualitative production is possible through reforms and diversification on micro-level & sub-level (Kurosaki, 2003).

1.1. Objective of the research

To understand the economic status and issues of Pakistan's Agriculture economy

To know what are the current and future challenges of food security in Pakistan and how to deal with it

To know how internal diversification can contribute positively to Pakistan's agricultural productivity

To know that the existing issues in Corporate Agriculture Farming policy and what reforms are required to resolve it

To find out how to achieve the goal of inclusive growth through internal diversification and land reforms

To resolve the above said issues what are the plans to execute the proposed models

2. RESEARCH METHODOLOGY

This research used both qualitative and quantitative data, it is collected by the researcher from published reports of Government and Non-government organizations, research papers, Personal interviews of respondents, panel discussion with economist and open discussion on social networking websites. Even this research also used the schedule questionnaire for collecting the data from 104 respondents belong to respective country as well as other country. For critical analysis the data, the descriptive statistics has been used and also mean, standard deviation, frequency, percentage analysis is been used for secondary data analysis. Descriptive statistics is easiest way to understand the economy survey based research analysis. So, this general methodology has been applied instead of other available econometric techniques because these technique will make it complex rather than facilitating this research.

3. DISCUSSION AND RESULT

3.1. Generally, the economy of Pakistan is divided into three major sectors

Primary Agriculture and allied sector is the primary and traditional sector of economy. It is playing a major role in the employment of Pakistan as well as in GDP. According to Pakistan economic survey, 2017-18, agriculture sector share in GDP is 18.86% and of total workforce employed in this sector is 37.4%.

Secondary Manufacturing and industry are the secondary segments of economy, processing of raw material in final output by human activity included in this sector. Currently, this sector contributes 20.91% (Figure 1) and 22.6% (Figure 2) workforce employed.

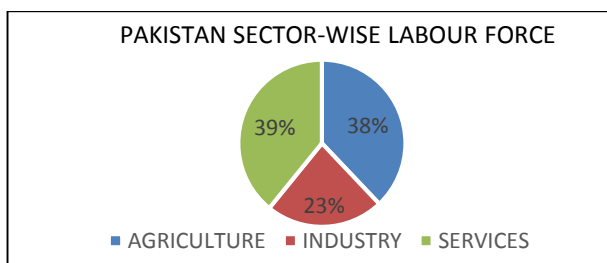


Figure 1: Pakistan sector-wise labour force

Source: Pakistan Bureau of Statistics 2017-18

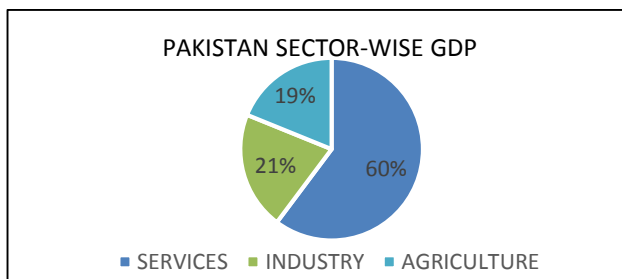


Figure 2: Pakistan sector-wise GDP

Source: Pakistan Bureau of Statistics 2017-18

Tertiary sector covers services provided by human efforts, like works, Knowledge consultancy, Engineering services, Finance Work, Business Knowledge Process Outsourcing, etc. This sector is tertiary but the contribution of this sector to GDP is 60.23% and this sector was second largest employer after agriculture but currently 38.6% of total workforce are employed in this sector.

3.2. Statement of the problem in Pakistan agriculture

Pakistan has the good fertile agriculture land for its domestic food requirement and export as well, but due to lack of dynamic reforms is lead to worst agriculture production. Land reforms is still pending so that the welfare soul of the Pakistan' constitution towards inclusive growth is too far from the ground reality. Reforms in agriculture are the need of every nation. Diversify policy can balance the agriculture growth positively Pakistan agriculture is more concentrating on major crops besides it is ignoring the production of other crops like vegetables, fruits and other fiber foods. In Pakistan, the vegetable growers are losing against Indians at the house turf once gap of trade across Wahga border, in the main as a result of their rivals are growing vegetables at abundant lower price as they avail subsidies from their government. There are fears that the vegetable sector of West Pakistan might any loose and ultimately reach to an irretrievable stage if not properly taken care of given subsidies and incentives (Dawn, 2016). Increasing import of vegetables crops instead of suitable environment of agriculture the vegetables production is not enough for its domestic needs. At present, the current news report reveals that Pakistan and India relations are suffering due to cross border terrorism conflict. After the Pulwama terror attack, Indian vegetables producer banned the export to Pakistan so that Tomato and other vegetables prices are going to high in Pakistan. Agriculture growth should be diversifying according to economic situation. Concentration on major crops production, Import of agriculture products, Exclusive development policies like existing Corporate Agriculture Farming and Pending land reforms are the barrier in inclusive growth of Pakistan.

3.3. Economic diversification

Economic diversification is the method of shifting focus from monopolize economy to diversify economy of varied sectors and markets. Historically, it's been applied as a method to encourage positive economic process and development. Within the context of greenhouse effects due temperature change suitable adaptation and mitigation practices require. Economic diversification cover all sector of economy. It encourage inclusion and development of every aspect such that elimination of huge trade deficit, well-nourished society, low per capita health expenditure, fertile and sustainable agriculture, raised per capita income. It's work on self-sufficiency and resourcefulness in every kind of situation. Diversification encourage low carbon footprint sector, which are less emissive and sustainable for environment. A lot of climate resilient technology has develops today that can increase financial gain in sustainable manner. Shifting from one sector to another for gaining the advantage of diversify opportunities in employment generation and value addition is necessity today. Diversification is a continuous process for dynamic economic situations. Diversification is grabbing the opportunities through monitoring the scenario of economy sectors volatility and implementing the required action accordingly.

(Karshenas and Hakimian, 2005). Diversification can be generally classified in two classes:

3.3.1. External diversification (inter-diversification)

Diversification between different sectors of economy is best way to achieving higher growth and stability. External diversification creates an impact among the different sectors of economy. The government should not focus on one sector only instead it should diversify its focus on different sectors (e.g. Oil, Manufacturing, Service, Agriculture) (Pankaj and Ramyar, 2019) to achieve sustainable economic growth. Sudden downfall in the crude Oil prices will effects the oil based economy and creates financial crisis as shown in Figure 3.



Figure 3: Diversification of economy between the sectors

Source: Authors compilation

3.3.2. Internal diversification (intra- diversification)

It is the diversification inside the different sectors of economy. Internal diversification is the need of world because rapid increase in the population of countries leads to rise in challenges of employment and the food security all over the world. So, Diversification inside the agriculture is the need of today world as shown in Figure 4.

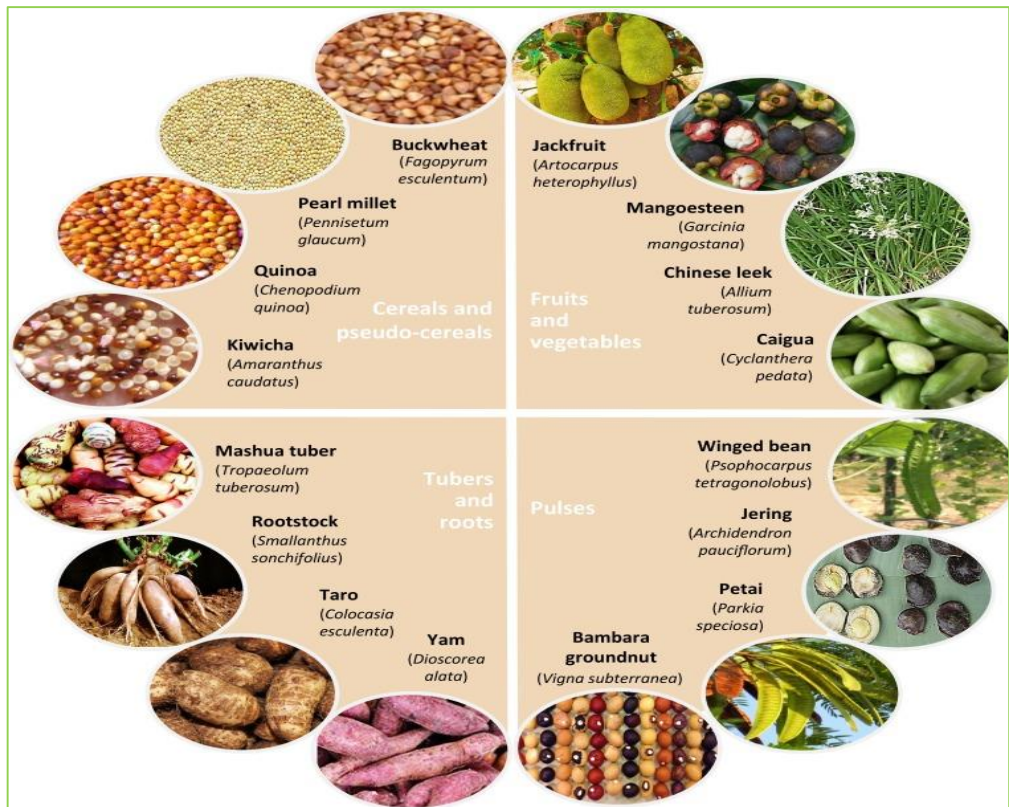


Figure 4: Internal diversification in agriculture

Source: www.cell.com

3.4. Needs of reforms & diversification for Pakistan's agriculture

Inclusive growth is a challenge for Pakistan government; the ruling government is trying to achieving it through reforms in agriculture. Pakistan's economy is looking for a very rapid progress which requires changes multiple time at various levels. Today, Pakistan has two main challenges poverty and food security. Development of these needs should sustainable rather than temporary. Diversifying the economy is requires for policy makers in inclusive growth of Pakistan. Today, increasing unemployment, terrorism, and growing discontent in the lower classes are the major problems facing by the Pakistani government. Due to unemployment, some youths are ignoring themselves from main stream of development and are not avoiding itself to joining the groups of terrorism. This is right time for Pakistan government to make specific modern policies for targeted areas in the agricultural sector because it is highly essential for science, economics and policy makers. Any sector of the economy cannot move beyond reforms. So, there is a need to improve on many levels, it is necessary to classify into various segments as high, medium, low, subtle and infinitesimally points.

3.5. Internal diversification of Pakistan can be classified in following manner

- Crops to crops diversification
- livestock to livestock diversification,
- Crops to live stock diversification
- Livestock to crops diversification
- Seasonal Diversification (Rabi and Kharif to multi-seasonal crops diversification)
- Credit scheme diversification,
- Diversification in crops area of production
- Investment diversification is also important for Corporate Farming Policy in Pakistan

3.6. Importance of internal-diversification for Pakistan

- Food security is a major concern for Pakistan, Diversification will give value addition to nutritious Food production
- Increase in income of farmers through diversify high value crops production
- It will help to eliminate the problem of terrorism in unemployed youngster section of the society
- Diversify crops production (from two seasonal to multi-seasonal crops) also good for soil fertility
- Help to control food inflation and also minimize the risk of financial and economic crisis
- It will also minimize the current account deficit problem of the country
- Diversification in crops area of production
- Investment diversification is also important for Corporate Farming Policy in Pakistan

3.7. Potential of diversification

Diversification is generally a two-way of process just like opportunity cost concept; if the one part is on downfall then the other part have the potential to create the opportunity, but the challenge is how we can grab this opportunity it is so important for government. If the one crop/product is suffering due to higher production and lower prices then we can shift our workforce into another beneficial substitute crops. Economy environment is dynamic in nature, this dynamic nature creates the problem as well opportunities. The Diversification is the best solution for grabbing these outcomes of dynamic opportunities as shown in Figure 5.

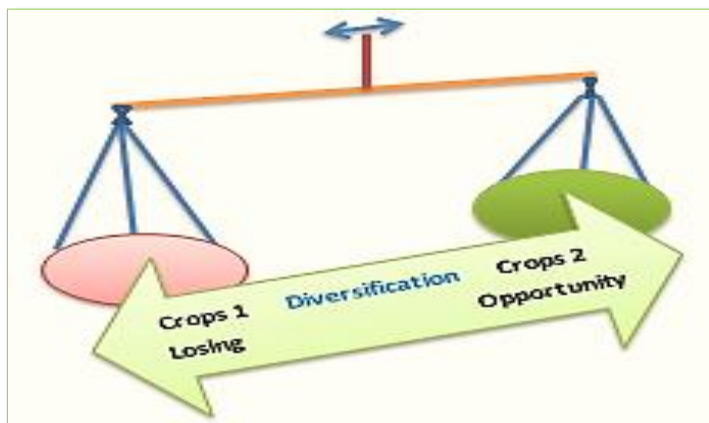


Figure 5: Diversification opportunities

Source: Authors own compilation

3.8. Crops diversification

Diversification of crops is important for many economies in many ways. It is beneficial in resolving the main problems like food security, inclusive growth, and soil fertility. Along with domestic needs, food security of other countries can be overcome through diversification. Food security is a challenge for Pakistan's rapidly growing population for policy makers. High value crops are beneficial to increase the income of farmers also the challenge of malnutrition can be tackled by diversification of the crops. Traditional crops are taken more time to grow during sowing to harvesting period, as well as due to higher productivity of these crops farmers do not get good value for them. Diversification of crop products gets good value to the farmers (Alur and Maheswar, 2018).

Table 1: Agriculture growth percentages (Base=2005-06)

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	Mean 'Σ Xi'	S.D σ \bar{x}
Agriculture	3.62	2.68	2.5	2.13	0.15	2.07	3.81	2.4228	1.2114
Crops	3.22	1.53	2.64	0.16	-5.27	0.91	3.83	1.0028	3.0532
i) Important Crops	7.87	0.17	7.22	-1.62	-5.86	2.18	3.57	1.9328	4.8717
ii) Other Crops	-7.52	5.58	-5.71	2.51	0.4	-2.66	3.33	-0.5814	4.8742
iii) Cotton Ginning	13.83	-2.9	-1.33	7.24	-22.12	5.58	8.72	1.2885	11.823
Livestock	3.99	3.45	2.48	3.99	3.36	2.99	3.76	3.4314	0.5533
Forestry	1.79	6.58	1.88	-12.45	14.31	-2.37	7.17	2.4157	8.426
Fishing	3.77	0.65	0.98	5.75	3.25	1.23	1.63	2.4657	1.8633

P: Provisional

Source: Pakistan Bureau of Statistics 2010

Table 2: Crops pattern – by province

Administrative Unit	Per cent share of various crops in total cropped area										
	Wheat	Rice	Maize	Jowar/ Bajra	Cotton	Sugarcane	Oil seeds	Pulses	Orchards	Fodders	Others
Pakistan	42	14	4	2	14	4	2	5	2	9	4
Khyber Pakhtunkhwa	47	3	24	3	*	6	1	5	1	6	6
Punjab	41	14	1	2	15	4	2	6	1	11	2
Sindh	38	20	*	2	20	5	3	1	2	4	5
Balochistan	45	13	2	6	1	*	4	4	10	3	11

Note: 1) Figures may not add up exactly to hundred due to rounding effect.

2) * Percentage less than 0.5

Source: Pakistan Bureau of Statistics 2010

Table 1 shows the growth rate of important crops and other crops. Stable growth is concern is the need of Pakistan Economy but the standard deviation reveals that instability in overall performance of agriculture sector. Average Growth of other crops is decreasing as compare to important crops. From the point of food security this concept of important crops and others crops should be change. Nutritious food is also the major concern in food security of Pakistan economy. Crops production should be balanced according to crops demand.

Diversification of crops also helpful to control food inflation problem and can help to eliminate the poverty. Table 2 data reveals that the unbalanced situation of crops area according to different crops. As compare to other nutritious crops wheat sowing area is 42% while pulses, fodders, sugarcane, orchards, oilseeds, and others are Total in 26% (5, 9, 4, 2, 2, and 4). This picture shows that disorganized planning for crops production. So, crops diversification should be implemented according to demand.

3.9. Diversification of traditional seasonal crops

(Shifting from Rabi and kharif crops to Multi seasonal crops) Beside of Rabi and Kharif crops, multi-seasonal crops can increase the production and income of farmers. In Pakistan, they have shortage of pulses, even pulses are important for elevation the problem of food security.

3.10. Inter-diversification (from crops to livestock and vice-versa)

Inter-diversification between Crop and livestock is the best mix combination strategy for rural households, who have less than 5 acres of land. This mix diversification can increase the income of households as well as it is the best way to overcome the problem of food insecurity. Barley, pulses and green food crops, other high nutritious and high value crops are the most demanded crops that have abundant quantity for human nutrition and relics of these crops are also useful to feed the livestock. Dairy livestock' produces are full of nutrients so demand of these products are high in all over the world so it is also the best source of income for the rural households (Mensah et al., 2017).

3.11. Diversification and reforms in corporate agriculture farming

Corporate Agriculture farming's goal is to maximize profit. To do so, the companies will invest in technology that may increase production (milk, corn, animals, etc.) moreover as lower inputs (feed, fertilizer, blighter management, etc.) moreover as minimize the inherent risks of farming. The advantage that they need over the smaller "family farm" is access to the technology. Corporate agriculture farming also facilitate keep your food bills from apace increasing additionally as making certain that the ever increasing human population has food on the table. Corporate Farming law was passed by Pakistan in 2001, under that listed companies might lease land within the country for ninety nine years, broken into 2 periods of fifty years and forty

nine years. Besides, the then government had known state lands to lease. Corporate agriculture farming has taken over majority of the Pakistan agriculture share. Majority of agriculture land of Pakistan has been rented out or leased or sold out to foreign companies. United Arab Emirates and Saudi Arab is a big investor who invested the money in corporate agriculture farming. Millions of hectares land has been leased or sold out corporate investors (Shah, 2009). Pakistan has divided its crops production to two sub segment; important crops and other crops. Existing policy depicts unbalanced picture of investment flow among all crops and livestock. Table 1 reveals that Instead of Existing CAG policy the agriculture growth of Pakistan is instable in nature, even in year 2014-2016 it was negative. This policy should be diversified, so Investment diversification is needed for corporate agriculture farming policy. Currently majority of the corporate firms have invested in major crops and poultry but other crops are suffering due to higher demands and less production. Corporate agriculture policy needs crops and product wise diversification of land.

3.12. Diversification of agriculture credit

For inclusive growth of the Pakistan, finance is the main important source of agriculture productivity. Changing in economic environment conditions create new opportunity for diversify production. We can distribute this diversify opportunity dividend between the rural poor people through the credit diversification policy with a view to achieve inclusive objective (Ministry of Finance, 2018).

Table 3: Agriculture credit disbursement details of Pakistan

	2016-17	% Share	2017-18	% Share
Farm Credit	196.1	47.9	260.8	45.8
Non-Farm Credit	212.9	52.1	309.1	54.2
Small Farms	74.7	35.1	92.1	29.8
Large Farms	138.2	64.9	217	70.2

Source: Pakistan Economic survey 2017-18

At present the pro-poor credit disbursement policy of Pakistan is not up to the mark from the Table 3 it is clearly mentioned that Government credit disbursement for small farms is 29.8% of total. This following policy called “Diversify Crop credit & Insurance Scheme”:

To compensate the risk factor default of farmers, in the case of climate based natural disaster and other loss this scheme will provide them crops risk cover, In 2008 Pakistan made mandatory crop loan insurance scheme, but this scheme is confine to five major crops i.e., wheat, cotton, rice, sugarcane and maize. According to this scheme, the small farmers who are having only up to 25 acres of land will be benefitted from this scheme because this is mandatory in nature. For implementing this scheme government is contributing the cost of premium only 2%.

3.13. Need of land reforms in Pakistan for inclusive growth

Pakistan has total 52.91 million acres land area for farming. According to geographical agriculture location, Pakistan is divided into four provinces; Khyber Pakhtunkhwa, Punjab, Sindh and Balochistan, the most important and largest geographical province is Punjab having 29.33 million acres farm area, it is playing dominantly role in the Pakistan agriculture economy as compare to other provinces. Sindh is second largest province having 9.87 million acres land after Balochistan and Khyber Pakhtunkhwa having 8.14 and 5.57 million acres farming area.

Pakistan’s agriculture economy can be called as farms economy because according to the assessments of Agricultural Census (Pakistan Bureau of Statistics 2010), there were 8.26 million farms in the nation. These Agri-farms were working in the area of 52.91 million acres of land. Division of agriculture land among little and huge farms was exceptionally skewed. Farms having

less than 5 acres of land had 64 percent (5.35 million) of absolute private farms, however they worked just 19 percent of the all-out farming part (10.18 million). Those, which were 25 acres or more of land having just 4 percent of the all farms (0.30 million), yet they have control of 35 percent of the all-out agrarian land (18.12 million acres). Average farms area in country was 6.4 acres of land and average cultivated area every farm was 5.2 acres.

3.14. Pakistan land reforms

Land changes in Pakistan have a long and fairly checkered history. The British had less of an enthusiasm for the issue as they depended on the help of a few powerful proprietors. In spite of the fact, that there had been some restricted changes in the years paving the way to 1947, every real change date from the years after freedom. Very quickly the different commonplace law-making bodies passed a few rules whereby the jagirdari frameworks were abrogated and occupants secured. The real changes, be that as it may, came in three phases: the first amid Ayub Khan's military law in 1959; the second and third amid Zulfiqar Ali Bhutto's standard during the 1970s. These reforms imposed the ceiling on landholding to achieve the aim of inclusive growth.

So these reforms in Land changes were constantly dubious. It was asserted by rivals that they were un-Islamic and that they encroached on the directly to claim, use and appreciate property as secured by the constitution. Matters at long last reached a crucial stage under the watchful eye of the Supreme Court on account of Qazalbash Waqf v Chief Land Commissioner in which both the 1972 directions were assaulted as being against Islamic orders and illegal. The Supreme Court concurred. Of the 1972 controls, the Supreme Court proclaimed that passages 7, 8, 9, 10, 13 and 14 and hence thus 18 were unlawful as being against Islamic directives. The striking down of sections 8 and 18 toppled the principle changes accomplished (Dawn, 2010).

Landless of rural population is concerned with inclusive development. It is clear from the report of the Statistics Department of Pakistan that the farmers who have less than 25 acres of agricultural land, their crops production are more than big landowners. So, Constitutional amendments are requiring for agriculture land reforms now.

3.15. Primary data analysis

Table 4: Questionnaire response analysis (Question mentioned in table 4a, 5a and 6a)

Question	Response	Frequency	Percent	Valid Percent	Cumulative Percent
1	Agriculturist/Farmer	31	29.8	29.8	29.8
	Lawyers	11	10.6	10.6	40.4
	Journalist	5	4.8	4.8	45.2
	Social Activist/N.G.O Volunteer	15	14.4	14.4	59.6
	Researcher from Economy's field	42	40.4	40.4	100
	Total	104	100	100	
2	No	11	10.6	10.6	10.6
	Yes	93	89.4	89.4	100
	Total	104	100	100	
3	No	11	10.6	10.6	10.6
	Yes	93	89.4	89.4	100
	Total	104	100	100	
4	No	7	6.7	6.7	6.7
	Yes	97	93.3	93.3	100
	Total	104	100	100	
5	Asymmetrical distribution of Agriculture land	7	6.7	6.7	6.7

	Lack of technical skills/T raining	5	4.8	4.8	11.5
	Corporate Agriculture Farming policy	7	6.7	6.7	18.3
	Poor crops finance scheme	3	2.9	2.9	21.2
	All of the above	82	78.8	78.8	100
	Total	104	100	100	
6	No	6	5.8	5.8	5.8
	Yes	98	94.2	94.2	100
	Total	104	100	100	
7	No	5	4.8	4.8	4.8
	Yes	99	95.2	95.2	100
	Total	104	100	100	
8	No	25	24	24	24
	Yes	79	76	76	100
	Total	104	100	100	
9	No	26	25	25	25
	Yes	78	75	75	100
	Total	104	100	100	
10	No	30	28.8	28.8	28.8
	Yes	74	71.2	71.2	100
	Total	104	100	100	
11	50 Acres - 10 0 Acres	7	6.7	6.7	6.7
	100 - 150 Acres	8	7.7	7.7	14.4
	150 - 200 Acres	15	14.4	14.4	28.8
	Between 200 - 500 Acres	74	71.2	71.2	100
	Total	104	100	100	
12	No	50	48.1	48.1	48.1
	Yes	54	51.9	51.9	100
	Total	104	100	100	
13	No	24	23.1	23.1	23.1
	Yes	80	76.9	76.9	100
	Total	104	100	100	

4. FINDINGS

From the structured questionnaire, the above questions were asked by the researchers to targeted respondents through telephone, Social networking contacts, panel discussion and Personal interview. All respondents were having the higher qualification from the interdisciplinary research areas and the respondents' belongs to different countries which includes Pakistan, India, Bangladesh, Afghanistan, Nigeria and Iraq. For this study 104 subject expert were interviewed Table 4, 5 and 6 (Appendix) related with statistics of all questions about minimum, maximum and mode of response are shown. Table 4 (Question 1) reflects the profession of respondents. Out of which 29.8% are agriculturist, 10.6% are lawyers, 4.8% are journalist, 14.4% are Social activist from N.G. O and 40.4% are researchers from Economy field. 89.4% respondents agreed that internal diversification of agriculture can increase the GDP of Pakistan (Question 2) and the same percentage respondents were agreed about crops diversification can increase the income of farmers (Question 3). Total 93.3% respondents believe that crop diversification is necessary for food security and maintaining the fertile strength of the land (Question 4). In the response of the question about reasons for rural poverty, 78.8% people believe on all mentioned response but 21.2% of people had opinions in different ways, out of which the respondents (7.8% asymmetric distribution of land, 4.8% lack the technical skill, 6.7% Corporate Agriculture Farming, and 2.8% poor crop finance scheme) consider the cause of rural poverty (Question 5). 94.3% people agreed that Pakistan govt. should make the legislation for food security of its people (Question 6).

Agriculture sector can satisfy the needs of Pakistan's population itself as well as it can export to other countries' 95.2% respondents agreed with this statement. Question 7 reveals that 79% respondents believe that Pakistan cannot achieve inclusive growth with land reforms. Majority of the respondents (more than 70%) believe that Pakistan should make the legislation on land reforms like past regime through constitutional amendments and these legislations should have the ceiling on land holding (Question 8,9 and 10). Only 51.9% respondents agreed that Corporate Agriculture Policy is barrier in inclusive growth (Question 11) and 76.9% respondents believe that Pakistan govt. should lease the agriculture land to their own landless rural people instead of giving to Foreign corporate for inclusive growth (Question 12 and 13).

4.1. Proposed suggestion

On the basis of analysis from secondary data and primary data, following suggestion can be implemented to achieve the goal of inclusive growth and food security.



Figure 6: Diversification action plan model

Source: Authors own compilation

This plan can be implemented through IoT (Internet of Things) technique. For execution of this plan; we have to make specific software according to macro-economic action plan parameters. Parameters will includes Products price (High Value and low value products) and demand.

Circuit price breakers and circuit demand breakers have to be determines for find out the opportunity information. Product wise import details have to monitor through this software.

Segment wise production details also have to be maintaining in this software. This Execution plan will identify the two types of opportunity based information.

Short Term Action Plan Opportunity
 Long Term Action Plan Opportunity

Software will be automatically forward information to policy making department. After revive the information, they department will prepare credit policy for the crops.

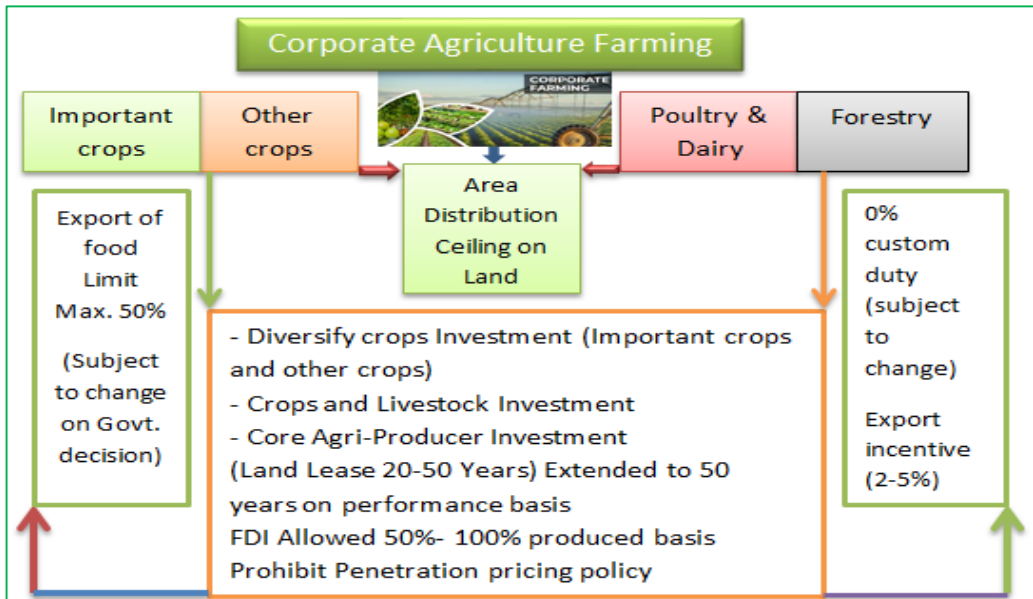


Figure 7: Corporate agriculture farming model

Source: Authors own compilation

After analyzing the primary and secondary data, it is clear that existing Corporate Agriculture Farming require some changes. From the table 2 finding reveals that the growth of agriculture is not consistent towards positive context. Majority of Corporate firm are focusing on important crops, cotton and livestock, but they are ignoring other crops which are so much important for food security so due to concentration on specific crops, the other nutritious crops prices are going high and this hike in price are affecting the interest of poor people. This policy should be changed on diversification basis. The below plan is diversified into all segment of agriculture. Investment should be on diversified basis. Land lease time should be 20-50 years. Export of food should be maximum 50%. Investment diversification can be categorized into; Diversify crop Investment (Important and Other crops) subject to crops wise ceiling on land, Crops and livestock investment scheme, Core Agri product scheme. The entire scheme in this model prohibited penetration price policy of investors.

FDI Model For Core Crops Small Investors & Agriculture Finance And Insurance Scheme For Core Domestic Producer
FDI With Risk Insurance Cover
Domestic producer Finance & Insurance Scheme
Core Crops Diversification Technology
Initially Land Lease For 10 Years (Lease Extended To Next 10 Years)
Highly Value Nutritious Crops
Multi-Seasonal Crops(Three Sowing Diversify Crops)
Target Crops Production
Minimum 50% Export
Export Incentive 2%-5%

Figure 8: FDI Model for core crops producer small investor & agriculture finance and insurance scheme for core domestic producer

Source: Authors own compilation

These two schemes especially for those products of which demand is high, high price products and production of these crops are always negative. We can invite the foreign small investors who have the core expertise to producing this product. These schemes will provide risk insurance cover to foreign investor. Even this scheme provides finance and insurance cover to domestic producer who have small landholding less than 25 acres.

For domestic producer, this scheme will provide low interest finance. In this scheme land lease condition are two flexible, initially lease will be given for 10 to 20 years according to investor and it can be further extended for another 10 years. Only those producers who have core expertise to sowing this crops, they can avail the benefit of this scheme. Target production condition will be the part of the scheme, if the producer will fail to achieve the minimum production license of investment will be withdrawn. This scheme is export oriented; exporter will get incentive on export of crops.

4.2. Agriculture start-up finance scheme for newly agriculture graduates

These following scheme will provide finance and other supports to fresh agriculture graduate they can become future entrepreneur in agriculture and they will contribute to GDP of the Pakistan through the uses of modern approach of farming.

- Agriculture start-up finance scheme for millets products (Wheat, Barley, Maze etc.)
- Agriculture start-up finance scheme for vegetables & fruits products
- Agriculture start-up finance scheme for poultry products
- Agriculture start-up finance scheme for Dairy products

5. CONCLUSION

Pakistan's agricultural economy is going through a bad phase. In this research, we attempted to discover how the agricultural economy of Pakistan can be restored. Presently, agriculture of Pakistan is unofficially governed by a few individuals; this Land Mafia occupies major land holdings and uses these fertile lands for different commercial activities instead of cultivating food crops. As such, the reallocation of agriculture lands is a major requirement of new Pakistan to diversify opportunities inside agriculture. This reallocation must overcome the poverty of Pakistani peoples and give them better health and food security. Diversification in agriculture (crops, credit schemes) would increase the level of production as well as the income of farmers; it will also help

to control the problem of food inflation. Corporate agriculture farming is a threat to government's pro-poor policies, so it should be amended. The result of this research has shown that food security requirements of Pakistan's growing population can be met by the above reforms schemes, and it will be effective in meeting the goal of overall inclusive development of Pakistan. Some effective models have been suggested in this regard that will prove to be very helpful to fulfil the said objectives.

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This study is relevant in present perspective of Pakistan which is going through the difficult times of food inflation and financial crisis and it will help to strengthen the economy of Pakistan.

Views and opinions expressed in this study are the views and opinions of the authors, Asian Journal of Agriculture and Rural Development shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.

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Appendix

Table 4a: Statistics

	What is your Profession? 1	Internal diversification of agriculture sector can increase the GDP of Pakistan 2	Crop diversification can increase the income of farmers 3	Crop diversification is necessary for food security and soil fertility 4	What are the reasons for rural poverty? 5
N Valid	104	104	104	104	104
Missing	0	0	0	0	0
Mode	5.00	2.00	2.00	2.00	5.00
Minimum	1.00	1.00	1.00	1.00	1.00
Maximum	5.00	2.00	2.00	2.00	5.00

Table 5a: Statistics of questions

	"World bank official report mentioned 70 million population of Pakistan is facing food insecurity. For providing food security guarantee to its people in future, Pakistan should make the legislation like neighbourhood for Food Security with land reforms" 6	Agriculture sector can satisfy the needs of Pakistan's population itself as well as it can export to other countries like 7	Can Pakistan achieve inclusive growth without land reforms? 8	During 1959 And 1972 Pakistan government had constituted land reforms regulations for inclusive development of Pakistan but after the verdict of Qazalbash Waqf vs Chief Land Commissioner Supreme Court declared that this 1972 regulations were attacked as being against Islamic injunctions and unconstitutional". Do you agree that these types of regulations should be passed again through constitutional amendments? 9	New Land reforms should be included ceiling on agriculture land holding like 1972 regulations with some modifications 10
N Valid	104	104	104	104	104
Missing	0	0	0	0	0
Mode	2.00	2.00	2.00	2.00	2.00
Minimum	1.00	1.00	1.00	1.00	1.00
Maximum	2.00	2.00	2.00	2.00	2.00

Table 6a: Statistics of Questionnaire response

	new land reforms Land ceiling should be: 11	Do you agree that the existing Corporate agriculture farming policy is a barrier to achieve inclusive growth & food security, it should be change 12	Do you agree that Government of Pakistan should lease the agriculture land to own landless rural people instead of giving to Foreign corporate for inclusive growth 13
N Valid	104	104	104
Missing	0	0	0
Mode	4.00	2.00	2.00
Minimum	1.00	1.00	1.00
Maximum	4.00	2.00	2.00