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GLOBALIZATION DRIVEN POLICIES IN AGRICULTURE: AN IMPACT ANALYSIS

Abstract

World agriculture is changing fast under the new rules of the game, with the WTO agreement on agriculture. The present study is designed to critically analyze the impacts of trade liberalization on agriculture, food security and its social/welfare aspects with special reference to poverty in Pakistan. Beside macro-level implications, micro-level effects have also been discussed by comparing the cost of producing wheat before and after liberalization as a case study to dig out the consequences of globalization on small peasants. It reveals that the plight of wheat farmers had worsened with decline in real incomes between 1990-91 and 2005-06. Government policies are neither farmer nor consumer friendly. Globalization calls for competitiveness and openness. Entering globalization without competitiveness exposes the society to inflation, poverty and food insecurity. The way biofuels and speculation have taken food out of the mouths of starving people shows how globalization has already made national agriculture exposed to foreign interests.

Introduction

Globalization refers to those various phenomena and processes that are brought about by changes in world economic integration. It refers to changes in the movement of finance, inputs, output, information, and technology across vast geographic areas. It is the corporatization of the world's culture, economy, and infrastructure through worldwide investment, rapid increase of communication and information technologies, trade liberalization, and the impact of 'free-market' on local, regional and national economies. During the last three decades, the structure of global trade has considerably changed due to World Trade Organization (WTO) agreements, structural adjustment programmes, and formation of various regional trade blocs. Pakistan is one of the founder members of the General Agreement on Tariffs and Trade (GATT) since 1948 and a signatory of Uruguay Round (UR) of Multilateral Trade Agreement (MTA) with WTO. The Agreement made significant progress in three major areas (IMF 1994); one, market liberalization which could add approximately one percent to world real GDP (US\$ 212 – 274 billion) and 10 percent to world trade upon full implementation of the Agreement; two, strengthening of rules and institutional structures, particularly the creation of WTO, which could decide on dispute and impairment of trade rules and principles, and integration of new areas into the multilateral trading system such as GATS; and three, trade-related intellectual property rights (TRIPs), trade-related investment

measures (TRIMs) and the traditionally sensitive and contentious sectors such as agriculture, textile and clothing (Abidin 1994; GATT 1999).

Agriculture is the mainstay of the economy of Pakistan. It contributes 21 percent to Gross Domestic Product (GDP), employs 43 percent of country's work force and contributes substantially to export earnings. It also provides raw materials for the industrial sector and market for industrial products. The performance of agriculture greatly affects the overall growth of GDP (Government of Pakistan 2006a). The character of agriculture in developing countries like Pakistan is subsistence, land holdings are small, and production is labour intensive with relatively low intensity of farm inputs and irrigation, and is dependent on the vagaries of nature. Consequently, the farm productivity is low. During the last three decades, in spite of the significance of agriculture in the economy and involvement of nearly half the population, most of the government policies have been discriminatory against agriculture and there has been a declining share of public investment in agricultural sector (Khan 1985; 1986; Hamid and Tims 1990; Chaudhry 1995; Faruqees 1998; ADP 2001; Mustafa et al. 2001). These policies have retarded growth, depressed the value of agriculture and possibly also lowered rural wages, implicitly transferring income from rural to the urban areas. It has resulted in migration from rural to urban centres, increase in unemployment, decrease in real wages, higher dependency ratio, etc. The urban industrial sector is not so robust as to absorb the flux of rural migrants. The situation is the worst in rain-fed and marginal areas where substantial numbers of small peasants are located. These all are considered as the major determinants of poverty in Pakistan (Amjad and Kemal 1997; Qureshi and Arif 1999; Zaidi 1999; Arif 2001; Mustafa et al 2001).

Under the new set-up of globalization, the role of Pakistan's agriculture in the international trade is quite marginal. Except in some crops where we have comparative advantage, Pakistan is a net food importing country. Therefore, even a small change in agricultural employment opportunities, or prices of inputs and outputs, can have major socio-economic effects in the country. There is a need to be focused on the perspective of agriculture under the WTO regime and the poverty scenario in Pakistan.

The present study is designed to critically analyze the impact of globalization and trade liberalization on agriculture, and food security with special reference to social welfare and poverty in Pakistan. For this we shall first have a look at the different global agreements in general and their impact on agriculture in particular within the framework of Pakistan. This is followed by a discussion of government policies regarding agriculture. This section also compares the cost of producing wheat and profitability of other crops before and after globalization so as to dig out the consequences of globalization on small peasants.

International Agreements Related to Agriculture

Having signed different WTO Agreements Pakistan is bound by rules and regulations, which can tremendously affect agriculture related matters including exports, imports, income, health, etc. The respective areas of four of these important agreements associated with Agriculture and food related matters have been briefly described below:

Agreement on Agriculture (AoA). The main provisions of AoA are related to tariff reduction. Under the agreement all non-tariff barriers to trade were to be converted into tariffs by developed countries by 2005. However, subsidies and support prices, policies which had minimal or no effect on production or trade distorting effects (Green Box) were not subject to reduction commitments. There is a provision of food aid in grant form, and credit guarantees for the least developed and food importing countries in case of anticipated increase in world food prices. The agreement would be implemented in different stages.

Agreement on Trade Related Intellectual Property Rights (TRIPs). This Agreement was also negotiated at the Uruguay Round (UR) of GATT and is now implemented and monitored by WTO regime. Intellectual Property Rights (IPRs) refer essentially to patents, copyright, and trademarks. The accord requires countries to have available enforcement procedures so as to permit effective action against any infringement of IPRs covered by the agreement.

Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). The Agreement deals with the enforcement of sanitary (related to human & animal life and health) and phytosanitary (related to plant life and health) laws. The Codex Alimentarius Commission (CAC) has developed the standards, guidelines and other recommendations as a baseline for consumer protection. The SPS Agreement covers all food hygiene and food safety measures including maximum level of plant protection, chemical and veterinary medicine residues in plants and animals, food additives, and restrictions on imports from a disease infested area.

Agreement on Technical Barriers to Trade (TBT Agreement). The Standards Code mainly prevents the member countries from using national or regional technical standards as technical barriers to trade. It is focused on the implementation of international standards.

Government's Agricultural Policies

The Government of Pakistan (GoP) is using the public expenditure programme and public institutions as the key instruments for influencing and implementing globalization driven agricultural policies.

The government is bound as a signatory of WTO agreements; besides, there is also a tremendous pressure from the international financial institutions to bring a number of

macro-economic policy reforms/adjustments in the economy including the agricultural sector. Below is given a resume of the government agricultural policies on prices, subsidies, credit, research and development, corporate farming and their implications on food security and poverty.

Government Expenditure on Agriculture. The government expenditure under the Annual Development Programme (ADP) for agriculture and water sector, consolidated with the Public Sector Development Programme (PSDP) and per cent share of agriculture and water are presented in Table 1. The agricultural sector got maximum share during early eighties; during 1980-81 it was maximum i.e. 12.78 per cent and it was minimum (0.13%) during 2001-02 of total PSDP. In case of water, government PSDP percentage expenditure fluctuated over time and varied from six to 13 percent. Overtime there is a substantial decrease in per cent share for agriculture and water sector. In the 10 year perspective development plan 2001-11 the agriculture sector total share is decreasing in real term but it is also decreasing in nominal terms from 2005-06 (Government of Pakistan 2006b).

Table 1: Share of Agriculture and Water in Total PSDP/ADP

Years	Amount in Million Rupees			Per cent Share		
	Agriculture	Water	Total	Agriculture	Water	Agriculture + Water
1980-81	3340	1616	26137	12.78	6.18	18.96
1981-82	3427	2808	27000	12.69	10.40	23.09
1982-83	3457	3840	29563	11.69	12.99	24.68
1983-84	2798	3381	28161	9.94	12.01	21.94
1984-85	2920	3541	32606	8.96	10.86	19.82
1985-86	4435	4589	37576	11.80	12.21	24.02
1986-87	3221	4129	42579	7.56	9.70	17.26
1987-88	3493	4538	46548	7.50	9.75	17.25
1988-89	3990	3389	47844	8.34	7.08	15.42
1989-90	3012	5440	57705	5.22	9.43	14.65
1990-91	3042	6815	88412	3.44	7.71	11.15
1991-92	3692	5554	89629	4.12	6.20	10.32
1992-93	3461	8461	119890	2.89	7.06	9.94
1993-94	2164	12265	145252	1.49	8.44	9.93
1994-95	2004	14109	153720	1.30	9.18	10.48
1995-96	1561	14947	172816	0.90	8.65	9.55
1996-97	1210	15740	139743	0.87	11.26	12.13
1997-98	940	11233	141495	0.66	7.94	8.60
1998-99	431	12319	152707	0.28	8.07	8.35
1999-00	540	11380	148767	0.36	7.65	8.01
2000-01	820	11596	150325	0.55	7.71	8.26
2001-02	168	16177	130000	0.13	12.44	12.57
2002-03	797	10914	134000	0.59	8.14	8.74
2003-04	1500	14689	160000	0.94	9.18	10.12
2004-05	7065	21405	202000	0.35	10.60	14.1
2005-06	9866	32775	272000	0.37	12.23	15.7
2006-07	11277	44484	383000	0.29	11.61	14.6
2007-08	15799	63550	520000	0.30	12.22	15.3

Source: Planning Commission, PSDP (various issues)

Agricultural Price Policy. The prices of farm commodities are not as stable as of industrial products. They exhibit wide up and down trends due to variability in output and the inelasticity of demand, high perishability of a number of products, biological nature (longer time period to cover different adjustment), and seasonal nature of production (Salam 2001). Furthermore, agriculture production is not only an enterprise but it is the livelihood of a large majority of farming communities. They have to sell their product, because they don't have enough money and storage capacity, even at lower prices in order to fulfill their urgent needs and return their loans.

The GoP is intervening in the commodity market via deregulation of agricultural prices and removal of the subsidies. Only four agricultural crops i.e. wheat, cotton, sugarcane and rice are covered through the support price in Pakistan. The price support programme has positive as well as negative impacts (Mustafa 2001). Government announces support prices which are, in general, lower than the market prices and in real terms not increased proportionately to the input prices (Tables 2&3).

Table 2: Real Support Prices* (Rs./40kgs)

Year	Wheat	Seed Cotton	Rice (Basmati-385)
1990-91	112	245	144
1991-92	112	253	140
1992-93	107	247	144
1993-94	118	233	137
1994-95	105	262	138
1995-96	102	236	131
1996-97	127	264	135
1997-98	118	245	152
1998-99	111	-	153
1999-00	134	-	157
2000-01	129	410	176
2001-02	124	337	195
2002-03	128	392	214
2003-04	134	526	194
2004-05	139	309	195
2005-06	134	329	173
2006-07	141	410	189

Source: API (various issues), * Based on 1990-91 CPI.

In fact if we compare the cost and return for wheat during 1990-91, 2000-01, and 2005-06 the farmers are much worse off. The cost of production and returns from wheat to the average farmer in Punjab before and after WTO driven policies of liberalization and deregulation are presented in detail (Table 3). As compared to 1990-91 an average farmer, after the induction of such policies, lost Rs. 452.38 per acre in 2000-01 and Rs. 224.39 per acre in 2005-06. This is because cost per kg during this period increased from Rs. 2.65 to Rs. 3.4 and Rs. 3.47, respectively

(Table 3). Even in other crops the situation was not as good as of 1990-91. Between 1990-2007 the net profit per 40 kg wheat and rice declined (even become negative) from Rs. 16 to Rs. -3.38 and Rs. 8 to Rs. -10.08, respectively. Only cotton and sugarcane production remained profitable in the period of 1990-91 to 2006-07 (Table 4). The input costs increased much more than the procurement price of the different crops. Farmers spent 2.22, 1.74, 3.41, 1.02 and 16.33 maunds (40 Kgs) of wheat, rice (fine), rice (coarse), cotton and sugarcane to purchase a bag of DAP during 1990, while during 2008 they were required to buy the same bag by paying 4.96, 2.82, 4.43, 2.38, and 51.67 maunds, respectively. The urea prices were decreased over time as prices of wheat, rice, cotton and of sugarcane, respectively (Table 5 and 6). The average annual increase in price over a period 1990 to 2008 was 8.09, 9.6, 10.4, 9, 7.7, 6.5 and 10.8 for wheat, rice fine, rice coarse, cotton, sugarcane (SC), urea and DAP, respectively. These were the government procurement prices while most small farmers sell their crop just after the harvest because they have to pay loans and other liabilities, and thus generally, availed still lower prices.

Although there is a price support policy but in the recent past the prices fell below the support price fixed by the government while government agencies were unable to intervene. Likewise the prices continued to fall below the support price in case of potatoes, gram, paddy, onion, etc to the disadvantage of grower. Now-a-day's government announces price support for only four crops i.e. wheat, rice, cotton, and sugarcane. In fact, there is no effective institution available for implementing the support prices (Table 2).

Subsidies. The total crop production subsidies in all forms, federal as well provincial, show a decreasing trend. Government provides little subsidy to fertilizers to boost their application in spite of increase in their prices. The support provided under AMS of WTO agreement in case of Pakistan is negative. The domestic support prices have been considerably below their corresponding border prices. Contrary to the developing countries the developed countries are continually providing support and subsidies to their farming communities e.g. "In 1998, 24 countries of the Organization for Economic Co-operation & Development. (OECD) provided total agriculture support of about \$335 billion, with producer support at \$ 251 billion. This makes total support to domestic agriculture in these countries three times larger than the level of official aid flows. In 1997 in 24 OECD countries, producer support to rice and meat was, respectively, 4.11 and 6.18 times the value of world export of these products" (Actionaid 2001). It is important to note that Indian Punjab farmers are getting free electricity for their tubewells. We not only have substantially high electricity tariff rate but also have serious load shedding problem. Tube well irrigation is a vital input for agricultural production in Pakistan.

Table 3: Average Farmers Cost of Production and Return on Wheat in Punjab, Pakistan, before and after Liberalization

Sr. #	Operations/ Inputs/Outputs	Before liberalization (Rs./Ac.) 1990-91	After liberalization (Rs./Ac.) Real* 2000-01	After liberalization (Rs./Ac.) Real* 2005-06	Differences (Rs./Ac.)	
(1)	(2)	(3)	(4)	(5)	(4)-(3)=(6)	(5)-(3)=(7)
1	Land preparation	213.68	313.84	369.93	+100.16	+156.25
2	Seed & planting	212.75	285.01	498.87	+72.26	+140.49
3	Intercultural/ weeding/ plant protection	12.89	29.85	106.54	+16.96	+93.65
4	Irrigation	272.39	336.42	528.57	+64.03	+256.18
5	Farm yard manure	14.39	14.77	25.38	+0.44	+11.99
6	Fertilizer	338.88	413.22	739.81	+74.34	+400.93
7	Interest of investment @ 12% & 14% per year for 6 months on item 1- 6 excluding 4	62.60	94.79	89.38	+32.19	+26.78
8	Harvesting and threshing	514.25	620.43	796.27	+106.18	+282.02
9	Land rent and revenue for 6 months	606.00	786.07	952.92	+180.07	+346.92
10	Management charges for 6 months	64.46	80.13	102.89	+15.67	+38.43
11	Marketing cost (Rs/40k)	4.00	4.48	5.08	+0.48	+1.08
12	Gross cost (Item 1to11)	2316.29	2964.33	3845.72	+648.04	+1529.43
13	Yield per Ac. (kgs)	872.88	872.88	1108	-	+235.12
14	Support price (Rs/kg)	2.80	3.22	3.35	+0.42	+0.55
15	Returns (13 X 14)	2444.06	2810.67	3711.80	+366.61	+1267.74
16	Value of wheat straw	283.66	335.74	338.45	+52.08	+54.79
17	Gross returns (15+16)	2727.72	3146.41	4050.25	+418.69	+1322.53
18	Net return per Ac. (17 - 12)	411.43	182.08	204.53	-229.35	-206.90
19	Gross cost per kg. (12/13)	2.65	3.40	3.47	+0.75	+0.82
20	Net return per kg. (14/19)	1.06	0.95	0.96	-0.11	-0.10

Sources: Government of Pakistan (1990b, 2000, and 2005). Prices are deflated with CPI based year of 1990-91.

Table 4: Net Profit (Rs/40 kgs.)*

Years	Wheat	Cotton	Rice	Sugar Cane
1990-91	16.00	46.00	8.00	2.02
1991-92	10.72	33.21	-11.93	1.27
1994-95	1.55	57.66	-5.74	0.76
1995-96	0.35	31.93	-6.70	0.77
1998-99	-10.95	108.96	5.55	2.66
1999-00	3.11	34.25	-0.86	1.35
2006-07	-3.38	55.27	-10.08	4.66

* Farm level costs were taken from Government of Pakistan (1990b, and 2000) of average growers. The prices are deflated with CPI 1990-91 as base years.

Table 5: Maunds (40 Kgs) of wheat, rice (fine and coarse), cotton and sugarcane required to buy a bag of DAP over a period of time.

Year	Wheat	Rice (Fine)	Rice (Course)	Cotton	Sugar Cane
1990	2.22	1.74	3.41	1.02	16.33
1991	2.19	1.75	3.49	0.97	16.24
1992	2.03	1.51	3.11	0.88	15.09
1993	1.68	1.45	2.99	0.85	14.94
1994	2.19	1.8	3.69	0.95	18.49
1995	2	2.16	4.28	1.2	22.28
1996	2.3	2.17	4.29	1.11	23.04
1997	2.35	1.82	3.69	1.13	16.11
1998	2.22	2.02	3.8	0.81	19
1999	2.16	1.85	3.51	0.9	18.54
2000	2.23	1.74	3.27	0.92	18.61
2001	2.37	1.84	3.46	0.91	16.9
2002	2.55	1.99	3.73	0.96	19.13
2003	2.61	2.28	4.25	1.07	22.83
2004	2.5	2.41	4.35	1.08	25.03
2005	2.6	2.16	3.6	1.11	23.98
2006	1.55	0.93	2.15	0.64	10.95
2007	4.24	2.12	4	1.5	30
2008	4.96	2.82	4.43	2.38	51.67

Agricultural Credit. Agricultural credit provides financial resources to the farming community particularly, for the purchase of primary inputs like fertilizer, seed, pesticides, machinery, equipment, etc. There are four major agencies viz. Agricultural Development Bank of Pakistan (ADBP), Taccavi, Cooperatives and Commercial Banks, distributing credit to the farming communities in the country. The nominal credit disbursed by these agencies as of 1990-91 to 2000-01 fiscal years seems very impressive i.e. 14,968.49 million rupees during 1990-91 to Rs 29101.41m during 2000-01 and 108747.4m during 2004-05 but in real term (1990-91 as base

year) its value had decreased by 2427.02 million rupees and 36128.7, respectively (Government of Pakistan 2006b).

Table 6: Maunds (40 Kgs) of wheat, rice (fine and coarse), cotton and sugarcane required to buy a bag of Urea over a period of time.

Year	Wheat	Rice (fine)	Rice (coarse)	Cotton	Sugarcane
1990	1.74	1.36	2.67	0.8	12.79
1991	1.57	1.26	2.5	0.7	11.64
1992	1.58	1.17	2.41	0.68	11.71
1993	1.31	1.14	2.33	0.67	11.67
1994	1.36	1.11	2.29	0.59	11.46
1995	1.11	1.2	2.38	0.67	12.42
1996	1.42	1.33	2.64	0.68	14.17
1997	1.42	1.1	2.23	0.68	9.74
1998	1.15	1.05	1.98	0.42	9.89
1999	1.09	0.93	1.77	0.45	9.34
2000	1.21	0.94	1.77	0.5	10.08
2001	1.31	1.02	1.92	0.51	9.38
2002	1.37	1.07	2	0.51	10.28
2003	1.2	1.05	1.95	0.49	10.5
2004	1.17	1.13	2.03	0.51	11.7
2005	1.23	1.02	1.7	0.52	11.31
2006	1.24	0.74	1.72	0.51	8.78
2007	1.34	0.67	1.27	0.48	9.5
2008	1	0.57	0.89	0.48	10.42

Agricultural Research and Extension. In theory returns to research expense on agriculture can be even upwards of 40 per cent in a year for limited periods (Alston et al 2000; Mustafa et al 2004). Agriculture research increases output for market and farmers' own consumption and counters the negative impact of shrinking land and water resources. In practice, however, agricultural research system is funded, organized and managed at a level where only maintenance is being achieved with little prospect for boosting crop yield and livestock production through research (Nagy and Quddus 1998) or to even create readiness to meet disaster. The research findings can only be useful if they are properly transferred to the farmer's field. The available extension services are poorly equipped, funded and managed.

Availability of improved inputs at the farmer's field at the right time and price are the primary requirement to boost the production and yield of crops. In this connection seed and fertilizer are the basic and crucial inputs. Unfortunately, over time their availability to farmers has decreased and prices have surged, which reduces their use affecting production and profitability of crops (Table 7).

Table 7: Distribution of Improved Seed in the Country (000 Tonnes)

Crops	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Wheat	104.21	106.37	159.22	143.25	129.41	135.51	171.20	168.12	163.46
Paddy	2.28	3.81	2.27	4.86	4.49	7.55	9.72	12.52	11.90
Maize	0.51	2.84	2.40	2.96	4.50	5.18	5.95	9.06	9.25
Cotton	27.02	33.40	29.46	39.87	31.12	28.39	28.90	34.17	31.79
Gram	0.35	0.19	0.25	0.31	1.51	1.34	0.57	0.41	0.38
Oil Seeds	0.11	0.15	0.20	0.32	0.99	0.80	1.78	1.79	1.82
Grand-Total	134.48	146.76	193.80	191.57	172.02	178.77	218.12	226.07	218.60

Source: Government of Pakistan (2007).

Table 8: Consumption of Fertilizers, Quantity Sold, Percentage Change Over Previous Year And N.P Ratio in Pakistan (In '000' N/Tonnes).

Year	Nitro- gen	% Change	Phos- phate	% Change	Potash	% Change	Total	% Change	N.P. Ratio
1990-91	1471.6	(+) 0.3	388.5	(+) 1.6	32.8	(-) 18.2	1892.9	(+) 0.1	3.8:1
1991-92	1462.6	(-) 0.6	398.0	(+) 2.4	23.3	(-) 29.0	1883.9	(-) 0.5	3.7:1
1992-93	1635.3	(+)11.8	488.2	(+)22.7	24.1	(+) 3.4	2147.6	(+)14.0	3.4:1
1993-94	1659.4	(+) 1.5	464.2	(-) 4.9	23.2	(-) 3.7	2146.8	(-) 0.1	3.6:1
1994-95	1738.1	(+) 4.7	428.4	(-) 7.7	16.6	(-)28.4	2183.1	(+) 1.7	4.1:1
1995-96	1990.9	(+)14.5	494.4	(+)15.4	29.7	(+)78.9	2515.0	(+)15.2	4.0:1
1996-97	1985.1	(-) 0.3	419.5	(-)15.1	8.4	(-)71.7	2413.0	(-) 4.1	4.7:1
1997-98	2075.0	(+) 4.5	551.0	(+)31.5	20.0	(+)150.0	2646.0	(+) 9.7	3.8:1
1998-99	2099.0	(+) 1.2	465.0	(-) 15.6	21.0	(+) 5.0	2585.0	(-) 2.3	4.5:1
1999-00	2217.0	(+) 5.6	596.0	(+) 28.2	18.5	(-) 13.1	2832.0	(+) 9.5	3.7:1
2000-01	2264.5	(+) 2.1	676.7	(+) 13.5	22.8	(+)23.2	2964.0	(+) 4.6	3.4:1
2001-02	2285.3	(+) 0.9	624.5	(-) 27.6	18.8	(-)18.0	2928.6	(-) 1.2	3.7:1
2002-03	2349.1	(+) 2.8	650.2	(+) 4.1	20.5	(+) 9.2	3019.8	(+) 3.1	3.6:1
2003-04	2526.7	(+) 7.6	673.5	(+) 3.6	21.8	(+) 6.3	3222.0	(+) 6.7	3.8:1
2004-05	2796.4	(+) 10.7	865.1	(+) 28.5	32.5	(+)49.2	3694.0	(+)14.7	3.2:1
2005-06	2926.6	(+) 4.7	850.5	(-) 1.7	27.0	(-) 16.9	3804.1	(+) 3.0	3.4:1
2006-07	2649.7	(-) 9.5	978.7	(+) 15.1	43.1	(+) 59.6	3671.5	(-) 3.5	2.7:1

Note: Minor difference may be due to rounding of figures

Source: National Fertilizer Development Centre (NFDC), Islamabad.

The recent increase in the price of DAP fertilizer will further affect its use. The recommended proportion of Nitrogen and Phosphate fertilizer intake is 2:1, which is not practised in the country. The proportional consumption of these fertilizers

has varied a lot even going up to 4.7:1 though it became better during 2006-07 (Table 8). However, recent tremendous increase in the price of DAP fertilizer combined with inadequate extension services, is likely to substantially decrease its use affecting production and profitability.

High and Volatile Food Prices

Starting around the second half of 2007 and continuing through 2008 the commodity markets have seen a steady and steep upward trend in prices. The unusually steep rise in the world commodity prices is subject of much discussion. Many reasons have been offered among which the rise in oil prices, diversion of corn and cropland for the production of biofuels especially in the US and Brazil, and an increased consumption of cereals and meat in China and India have topped the media list. Among other causes the indirect effects of oil price rise on fertilizers and transport, falling world food stockpiles (at their lowest for 25 years), local hoarding, increase in political instability, sub-prime mortgage crisis in the US, use of productive agricultural land for urbanization, hurricanes, animal diseases and even climate change have all been mentioned. In the words of FAO (2008), "Amid political uncertainties and surging energy prices, agricultural markets over the past year have also had to confront abnormal incidences of natural disasters, ranging from devastating hurricanes to fast spreading animal diseases. Based on current indications, several agricultural commodities are likely to experience still more unstable months ahead and, in most instances, the fundamentals point to even further gains in prices." Interestingly while ill advised exports and cross border smuggling have been considered a prime cause for food price rise in Pakistan, UN agencies on the other hand, have called for further freedom of movement and lifting of restrictions on cross border movement of food to ease the crisis of shortages and price rise.

Perhaps the most important factor responsible for food price rise, speculation and future trading in commodities including oil, has found the least mention in the international media. Wherever speculation is taking place and wherever food is being used to produce biofuels the effects are being felt universally under the new globalized regime. It is difficult to imagine how Third World countries like Pakistan can ensure food security for their people without questioning and reconsidering the new world order of globalization, which they have so enthusiastically welcomed and adopted under the advice of WTO and other multilateral agencies.

Biofuels are a new phenomenon and need further comment. According to a recent report in the New Statesman (Lynas 2008), "What biofuels do is undeniable: they take food out of the mouths of starving people and divert them to be burned as fuel in the car engines of the world's rich consumers. This is in the words of the UN special rapporteur on the right to food, Jean Ziegler, nothing less than a 'crime against humanity'.....According to the World Bank, global maize production increased by 51m tonnes between 2004 and 2007. During this time, biofuels use in the US alone (mostly ethanol) rose by 50m tonnes, soaking up almost the entire

global increase...The EU, meanwhile, persists in the erroneous belief that biofuels can help reduce greenhouse-gas emissions....Yet recent research suggests otherwise: two major studies published in Science magazine in February showed clearly that once the agricultural displacement effects of the new fuels on rainforests, peatlands and grasslands are taken into account, emissions are many times worse than from conventional mineral petrol.”

Food Security

The high food prices have profound impacts on both the consumers as well as producers of the country. Food security refers to the availability of food and one's access to it. A household is considered food secure when its occupants do not live in hunger or fear of starvation. Food security in Pakistan is a serious challenge and it remains a real one notwithstanding the growth in agriculture production since it depends both on availability of foods as well as its access and affordability. Overtime the continuing increase of population absorbs the food growth and over the last 10 years the per capita availability of wheat, rice and, cereal (kg/annum) has decreased (Table 9). The public sector food and fibre storage capacities have not increased. During 1995 wheat storage capacity was 4,596,000 tons, which increased up to 1999 but since then it has decreased and was 4,339,000 tons during 2001 and remained constant up to 2006. The situation with respect to rice and cotton has also shown a decreasing trend (Table 10).

Table 9: Per Capita Availability of Wheat, Rice, and Cereals (kg/annum)

Crop	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Wheat	140.17	140.92	131.48	113.79	114.92	119.23	119.31	122.85	123.17	127.00
Rice	14.98	19.32	20.72	15.91	14.03	17.21	18.23	12.96	10.00	16.64
Cereal	5.92	7.01	6.63	6.81	6.58	5.94	6.25	6.77	8.73	7.24
Edible Oil	-	12.38	11.08	11.48	10.67	10.77	11.16	12.35	12.89	12.93

Source: Government of Pakistan (2006a)

Table 10: Government Storage Capacity (000 tonnes)

Crop	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Wheat	4596	4777	4777	4780	4780	4580	4339	4339	4339	4339	4339	4339
Rice	831	789	789	789	789	-	-	826	826	826	826	826
Cotton	550	520	500	500	500	-	-	450	450	450	450	450

Source: Government of Pakistan (2006a and 2007)

Implications of Globalization Driven Policies on Agriculture, Food Security and Poverty

Pakistan being one of the founder and signatory members of WTO has to comply with its policies. The catch is competition. If we cannot compete there would be junk of imported stuff and the Pakistani producers would suffer especially the poor small peasants. Under ideal conditions Pakistan should benefit from international trade, but the conditions and the reality on the ground are different from the presumptions. Pakistan's comparative advantage lies in its low cost of production achieved mainly through poverty. But poverty acts as a brake on productivity. At its current level of development Pakistan's agricultural economy is neither prepared to face the challenges nor able to avail of the opportunities offered by globalization. The consequences of trade liberalization in Pakistan have been widely discussed since the mid-nineties (Golden and Mensbrugge 1995, Inco & Winters 1995; Kemal et. al. 2001; Khan and Mahmood 1996; Low 1995; PIDE 1995, and Mustafa et. al., 2001, Malik, 2006).

While we have complied with all the requirements of WTO agreements i.e. reduction of tariff rate, subsidies, AMS in case of Pakistan was negative. The WTO-enforced compulsory changes have reflected negatively on the production side of agriculture at large but the new economic doctrine has continued to consider the government-sponsored interventions as factors that distort the market and banned them. As against this any effects on the farmers in the developed and industrialized countries were offset by increases in direct income support programmes. These programmes "that are not designed to affect production" (green box measures) are not considered a market distorting factor by the WTO and thus it has no objection on these.

The farming communities in Pakistan are worse off due to liberalization. The reforms have adversely affected production, agricultural food security, and increased poverty in the countryside. The input prices have increased at a faster rate than commodity prices. The farmers are getting less net profit. The effect is severer on the poorer segments of the farming community. They are unable to harness even the price increase benefits because they don't have enough savings to store the crop for higher prices. They have number of liabilities, which have to be paid during the harvesting season in the form of crop and therefore, they may fetch sometimes even lower than the government announced procurement price.

The WTO Agreement on the application of SPS measures specifies that countries should base their technical regulations and sanitary and phytosanitary measures on international standards or face international trade barriers. Outbreaks of food-borne diseases have created pressures for the need of these rules and regulations. Pakistani products have been subjected to formal bans e.g. meat to the Middle East, animal casing to Romania, oranges to Sri Lanka, mangoes to USA, Japan and so on. Recently, the Government implemented a voluntary export suspension of fish products to European Union (EU) countries, to give the industry a "breathing

space” to attain the SPS standards required. Pakistan was subject to 26 EU food alerts indicating that there were real concerns related to some food exports during 2004-05 (The World Bank 2006).

Poor infrastructure in underdeveloped countries including Pakistan is also not in favor of poor and far-flung area agricultural producers. Given the deplorable state of rural infrastructure in low-income countries in general, and in the poor and far flung areas in particular, massive investments are also needed in other economic risk reduction services such as insurance, irrigation and storage. Lack of such investment gradually shifts the comparative advantage back towards subsistence production at very low-income and little multiplier to the rural non-farm sector. Over time the Government has been spending less on agriculture although in recent years there has been some increase in its share. Winters (2000) notes that “the transaction costs of trade with remote villages are often so great that it can be cheaper for grain mills to buy from distant commercial growers than from small farmers located in the region.” Improved infrastructure also lowers the final cost of imported inputs in the producing areas. There is thus, need for investment but this need is being used to build a case for corporate farming.

The implications of multinational corporate farming on socio-economic and political issues, however, are complicated and serious. These corporations will profiteer and create monopolies, driving the small farmer out of farming. This in turn will have serious repercussion for the food security, poverty and sovereignty of the country. After signing of MTA and creating of the WTO, the prospects of trade warfare and the threat of protection will not just fade away. The conditions of perfect competition are just not there. The developed and industrial countries are not opening their economy fully and are protecting themselves through the safeguards, anti-dumping, and countervailing measures (Abidin 1994; Naqvi 1994; Streeten 1998). Globalization and economic integration have many other adverse effects too. The gains from globalizations are not likely to be evenly distributed, either within or between countries (FAO 2000b). Wealth in ever fewer countries is combining with growing disparity between the rich and the poor (Petrovic et al 2007). Today 1.2 billion people in the world live in extreme poverty (Dokmanovic 2003; ILO 1998). Unemployment, poverty, inequality and alienation are increasing, partly (though not solely) as a result of globalization process (Rodrik 1997; ILO 2005). Global economic growth is increasingly failing to translate into new and better jobs that could lead to reduction in poverty (ILO 2005). The menace of poverty in Pakistan has been an increasing trend in all international measurements from 1990 to 2001 (Mustafa 2000; Arif 2001; Arif et al 2001). However, according to the Government of Pakistan (2006a) between 2001 and 2005 the percentage of population living below poverty line fell from 34.46 percent to 23.9 percent, a claim now widely contested and believed to be largely a statistical manipulation.

After 25 years, the World Development Report of the World Bank this year is focusing on agriculture. Major changes have occurred in those 25 years. What has not changed, however, is the central role that agriculture can play to trigger growth

and to reduce world poverty, which is still overwhelmingly rural and will be so for the decades to come (World Bank 2008). In Pakistan there is a big yield gap among subsistence farmers, progressive farmers, demonstration plots and research farm fields, which shows there is a lot of room to increase productivity. For this an adequate overall agricultural development strategy, proficient price policy, timely and affordable inputs supplies, demand based R&D along with effective and efficient credit and extension services are fundamental. Unfortunately, however, most Third World countries, Pakistan inclusive, have lost initiative in controlling their national policies or to criticize the globalization mantras of liberalization, deregulation and privatization. Paradoxically, today it is US and Britain themselves, the biggest champions of globalization, who have now nationalized or quasi-nationalized some of their biggest investment banks and insurance companies and calling for the need for regulation of the international financial markets to save their own economies from a total meltdown (Financial Times editorial September 18 2008; Guardian September 22, 2008 :front page and editorial Sept 19, 2008).

References

- Abdullah, A. Ahmed 1998. 'Comments on Globalization: Threat or Opportunity?' by Paul Streeten.' *The Pakistan Development Review* 37(4): 81-83.
- Abidin, M. Z. 1994. 'The Impact of Uruguay Round Trade Negotiations on Malaysia.' *Journal of Economic Cooperation Among Islamic Countries* 15(1-2): 137-154.
- ActionAid 1999. *International Trade and Food Security; An Introduction for ActionAid Staff and Partners*. Corporate Centre Advocacy Function (CCAF). London: ActionAid.
- ActionAid 2001. *Food Rights Campaign: Key Issues for the WTO Ministerial Conference, Doha*. Islamabad: ActionAid.
- ADB. 2001. *Agricultural Biotechnology: Poverty Reduction, and Food Security*. Manila: Asian Development Bank.
- Akanji, Bola, O. 2007. 'Globalization and Food Security: The Linkages of Gender Inequality and Agricultural Growth in Africa: Conceptual and Empirical Issues.' *Journal for Political Theory and Research on Globalisation, Development and Gender Issues*. www.Globilizacija.com/doc.
- Alston, J. M., C. Chan-Kang, M.C. Marra, P. G. Pardey, and T.J. Wyatt 2000. 'A Meta-Analysis of Rates of return to Agricultural R&D: Ex Oede Herculem.' *IFFRI Research Report* No. 113. Washington, D.C.: International Food Policy Research Institute.
- Amjad, Rashid and A. R. Kemal 1997. 'Macro-economic Policies and their Impact on Poverty Alleviation in Pakistan.' *The Pakistan Development Review* 36(1).
- Anderson K. and E. Valenzuela 2006. 'Do Global Trade Distortions Still Harm Developing Country Farmers.' *Policy Research Working Paper* 3901. The World Bank.
- Arif, G. M. 2001. 'Recent Rise in Poverty and Its Implications for the Poor Households in Pakistan.' *16th Annual General Meeting and Conference of Pakistan Society of Development Economists*, 22nd-24th January 2001. Islamabad: PIDE.

- Arif, G. M., Hina Nazli and Rashida Haq 2001. 'Rural Non-Agriculture Employment and Poverty in Pakistan.' *16th Annual General Meeting and Conference of Pakistan Society of Development Economists*, 22nd-24th January, 2001. Islamabad: PIDE.
- Bourguignon F., V. Hevin, and D. Rosenblatt 2006. 'Global Redistribution of Income.' *Policy Research Working Paper* 3961. The World Bank.
- Chaudhry, M. Ghaffar 1995. 'Recent Input-Output Price Policy in Pakistan's Agriculture: Effects on Producers and Consumers.' *The Pakistan Development Review* 34: 1-23.
- Chaudhry, M. Ghaffar 2001. 'Impact of WTO Negotiations on Agriculture in Pakistan and Implications for Policy.' *Pakistan Journal of Agricultural Economics* 4(1): 1-14. Islamabad: Agricultural Prices Commission.
- Dokmanovic Mirjana 2003. 'Economic Globalization and Paradoxes.' *Journal of Victimology of Serbia Temida* 4(2003): 15-22. Serbia.
- Encarta 2006. 'Globalization.' *Encarta*, 1993-2005. Microsoft Corporation.
- FAO. 2000a. *Impact of the Uruguay Round on Agriculture*. Rome: Food and Agricultural Organization.
- FAO. 2000b. *Multilateral Trade Negotiations on Agriculture. A Resource Manual 1. Introduction and General Topics*. Rome: Food and Agricultural Organization.
- FAO. 2008. *FAO international commodity prices database 2008*. Rome: Food and Agricultural Organization.
- Faruquee R. 1998. 'Pakistan Agriculture in 21st Century.' *The Pakistan Development Review* 37(4 Part II): 245-253.
- GATT. 1995. *The Result of the Uruguay Round of Multilateral Trade Negotiations –Market Access for Goods and Services: Overview of the Results*. Unpublished report.
- Goldin, Ian and D. Van der Mensbrugge 1995. *The Uruguay Round: An Assessment of Economy wide and Agricultural Reforms*. World Bank Conference January 26-27.
- Government of Pakistan 1990a. *Census of Agriculture*. Lahore: Agricultural Census Organization.
- Government of Pakistan 1990b. *Support Price Policy for Wheat, 1990-91 Crop*. Islamabad: Agricultural Prices Commission.
- Government of Pakistan 2000. *Support Price Policy for Wheat, 2000-01 Crop*. Islamabad: Agricultural Prices Commission.
- Government of Pakistan 2003. *Report National Commission on Agriculture*. Islamabad: Ministry of Food Agriculture, and Livestock.
- Government of Pakistan 2005. *Support Price Policy for Wheat, 2005-06 Crop*. Islamabad: Agricultural Prices Commission.
- Government of Pakistan 2006a. *Economic Survey 2005-06*. Islamabad: Economic Advisor's Wing, Finance Division.
- Government of Pakistan 2006b. *Agricultural Statistic of Pakistan*. Islamabad: Ministry of Food, Agriculture, and Livestock.
- Hamid N. and W. Tims 1990. *Agricultural Growth and Economic Development: A case of Pakistan: 85-96*. Paris: Development Centre Studies OECD.
- ILO. 1998. 'Labour and Social Issues Relating to Export Processing Zone.' Report for discussion in the Tripartite Meeting of Export-Processing Zone-

- Operating Countries, Geneva: ILO. www.Globilizacija.com/doc. *Journal for Political Theory and Research on Globalisation, Development and Gender Issues*.
- ILO. 2005. 'Globalization Failing to Create New, Quality Jobs or Reduce Poverty.' ILO/05/48. www.Globilizacija.com/doc. *Journal for Political Theory and Research on Globalisation, Development and Gender Issues*.
- IMF. 1994. *International Trade Policies: The Uruguay Round and Beyond: Principal Issues 1*. Washington, D.C.: International Monetary Fund.
- Ingco, Merlina and L. Alan Winter 1995. Pakistan and Uruguay Round: Impact and Opportunities, A Quantitative Assessment. *Background paper for Pakistan 2010*. Washington, D.C.: The World Bank.
- Kemal, A. R., Rehana Siddiqui and Rizwana Siddique 2001. 'Tariff Reduction and Income Distribution: A CGE-based Analysis for Urban and Rural Households in Pakistan.' *Research Report* 181. Pakistan Institute of Development Economics.
- Khan, A. H. and Z. Mehmood 1996. 'Emerging Global Trading Environment Challenges for Pakistan.' *Asian Development Review* 14(2): 73-115.
- Khan, Mohsin S. 1998. 'Comments on Globalization: Threat or Opportunity?' by Paul Streeten.' *The Pakistan Development Review* 37(4 Part 1): 77-80.
- Low, P. 1995. 'Impact of the Uruguay Round on Asia, Trade in Services and Trade Related Investment Measures.' Conference on *Emerging Global Trading Environment and Developing Asia*, Asian 29-30 Manila, Philippines: May Development Bank.
- Low, P., and A. Yeats 1994. *Non-tariff Measures and Developing Countries: Has the Uruguay Round Leveled the Playing Field*. (Policy Research Working Paper 1353) Washington, D.C.: World Bank.
- Lynas, Mark 2008. 'Food Crisis: How the rich starved the world'. *New Statesman* 21 April, 2008. London.
- Mahmood , Khan Hasan 1985. 'Public Policies and Agricultural transformation in Pakistan.' *The Pakistan Development Review*.
- Malik, S. J. 2006. 'Globalization and its Impact on Poverty in Pakistan.' A background paper for the *Pakistan Poverty Reduction Strategy Paper II*. Innovative Development Strategy, UNDP.
- Mellor J. 2002. 'The Impacts of Globalizations on the Role of Agriculture.' *Expert Consultation on Trade and Food Security: Conceptualizing the Linkages*. Rome: 11-12 July 2002.
- Mustafa, U. 1998. *Monitoring and Evaluation Training Manual*. Garhi Dopatta, AJK: Area Development Programme – AJK, UNDP, ESMA.
- Mustafa, U. 2000. 'Strengthening Grassroots Institutions for Poverty Alleviation in AJK.' Proceeding of the 32nd All Pakistan Science Conference June 12-15, 2000. ESMA, Garhi Dopatta, AJK: Pakistan Association for the Advancement of Science, Lahore.
- Mustafa, U., W. Malik and M. Sharif 2001. 'Globalization and Its Implications on Agricultural, Food Security and Poverty in Pakistan.' *The Pakistan Development Review* 40(4): 767-786.

- Mustafa, U., W. Malik and M. Sharif 2004. 'The Agricultural Science & Technology Indicators (ASTI) Initiative in Pakistan - Federal Public Sectors: Preliminary Findings.' *Proceeding of ASTI Workshop* PARC/IFPRI.
- Nagy Joseph G. and M. A. Quddus 1998. 'The Pakistan Agricultural Research System: Present Status and Future Agenda.' *The Pakistan Development Review* 37 (2):167-187.
- Naqvi, S. N. Haider 1994. 'Developing Countries and the Uruguay Round Agreement.' *Journal of Economic cooperation Among Islamic Countries* 15(1-2): 91-112. The Statical, Economic and Social Research and Training Centre for Islamic Countries.
- Petrovic Dejan, Serbia, and Motenegro 2007. 'The Economic Aspects of Globalization.' www.Globilizacija.com/doc. *Journal for Political Theory and Research on Globalisation, Development and Gender Issues*.
- PIDE. 1995. *Structure of Protection in Pakistan*. Islamabad: Pakistan Institute of Development Economics,
- Punjab Lok Sujag 2001. *Securing Food or Boosting Exports?* Lahore: *Punjab Lok Sujag*.
- Qureshi, Sarfraz K., and G. M. Arif. 1999. *Profile of Poverty in Pakistan, 1998-99*. Islamabad: Pakistan Institute of Development Economics.
- Rodrik, Dani 1997. *Has Globalization Gone Too Far*. Washington, D.C.: Institute for International Economics.
- Salam Abdul 2001. *Support Price Policy in Pakistan: Rationale, Practice and Future Option*. Islamabad: Agricultural Prices Commission, Government of Pakistan.
- Sartaj, A. 1990. 'Agricultural Policies for the 1990.' *Development Center Studies*. Paris: OECD.
- SESRTCIC. 1995. 'Implications of the Uruguay Round Agreements on Commodity Trade of OIC Countries: A Preliminary Assessment.' *Journal of Economic Cooperation among Islamic Countries* 16(1-2) The Statical, Economic and Social Research and Training Centre for Islamic Countries.
- The World Bank 1990. *Staff Appraisal Report. Pakistan Agricultural Research Project II*. Agriculture Operations Division, Country Department I, Europe, Middle East and North Africa Region. Report No. 7614-PAK.
- The World Bank 2006. *Pakistan's Agrobased Exports & Sanitary and Phyto-Sanitary (SPS) Compliance*. Joint World Bank and UNIDO Report.
- The World Bank 2008. *World Development Report 2008: Agriculture for Development*. Washington, D.C.: The World Bank.
- U.N. DAW 1999. *World Survey on the Role of Women in Development*, New York: United Nations.
- Winters, L. A. 2000. *Trade liberalisation and poverty*. Brighton: University of Sussex.
- Zaidi, Akbar S. 1999. 'Is Poverty Now a Permanent Phenomenon in Pakistan.' *Economic and Political Weekly* XXXIV(4) October, 1999.