

A Study of Implicit Tax in Pakistan's Agriculture, with Special Reference to the Case of Rice

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Abstract

The study examined 'implicit tax' argument of the agriculturists' lobby to oppose imposition of an agricultural income tax. The paper discovered a widening gap between procurement and export prices of both Basmati and IRRI. The gap between procurement and consumer prices of the two varieties also widened significantly. Thus while both producers and consumers remained on the losing end, first government and then after the policy reforms the exporters and other intermediaries, were the substantial gainers. Since RECP has been disbanded and the Government has opted out of purchase and export of rice, the margin now goes to the exporters instead of the Government. Under the changed rice policy, the 'implicit' tax argument has therefore lost much of weight and relevance.

Keywords: Agricultural prices policy; Basmati; IRRI; acreage; yield; procurement price; consumer price; export price; implicit tax

JEL classification: Q11, Q17, Q18

1. Introduction

The Agricultural Prices Policy in Pakistan has traditionally covered both important inputs and outputs. The Input Price Policy is implemented through provision of subsidized inputs to farmers. The Output Price Policy, on the other hand, is implemented through fixation of procurement and support prices of important food and cash crops such as wheat, rice, sugarcane, potatoes etc. Although both tiers of the Agricultural Prices Policy are important and interdependent too, the present study is limited to an analysis of the output prices policy only.

The Output Prices Policy has been used by economic decision makers in Pakistan since the early 1960s, as an incentive for growers and to expand production frontiers of different crops. During the early years after independence, the government did not use this policy due the widely held

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view that subsistence farmers in developing countries are not responsive to price incentive. It was a general perception that they produce only for self consumption and are not influenced by prevailing market prices. The later studies however showed that in Pakistan farmers do respond positively to changes in prices of important food and cash crops and adjust their acreage decision accordingly. This prompted the government to use the policy in the 1960s for expanding production.

1.1. The Transition of the Policy and Problem Statement

The policy has undergone a change over a period of time and more radically in the recent past and there is also reorganization of the institutional framework. This is particularly true of the rice output price policy. Rice is a crucial crop and occupies important place in the export economy of Pakistan besides being a food supplement to wheat. The rice policy since late 1970s and early 1980s has undergone many changes. Firstly, the compulsory procurement policy was replaced with voluntary procurement policy. Secondly, the ban on inter-district movement of rice was discarded. Thirdly, the Rice Export Corporation of Pakistan (RECP) which was created in 1974 and was assigned the responsibility of procurement and export of rice in the public sector was disbanded in 2000 and merged with the Trading Corporation of Pakistan. The important thing however was that the government opted out of rice export business and decided to discontinue fixation of procurement price of rice. This was done to allow market forces to prevail in the area of rice production and export. The Agricultural Prices Commission (APCOM) responsible for recommending procurement and support prices was also recast and renamed as the Agricultural Prices Institute (API).

Originally, the support price program covered crops like wheat, rice, sugarcane, cotton, potatoes, onions, grams, and non-traditional oil seeds such as sunflower, soybean, canola and safflower. In May 2001, on recommendation of the MINFAL, the Economic Committee of the Cabinet (ECC) reduced the coverage to wheat, rice, sugarcane and cotton crops. In September 2002, the ECC decided to further limit it to wheat, rice and cotton at the federal level while price of sugarcane was to be determined by the provinces. The government opted out of the export of both rice and cotton and specialized institutions created for the purpose i.e. Rice Export Corporation (RECP) and Cotton Export Corporation of Pakistan (CECP) were disbanded and merged with the Trading Corporation of Pakistan (TCP).

Since then the thinking on fixation of prices has undergone a major change with acceptance of an enhanced role for the markets. The coverage thus was restricted to wheat and cotton only. At present support price system stands discarded in case of almost all the crops. The prices fixed are only 'indicative' in character and provide growers a base level for negotiating better prices for themselves.

The Rice Exporters Association of Pakistan (REAP) has taken the place of RECP as regards procurement and export of rice. The TCP facilitates fulfillment of orders in consultation with the REAP. The government has also established a Quality Review Committee (QRC) that certifies the quality of rice before shipment.

The agricultural sector has traditionally been exempted from levy of a tax on agricultural incomes. The levy of the tax was opposed by the farming community on grounds of paying an 'implicit tax' to the government. The Government procured rice at prices arbitrarily fixed by her and then sold it internationally at prices many times higher than prices paid to the farmers. The margin accruing to the government was referred to as the so-called 'implicit tax'.

1.2. The Study Objective

The study examines 'implicit tax' plea advanced by farmers for avoidance of an agricultural income tax, particularly in the background of important institutional and policy changes referred to above.

2. The Literature Review

There are many studies on the subject and its related matters. Aslam, M. (1982) studied the rice economy of Punjab with a particular focus on consumption aspect. The basic purpose of the study was to explore the prospects of promoting rice consumption with a view of releasing pressure on wheat. The study also analyzed the issue of the 'implicit tax'. The important finding of study pertaining to the 'implicit tax' issue was that the gap between procurement and export price of rice had been widening over time and that government was the real beneficiary and earned increasing revenue due to this gap. The time series data of the three sets of prices for the period 1964-65 to 1979-80 was used for purpose.

Roberto Eliseu and Pastore Affonso (1978) studied the problem of import substitution and implicit taxation of agriculture in Brazil. According to them, industrialization in Brazil prior to the World War 2 had taken place at

the cost of agriculture through a shift in resources to the industrial sector. In the post World War 2 periods the same thing had happened through import substitution industrialization. This was ensured through providing protective devices, subsidized credit and stable wages.

Chaudhry M. G. and Kayani N. N. (1991) discussed the issue of implicit taxation of Pakistan's agriculture. They compared import and export parity prices of major agricultural commodities with their domestic procurement prices and discovered that implicit tax argument was not without substance. The implicit tax rate for some of the years under study 1970-71 to 1989-90 was as high as 75% in the case certain commodities.

Chaudhry, M. G. (2001) discussed the current tax policy in Pakistan's agriculture in the backdrop of the theory of optimal taxation. He quantified total amount of implicit tax on agriculture that declined from Rs. 82 billion in 1989-90 to Rs. 65 billion in 1999-2000. Despite reduction, implicit tax, calculated on the basis of parity and support prices, constituted 7-8.5% of value added by agriculture.

Noor, P. K. (2002) reviewed implications of government intervention in Pakistan's wheat and cotton sectors. The study revealed overall transfers from wheat and cotton producers to society. The study also showed that WTO trade liberalization in wheat and cotton would have no significant impact on wheat and cotton production.

Ronge, Eric; Wanjala Bernadette and others (2005) studied implicit taxation of the agricultural sector in Kenya. They had concluded that agriculture was being taxed implicitly through changes in macroeconomic policies. They recommended that the government must ensure that this should not have an adverse impact on Kenyan agriculture.

Lin, Justin Yifo and Liu, Mingsing (2007) examined the historical evolution of China's rural taxation system. The period under review was from pre-reform period to the late 1990s. The study discovered excessive local informal taxation on farmers. This necessitated a policy review that resulted in a change in the traditional approach of implicit taxation.

Salam, A. (2010) studied recent trends in distortions in incentives for production of major crops in Pakistan. The study compared domestic producer prices between 1991 and 2008 with the corresponding international prices with a view to measure nominal protection coefficients (NPCs). The study

revealed that in the case of rice, average implicit tax per ton of Basmati paddy was around \$ 21.38.

3. Methodology

To monitor relationships between procurement and export price, on the one hand, and between procurement and consumer price, on the other, first ordinary or actual curves were drawn. Then least square straight lines or trend lines were estimated to examine the overall long term trend.

The actual curves generally exhibit wide fluctuations from one year to the other and may not reveal much at first sight. That necessitated estimation of the trend lines. The straight line equations and coefficients of variation were also estimated for the three sets of prices.

3.1. Data Collection

Secondary data was used for the study. This was collected mainly from government of Pakistan publications such as Foreign Trade Statistics of Pakistan, annual Economic surveys, Foreign Trade of Pakistan (an EPB/TDAP publication), Agricultural Statistics of Pakistan and Pakistan Statistical Yearbook. The data was also gleaned through publications and studies of the international Rice Research Institute, Manila, Food and Agricultural Organization (Rome) and Rice Research institute in Kala Shah Kaku in District Sheikhpura. The time-series data used pertained to the period 1990 to 2008. This covered procurement, consumer and export prices of Basmati and IRRI.

4. Results and Interpretation

4.1. Basmati Rice

4.1.2. Actual Lines for Procurement and Export Prices of Basmati

The figure 1 shows actual lines for both procurement and export prices of Basmati rice. The actual curve of export price of basmati shows more severe fluctuations compared to the actual curve of procurement price of basmati. The last two years of the period particularly show unusual and rapid upward trend in the export price of basmati. There was phenomenal food inflation at the world level and rice was no exception. The actual curve is almost flat and is shown increasing only gingerly.

4.1.3. Trend Lines for Procurement and Export Prices of Basmati

The figure 2 shows trend lines of the procurement and export prices of basmati.

Figure 1: Actual Lines for Procurement and Export Prices of Basmati

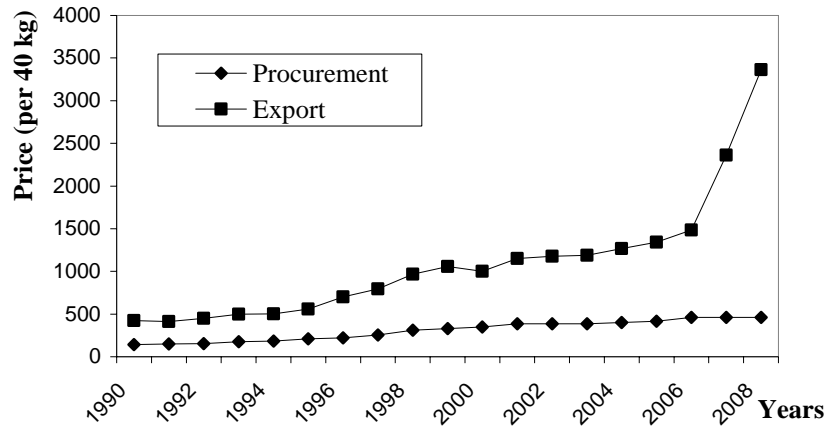
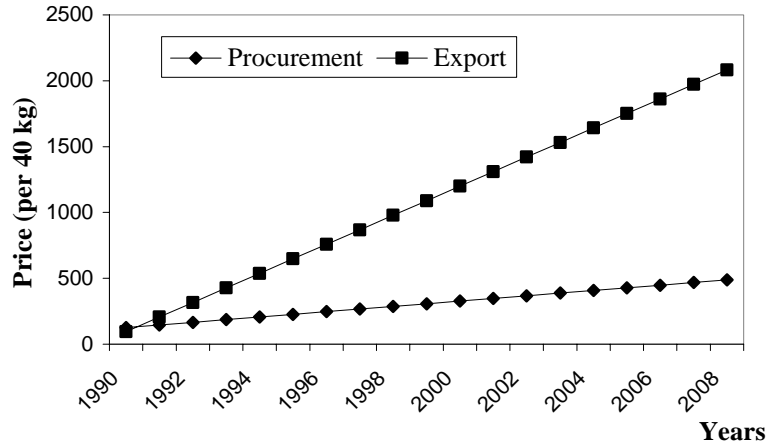


Figure 2: Trend Lines of Procurement and Export Prices of Basmati



The trend lines of procurement and export prices of basmati are shown strongly drifting apart during the period under review. The closing years of the period show even greater rapid divergence of the two curves. Under assumption that overhead cost of exporters in terms of storage and transportation charges did not increase abnormally, rapidly widening gap

shows increasing profit margin for exporters. This also implies that while exporters reaped huge profits, producers were the real losers.

The trend line linear equations for procurement and export prices of basmati were estimated as under.

$$Y_p = 105.965 + 20.1193t \quad (\text{Procurement Price})$$

$$Y_e = -14.8070 + 110.407t \quad (\text{Export Price})$$

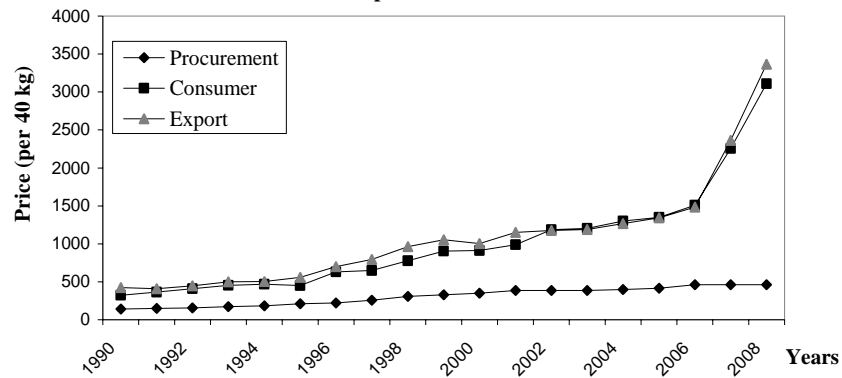
The trend linear equation of procurement price shows an average increase of Rs.20 per year while trend linear equation of export price shows an average increase of Rs.110.4 per year.

4.1.4. The Impact on Consumer

In order to gauge impact on consumers in this process of production, consumption and export of basmati, combined actual and trend graphs for the three sets of prices were also constructed as in figure 3 and figure

4.

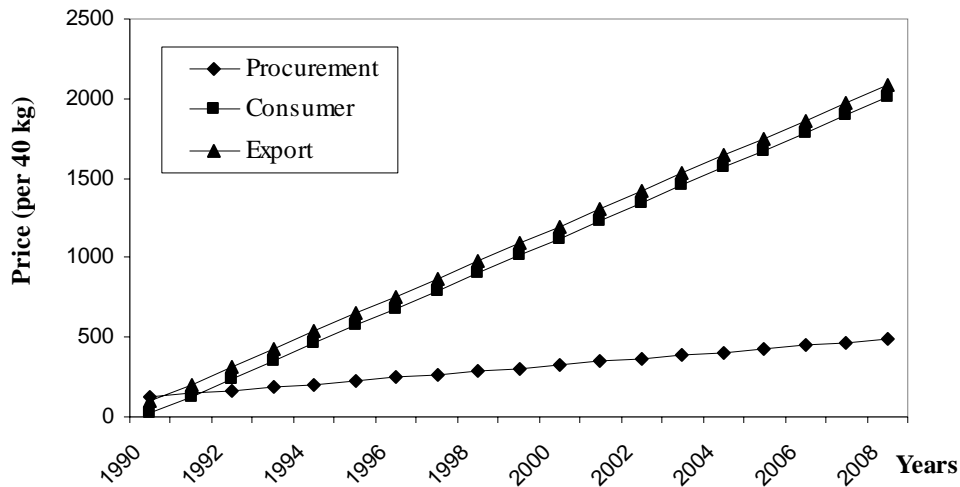
Figure 3: Actual Lines for Procurement, export and consumer prices of basmati



Actual lines for three sets of prices were combined in a single line chart, the relative position of consumers became clear. The lines representing export and consumer prices remained glued to each other over whole length of the period and even submerged at times particularly starting early twenties.

When trend lines of the three sets of prices were jointly drawn in one graph, its graph looked as in figure 4. The trend line representing consumer goods is keeping pace with the export price trend line at a small distance. The gap between trends lines of export and consumer prices on the one hand and procurement price on the other is shown continuously widening over time. This means both producers and consumers remained at a disadvantage compared to the exporters of basmati.

Figure 4: Trend Lines for Procurement, Consumer and Export Prices of Basmati



The trend linear equation for consumer prices was estimated as under.

$$Y_c = -90.5088 + 110.361t \quad (\text{Consumer Prices})$$

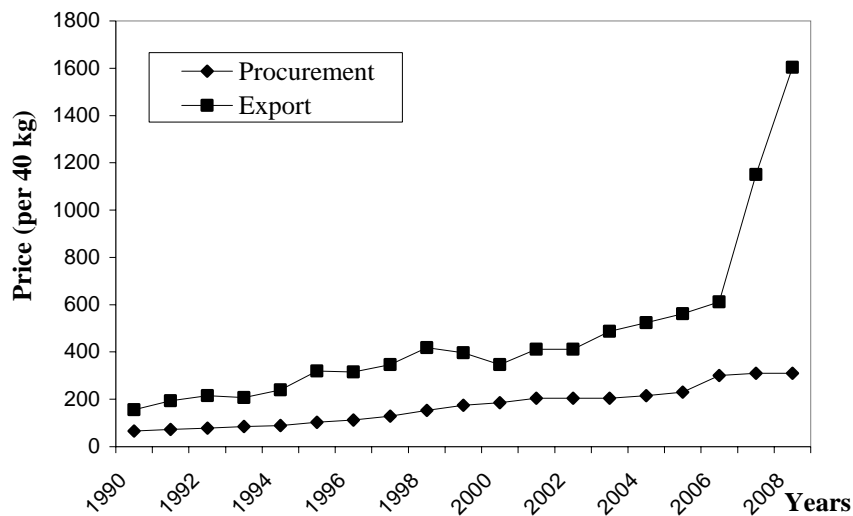
This showed an average increase of Rs.110.4 per year in consumer price of basmati over the period. Earlier average increase per year of export price of basmati had also approximated to the same figure.

4.2. IRRI Rice

4.2.1. Actual and Trend Lines for the Prices of IRRI

The figure 5 shows actual lines for both procurement and export prices of IRRI rice. The actual curve of export price of IRRI shows more severe fluctuations compared to the actual curve of procurement price of IRRI. The last two years of the period particularly show rapid upward trend in the export price of IRRI. There was severe food inflation at the international level and rice was no exception. The actual curve is found increasing only modestly.

Figure 5: Actual Lines for Procurement and Export Prices of IRRI



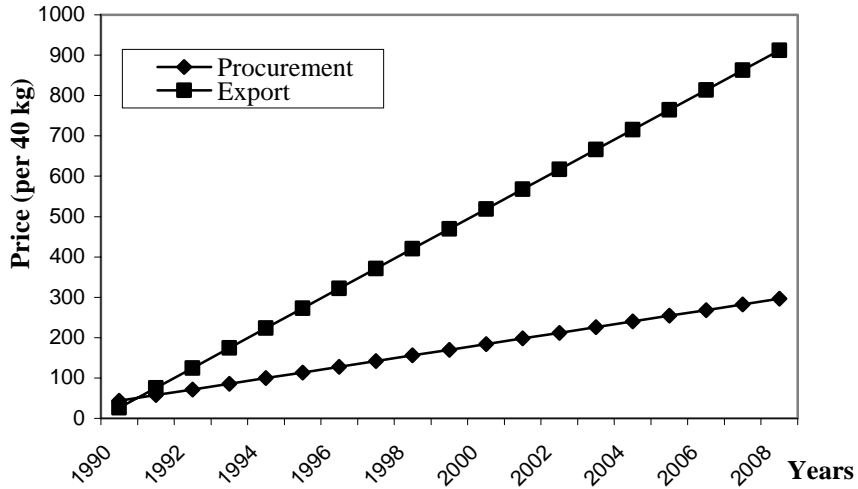
The trend lines of procurement and export prices of IRRI are shown strongly drifting apart during the period under review. The closing years of the period show even greater rapid divergence of the two curves. Under assumption that overhead cost of exporters in terms of storage and transportation charges did not increase abnormally, rapidly widening gap shows increasing profit margin for exporters. This also implies that while exporters reaped huge profits, producers were the real losers. The trend line linear equations for procurement and export prices of IRRI were estimated as under.

$$Y_p = 29.3860 + 14.0561t$$

$$Y_e = -22.7018 + 49.1965t$$

The trend linear equation of procurement price shows an average increase of Rs.14 per year while trend linear equation of export price shows an average increase of Rs.49.2 per year.

Figure 6: Trend Lines of Procurement and Export Prices of IRRI



4.2.2. Actual and Trend Lines for Procurement, Consumer and Export Prices of IRRI

When actual lines for three sets of prices of IRRI were combined in a single line chart, the relative position of consumers became clear. The actual lines representing export and consumer prices are seen rising in close proximity with one another but overtaking each other alternately during certain intervals.

4.2.3. The Impact on Consumer

In order to gauge impact on consumers in this process of production, consumption and export of IRRI, combined trend line graph for the three sets of prices were also constructed as in and figure 8.

When trend lines of the three sets of prices were jointly drawn in one graph, its graph looked as in figure 8. The trend line representing consumer

goods is rising very close to the export price trend line and during certain interval the two lines are seen coinciding with one another.

The gap between trends lines of export and consumer prices on the one hand and procurement price on the other is seen continuously widening over time. This means both producers and consumers remained at a disadvantage compared to the exporters of IRRI.

Figure 7: Actual Lines for Procurement, Consumer and Export Prices of IRRI

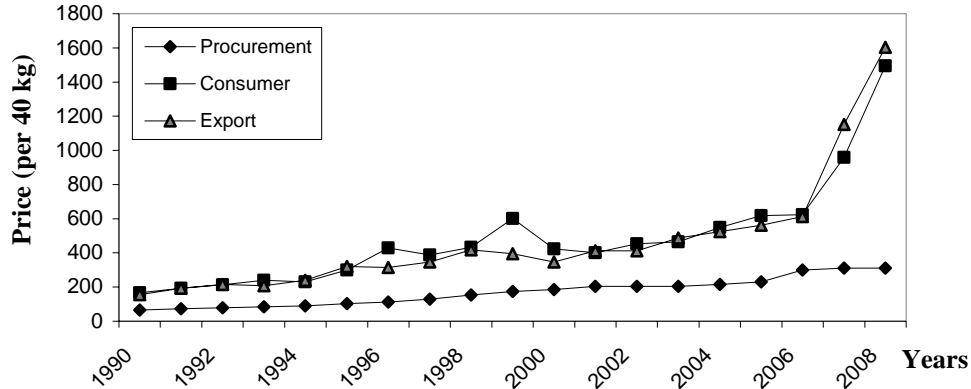
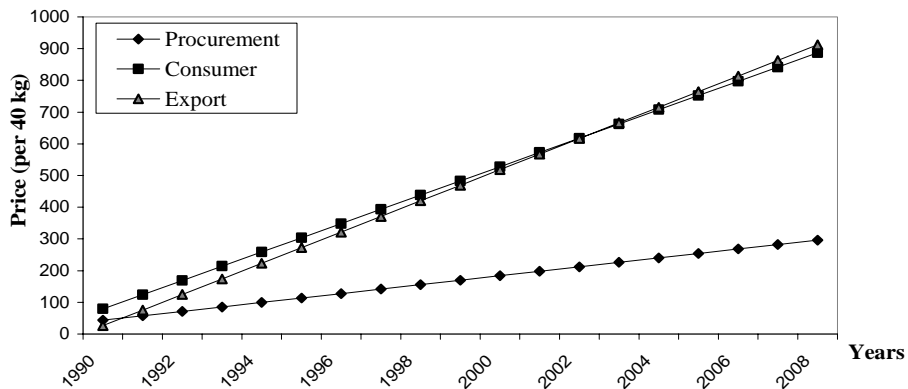


Figure 8: Trend Lines for Procurement, Consumer and Export Prices of IRRI



The trend linear equation for consumer prices of IRRI was estimated as under.

$$Y_c = 34.5263 + 44.8579t$$

This showed an average increase of Rs.45 per year in consumer price of IRRI over the period. Earlier average increase per year of export price of IRRI was approximated to Rs.49 per year over the same period.

5. Conclusions and Policy Implications

The study pertained to the three sets of prices and an examination of the hidden tax argument. The important findings were as under.

1. During the period under study, the spread between procurement/indicative price and export price of basmati kept on widening.
2. This was also true of the spread between procurement and export prices of IRRI although the spread was more pronounced in the case of basmati due to its being premium quality rice.
3. The basmati and IRRI rice farmers receive prices that are many times below the world prices. Thus on the face of it their contention of an 'implicit tax' being paid by them sounds logical.
4. This conclusion will not be significantly altered even after milling, storage and transportation charges are duly accounted for and adjustment made.
5. The consumers, on the other hand, pay quite high prices and in the case of IRRI, consumer price even overtakes the export price. By implication, it may be stated that exports of basmati and IRRI and particularly the latter, do adversely impact upon domestic supply and domestic prices of the two rice varieties.
6. Presently there are no exports in the Public sector. The Rice Export Corporation of Pakistan was disbanded in 2000. The government now only facilitates exports and exporters through Trade Development Authority of Pakistan (former Export Promotion Bureau). The residual is thus appropriated by the intermediaries including rice exporters.
7. Thus under changed circumstances, the 'implicit tax' argument is no longer tenable. The government of late has opted out and does not fix procurement prices in order to allow market forces to play their due role.
8. After reversion to the market system, farmers are better advised to form their own rice export associations in order to reduce the role of intermediaries.

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Appendices

Appendix Table 1: Actual and trend prices (per 40 kg) of Basmati (1990-2008)

Years	Procurement Price	Consumer Price	Export Price	Trend (procurement)	Trend (consumer, linear)	Trend (export, linear)	Trend (consumer , Quad)	Trend (export, Quad)
1990	143	322	423	126.084	19.85	95.6	479.74	558.48
1991	150	366	411	146.204	130.21	206.01	436.81	514.59
1992	155	411	448	166.323	240.58	316.41	411.91	488.86
1993	175	454	498	186.442	350.94	426.82	405.04	481.28
1994	185	467	502	206.561	461.3	537.23	416.21	491.85
1995	211	452	558	226.681	571.66	647.64	445.42	520.57
1996	222	630	701	246.8	682.02	758.04	492.66	567.44
1997	255	648	793	266.919	792.38	868.45	557.93	632.47
1998	310	778	966	287.039	902.74	978.86	641.24	715.65
1999	330	905	1056	307.158	1013.11	1089.26	742.58	816.98
2000	350	913	1002	327.277	1123.47	1199.67	861.96	936.46
2001	385	990	1152	347.396	1233.83	1310.08	999.38	1074.1
2002	385	1187	1176	367.516	1344.19	1420.48	1154.82	1229.89
2003	385	1205	1190	387.635	1454.55	1530.89	1328.31	1403.83
2004	400	1300	1266	407.754	1564.91	1641.3	1519.83	1595.92
2005	415	1350	1343	427.874	1675.27	1751.71	1729.38	1806.16
2006	460	1509	1486	447.993	1785.64	1862.11	1956.97	2034.56
2007	460	2255	2361	468.112	1896	1972.52	2202.59	2281.11
2008	460	3107	3364	488.232	2006.36	2082.93	2466.25	2545.81

Appendix Table 2: Actual and trend prices (per 40 kg) of IRRI (1990-2008)

Years	Procurement Price	Consumer Price	Export Price	Trend (procure)	Trend (consumer ,linear)	Trend (export ,linear)	Trend (consumer, quad)	Trend (export ,quad)
1990	66	166	156	43.442	79.384	26.495	261.13	295.66
1991	73	192	193	57.498	124.242	75.691	245.41	255.13
1992	78	214	215	71.554	169.1	124.888	236.81	225.17
1993	85	239	207	85.611	213.958	174.084	235.34	205.75
1994	90	231	239	99.667	258.816	223.281	241	196.89
1995	103	300	320	113.723	303.674	272.477	253.78	198.59
1996	112	429	315	127.779	348.532	321.674	273.69	210.84
1997	129	388	347	141.835	393.389	370.87	300.73	233.65
1998	153	433	418	155.891	438.247	420.067	334.9	267.01
1999	175	601	396	169.947	483.105	469.263	376.19	310.93
2000	185	423	347	184.004	527.963	518.46	424.62	365.4
2001	205	401	412	198.06	572.821	567.656	480.17	430.43
2002	205	453	412	212.116	617.679	616.853	542.84	506.02
2003	205	465	487	226.172	662.537	666.049	612.65	592.16
2004	215	549	524	240.228	707.395	715.246	689.58	688.86
2005	230	619	561	254.284	752.253	764.442	773.63	796.11
2006	300	623	612	268.34	797.111	813.639	864.82	913.92
2007	310	959	1151	282.396	841.968	862.835	963.13	1042.28
2008	310	1494	1604	296.453	886.826	912.032	1068.57	1181.2

Table 1: Procurement, Consumer and Export Prices of Basmati (1990-2008)

Years	Procurement Price	Consumer Price	Export Price
1990	143	322	423
1991	150	366	411
1992	155	411	448
1993	175	454	498
1994	185	467	502
1995	211	452	558
1996	222	630	701
1997	255	648	793
1998	310	778	966
1999	330	905	1056
2000	350	913	1002
2001	385	990	1152
2002	385	1187	1176
2003	385	1205	1190
2004	400	1300	1266
2005	415	1350	1343
2006	460	1509	1486
2007	460	2255	2361
2008	460	3107	3364

Sources:

1. Federal Bureau of Statistics, Statistics Division, Government of Pakistan (GOP): "Foreign Trade Statistics of Pakistan" (various years)
2. Export Promotion Bureau, Government of Pakistan: "Foreign Trade of Pakistan (Various years)
3. Economic Advisor's Wing, Finance Division, Government of Pakistan: "Pakistan Economic Survey (various years).
4. Economic Wing, Ministry of Food, Agriculture and Livestock, Government of Pakistan (GOP): "Agricultural Statistics of Pakistan" (various years).

Table 2: Procurement, Consumer and Export Prices of IRRI (1990-2008)

Years	Procurement Price	Consumer Price	Export Price
1990	66	166	156
1991	73	192	193
1992	78	214	215
1993	85	239	207
1994	90	231	239
1995	103	300	320
1996	112	429	315
1997	129	388	347
1998	153	433	418
1999	175	601	396
2000	185	423	347
2001	205	401	412
2002	205	453	412
2003	205	465	487
2004	215	549	524
2005	230	619	561
2006	300	623	612
2007	310	959	1151
2008	310	1494	1604

Source:

1. Federal Bureau of Statistics, Statistics Division, Government of Pakistan (GOP): "Foreign Trade Statistics of Pakistan" (various issues).
2. Export Promotion Bureau, Government of Pakistan (GOP): "Foreign Trade of Pakistan (various issues).
3. Economic Advisor's Wing, Finance Division, Government of Pakistan (GOP): "Pakistan Economic Survey (various issues).
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