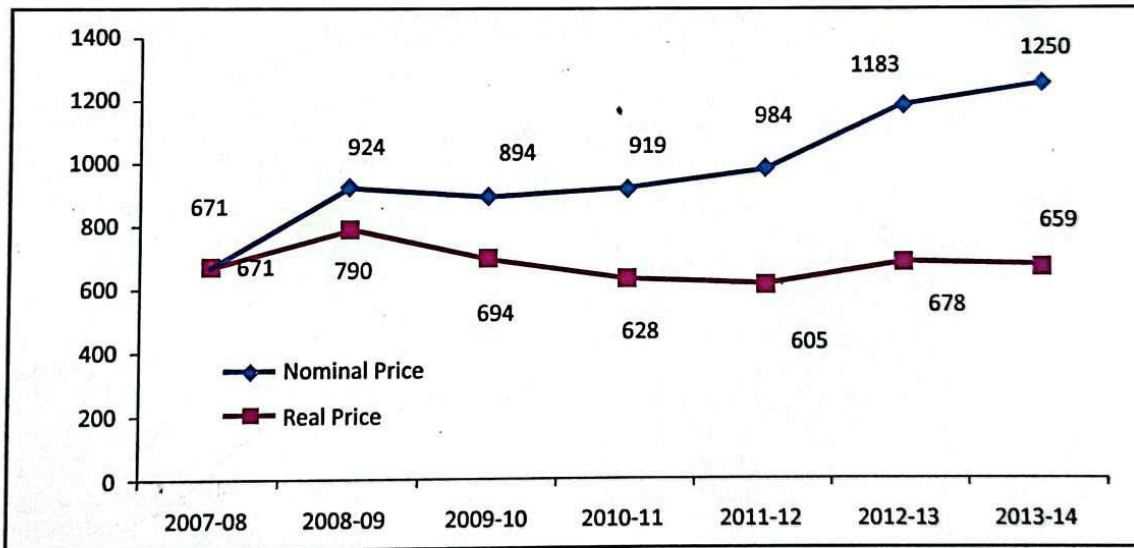


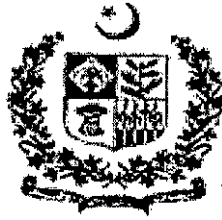


WHEAT POLICY ANALYSIS FOR 2014-15 CROP

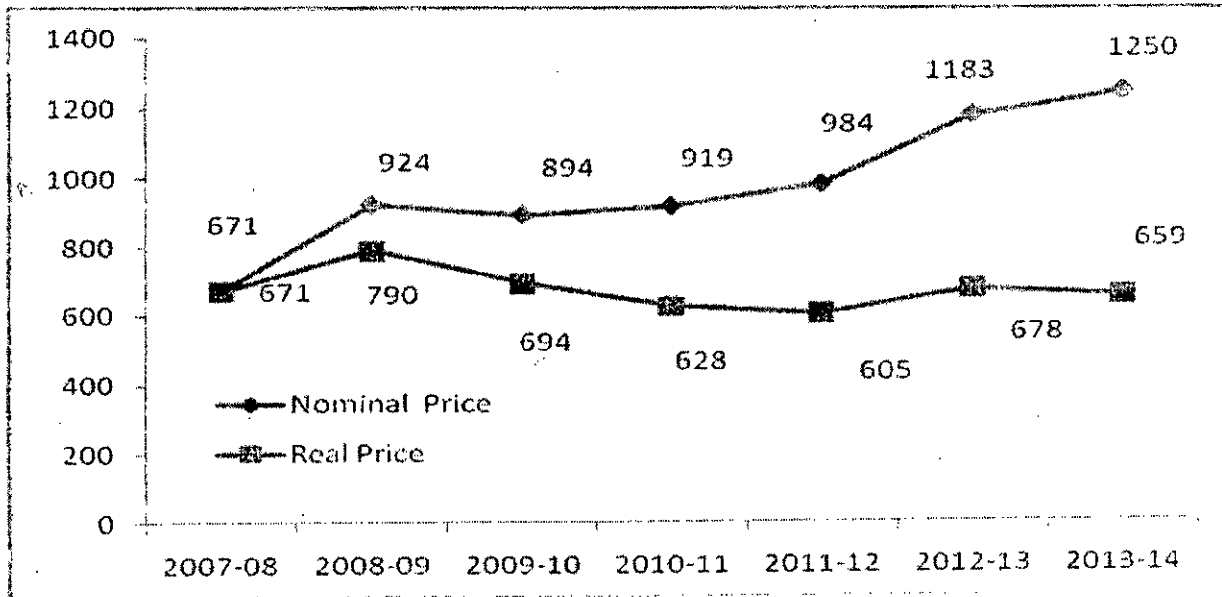


AGRICULTURE POLICY INSTITUTE
MINISTRY OF NATIONAL FOOD SECURITY AND RESEARCH
GOVERNMENT OF PAKISTAN
ISLAMABAD

February, 2015



WHEAT POLICY ANALYSIS FOR 2014-15 CROP



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ISLAMABAD
October, 2014



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SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

Area and Production

- Punjab and Sindh contribute about 76 and 16 per cent in wheat production while the share of KPK and Balochistan is 5 and 3 per cent, respectively.
- During the last decade, wheat production has risen @ 2.1 per cent per annum due to 1.3 per cent improvement in yield and 0.8 per cent expansion in area.
- Wheat production from 2013-14 crop is estimated at 25.36 million tonnes, a rise of 5 per cent over the production of 24.20 million tonnes in 2012-13.
- Since 2002, 20 high yielding wheat varieties for the irrigated and rainfed areas have been developed by Research Institutes in Punjab, while 6 varieties of wheat are released by Research Institutes in Sindh.

Domestic Requirements

- Assuming the per capita consumption at 120 kgs per annum, the domestic requirement comes to 26.29 million tonnes including allowance for seed, feed and wastage for gross population of Pakistan including AJK, GB and Afghan Refugees.
- Based on 3-year average per capita availability of 116 kgs per annum, the domestic requirement comes to 25.50 million tonnes including allowance for seed, feed and wastage for gross population of Pakistan.
- Including one million tonnes as food security reserve, and seed, feed and wastage, the total domestic requirement will range between 26.50 and 27.29 million tonnes for gross population of Pakistan.

Domestic Prices

- Monthly average market prices of wheat for 2013-14 crop have remained above the support price, both in the Punjab and Sindh.
- The wholesale prices of wheat averaged at Rs 1241 per 40 kgs in the Punjab and Rs 1259 in Sindh during the post harvest season in major producing areas according to the provincial estimates.

- The wholesale prices of wheat collected through the API's Committee Meeting on wheat were reported around Rs 1280 per 40 kgs in the Punjab and Sindh during the post harvest period of 2013-14 crop.

Cost of Production

- In the Punjab, the expected cost of wheat cultivation for 2014-15 season is estimated at Rs 33,765 per acre including land rent.
- The cost of production at market/procurement centre level would be Rs 1249 per 40 kgs, reflecting a rise of 10 per cent over the last year due to rising cost of farm operations, tubewell irrigation and harvesting/threshing charges.
- In Sindh, the cost of wheat cultivation for 2014-15 crop is expected at Rs 33,543 per acre including land rent.
- The cost of production at market/procurement centre level would come to Rs 1235 per 40 kgs, showing increase of 11 per cent over the last year.

Economics of Wheat and Competing Crops

- Wheat farming has performed better than sunflower during 2013-14 in terms of the most of the economic criteria adopted in the analysis in the Punjab. However, canola proved better in terms of returns to overall investment and purchased inputs.
- In Sindh, the wheat cultivation has lagged behind the oilseeds both sunflower and canola in the most of economic indicators adopted in this analysis.
- In case of indirect competition, sugarcane has performed better than all the crop combinations in the most of economic indicators except returns to irrigation water in both the provinces.
- In Punjab, Cotton+wheat rotation out performed IRRI combination in all respects in the Punjab. However, the Basmati combinations performed better than cotton combinations in terms of returns to overall investment and crop duration. In Sindh, IRRI+sunflower performed better than cotton combinations in terms of returns to overall investment and crop duration.

Economics of Fertilizer Use

- The quantity of wheat needed to buy one nutrient tonne of N fertilizer has fluctuated from 1.29 to 2.90 tonnes during 2004 to 2014.

- During 2013-14, the parity ratio between market prices of N and wheat was not in favour of wheat due to high prices of N fertilizer and 2.52 units of wheat were required to buy one unit of N fertilizer.
- The quantity of wheat needed to buy one nutrient tonne of P fertilizer has fluctuated from 2.79 to 6.26 tonnes during 2004 to 2014.
- During 2013-14, the parity ratio between market prices of P and wheat was not in favour of wheat due to high prices of P fertilizers and 4.39 units of wheat could purchase one unit of P fertilizer.

Nominal and Real Support Prices

- The nominal support prices of wheat during 2007-08 to 2013-14 have experienced overall rise of 92 per cent, while the real support prices have increased by one per cent.
- During 2013-14, the nominal support price has remained same with the last year, while the real support price has decreased by 8 per cent in view of general inflation in the economy.

Nominal and Real Market Prices

- The nominal market prices of wheat have shown an overall surge of 86 per cent, while the real market prices have shown negative change by 1.8 per cent during the period.
- During 2013-14, the nominal market price has risen by 6 per cent, while the real market price has deteriorated by 3 per cent in the wake of inflationary trend.

World Production and Prices

- World wheat production estimated at 713 million tonnes in 2013-14 is higher by 58 million than the last year while it is forecast to rise to 717 million tonnes in 2014-15.
- The closing stocks at 170 million tonnes in 2012-13 are estimated to improve to 188 million tonnes in 2013-14 and are forecast to further improve to 195 million in 2014-15.
- The average Fob (gulf) prices of US Hard Red Winter (HRW) wheat fluctuated widely dipping as low as US \$ 154 per tonne in 2004-05 and rising as high as \$ 361 per tonne in 2007-08.

- During the first three months of 2014-15, international prices of US HRW wheat have averaged at US \$ 286 per tonne.

Export/Import Parity Prices

- Based on the average Fob (gulf) price of US HRW wheat during 2013-14, the export parity price works to Rs 1121 per 40 kgs. The export parity price calculates to Rs 1137 per 40 kgs on the basis of average fob price during 2011-12 to 2013-14.
- Based on the average Fob (gulf) price of 2014-15 (July-September), the export parity price of wheat works back to Rs 994 per 40 kgs.
- Based on average Fob (gulf) prices during 2011-12 to 2013-14, the import parity prices work to Rs 1674 per 40 kgs at Multan, while Rs 1594 per 40 kgs at Karachi.
- Based on the Fob price during 2014-15 (July-September), the import parity prices calculate to Rs 1520 per 40 kgs at Multan and Rs 1440 per 40 kgs at Karachi.

Economic Efficiency

- Economic efficiency of resource use in wheat production has been evaluated by estimating the Nominal Protection Coefficient (NPC), Effective Protection Coefficient (EPC) and Domestic Resource Cost (DRC).
- The NPC has been below one under the importing scenario for 2009-10 to 2013-14 in both Punjab and Sindh.
- The EPCs below one during the entire period except 2009-10 imply that wheat remained implicitly taxed in Punjab. However, the EPC values above one in 2009-10 show higher prices of wheat during this particular year. In Sindh EPC remained below 1 during the entire period under review.
- Under export scenario, the NPC values are either greater than or very close to one. This means that for export purpose, wheat production is not a viable option for Pakistan. Rather the resources may be allocated to some other crop where exportable surplus may be produced and exported more profitably or may be a valuable import substitution..
- The DRC indicates the opportunity cost of domestic resources employed per unit of value added in production of a commodity.
- The DRCs are substantially below one during the period, indicating a Comparative Advantage in domestic wheat production for import substitution.

World Comparison

- Pakistan is the 8th largest wheat producer in terms of area and production but ranks at 62nd position in terms of yield.
- Among the major wheat producing countries, Pakistan lies at the bottom in the context of yield.
- India announced lower support price for 2011-12 to 2013-14 as compared to Pakistan in view of huge subsidies paid on farm inputs in India.

Impact of Support Price on CPI and Household Expenditure

- In case the support price of wheat is enhanced by Rs 100 per 40 kgs over the existing level of Rs 1200 per 40 kgs, the CPI is likely to rise by 0.48 per cent.
- Likewise, the increases of Rs 100 per 40 kgs over the existing support price would bring additional expenditure of Rs 300 per capita per year or Rs 1923 per household, respectively.

Policy Options

Based on the analysis of relevant factors covered in the main text of the Report, the likely policy options for wheat 2014-15 crop would be as under:

Base	Likely price of domestic wheat at procurement center
	Rs per 40 kgs
1. Export parity price on the basis of:	
a) Fob (gulf) price of US Hard Red Winter (HRW) wheat during 2013-14, if exported from Multan	1121
b) Fob (gulf) average price of US HRW wheat during 2011-12 to 2013-14, if exported from Multan	1137
c) Fob (gulf) price of US HRW wheat during 2014-15 (Jul-Sep), if exported from Multan	994
2. Import parity price on the basis of:	
a) Fob (gulf) price of US Hard Red Winter (HRW) wheat during 2013-14, if consumed at:	
- Karachi	1577
- Multan	1657
b) Fob (gulf) price of US HRW wheat during 2011-12 to 2013-14, if consumed at:	
- Karachi	1594
- Multan	1674
c) Fob (gulf) price of US HRW wheat during 2014-15 (July-Sep), if consumed at:	
- Karachi	1440
- Multan	1520
3. Monthly average wholesale market prices of wheat in major producing areas during the post-harvest period of 2013-14 crop:	
- Punjab	1241
- Sindh	1259
4. Cost of production at market/procurement centre level for 2014-15 crop:	
- Punjab	1249
- Sindh	1235

- Recommendations

In view of the field information, consultation with the stakeholders in the API's Committee meeting on wheat and analysis of relevant factors, following recommendations are made regarding the support price, improving productivity and marketing of 2014-15 wheat crop:

Support Price

- The API strongly feels that the country should emphasize on sustainable wheat production as the crop is not only a staple food but also a major food security concern in the economy.
- In view of the existing incentive price of wheat, food inflation and other food security concerns, the Ministry of National Food Security and Research may like to consider the support price of wheat and enhance to Rs 1250 per 40 kgs for 2014-15 crop.
- It provides a reference point for procurement by the public sector agency to meet the food security requirements of the country.
- In view of free market and active role of private sector, the actual incentive to wheat growers should come through the market forces.
- The government policy of encouraging the role of private sector in wheat marketing may be continued.
- It should provide some profit margin over the cost of production for improving productivity through balanced input use, better management and optimal technology adoption.
- The PASSCO and Provincial Food Departments may be designated as the implementing agency for the procurement of wheat at the support price announced by the government.
- The PASSCO and Provincial Food Departments should make prior arrangements for wheat procurement and enter in the field well in time especially in Sindh province where the harvesting starts early.

Improving Productivity

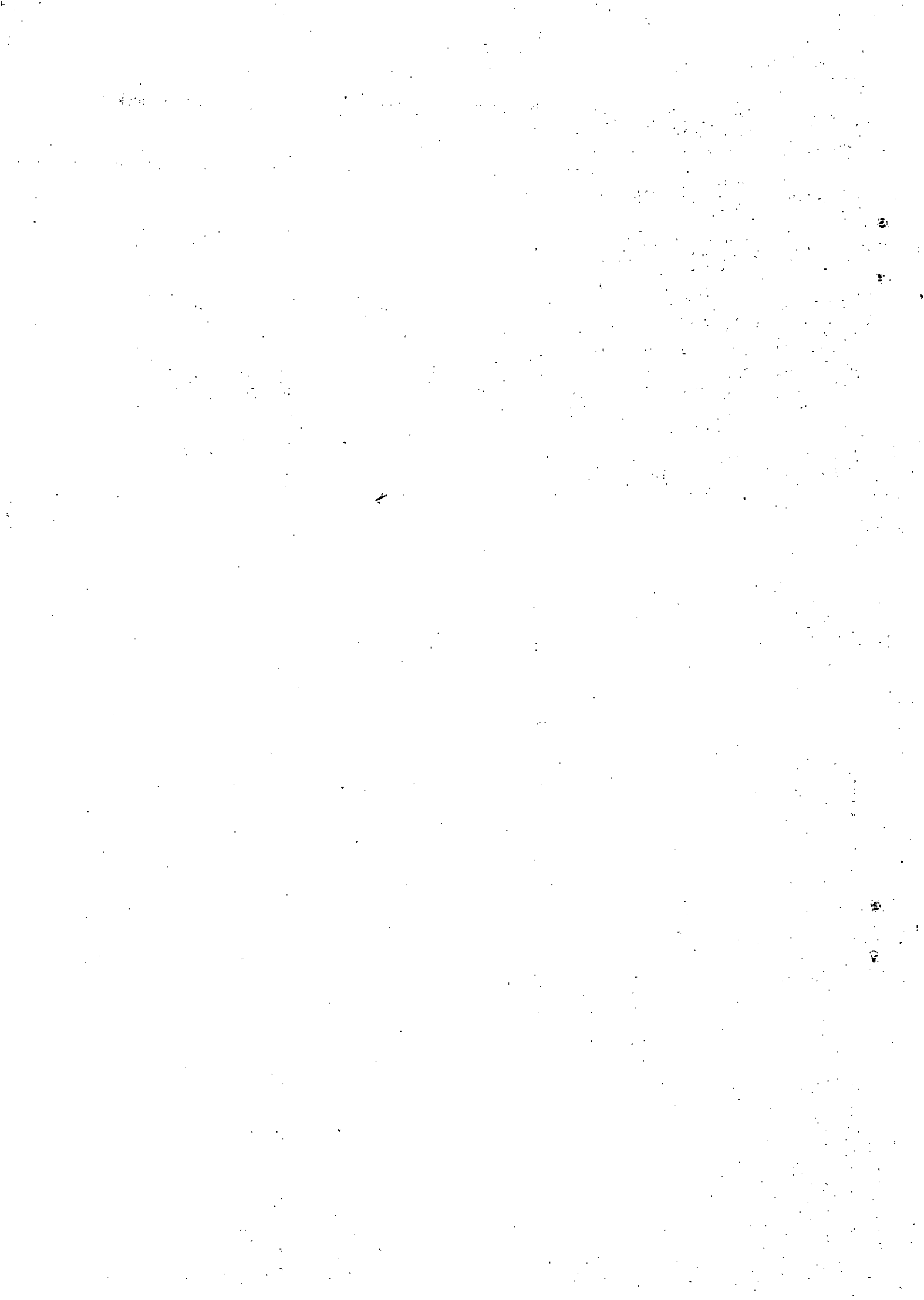
- Agriculture Extension Departments should annually publicise the seed availability of new high yielding varieties well before the sowing season in collaboration with the Research Institutes.

- To ensure the food security in future, there is a dire need to study the impact of climate change on land use, crop maturity and cropping pattern.
- The coordinated efforts should be made for fast tracking the national wheat breeding programme for resistant varieties to UG 99 Stem Rust, drought, salinity, heat and frost.
- Molecular breeding for development of low input but high responsive varieties of wheat should be strengthened.
- Awareness campaign should be conducted by the provincial governments for rational use of chemical inputs through regular soil and water testing in coordination with the private sector.
- The technologies like laser levelling, zero tillage and high efficiency irrigation systems should be promoted.
- There should be a national programme for multiplication and dissemination of seed - fertilizer drills, on subsidized rate to improve the fertilizer use efficiency in case of phosphate.
- Alternate energy sources may be explored including Solar Tubewell Technology and farmers/growers associations be encouraged through subsidies on import and transfer of advance technology.
- The Government should emphasize on availability of certified seed and grading of farm seed for wheat cultivation.
- To improve the input efficiency, the measures should be taken for strict quality control of weedicides, herbicides, pesticides and fertilizer.
- The Government should control the black marketing of DAP and Urea to keep the prices at optimal level to promote balanced use.
- The Seed Act may be approved and the private seed companies selling spurious and fake seeds may be strictly penalized.

Improving Statistics and Marketing

- The KPK and Balochistan Governments should adopt the crop cutting experiments in line with the Punjab and Sindh.
- There is a need to constitute a committee of experts to examine the current system of crop estimation and suggest ways and means to improve the provincial crop estimates.

- The Government should establish Input Price Regulatory Authority in order to check and control the input prices and other related matters.
- The Government should give more attention to enhance storage capacity both in public and private sectors particularly at grassroots level.
- A strategic reserve of 1-2 million tonnes needs to be maintained for the sake of food security for the masses.
- The Government should stress on value addition in wheat produce to improve its export competitiveness in the world market.
- There is a need to tap the potential of organic wheat production in the province of Balochistan. The demand for organic wheat in the world market should be acquired through Pak Missions abroad.
- The feasibility of importing second hand machinery should be studied to encourage mechanical harvesting.



WHEAT POLICY ANALYSIS FOR 2014-15 CROP

INTRODUCTION

Being the leading food grain of the country, wheat occupies central position in the economy. Wheat is the largest crop of the country in terms of area and contributes about 10.3 per cent to the value added in agriculture and 2.2 per cent to the GDP. Wheat crop occupies around 39 per cent of total cropped area. It is generally cultivated over 8.8 million hectares with an annual average production of 24.3 million tonnes (2011-14). During the decade ending 2013-14, wheat production has increased @ 2.1 per cent per annum. About 87 per cent of wheat area is irrigated which accounts for about 94 per cent of the annual production. The years, 2008-09 and 2010-11 proved turning point, for the economy when the wheat export was started. During 2013-14, wheat production of 25.4 million tonnes is about 2.1 per cent higher than the target of 24.8 million tonnes. The achievement in production is higher by 4.8 per cent from the last year. This rise in production was attributed to extension of 4.8 per cent in area of wheat, while yield remained at the same level.

2. Among the world wheat producing countries, Pakistan ranks 8th in terms of both area and production of wheat but lies behind at 62nd in terms of yield per hectare (FAO), a few steps further lower than the last year. The yield potential of high yielding wheat varieties range between 6 to 8 tonnes per hectare at Research Farms in Pakistan, while the national average yield is only 2.8 tonnes per hectare. This huge gap in per hectare yield can be narrowed through adoption of optimal technology and better management on general field conditions. The productivity gap between the progressive and resource poor farmers in Pakistan is almost 40 per cent. The resource poor farmers cannot use quality seed, fertilizer, herbicide and other inputs to the optimum level for want of funds. This would require timely supply of inputs and production technology at the grassroots level alongwith incentive prices for their produce.

3. The Government of Pakistan annually reviews the support price of wheat in order to reduce the uncertainty and price risk in wheat farming and ensure food security in the country. The ECC of the Cabinet considered the Summary of the M/o National Food Security and

Research on the Support Price Policy of Wheat for 2013-14. However, the ECC maintained the support price for wheat 2013-14 crop at the last year level of Rs 1200 per 40 kgs.

4. The PASSCO and the Provincial Food Departments are reported to have procured 6.130 million tonnes of wheat during 2013-14, around 77 per cent of the target of 8 million tonnes. Adding the carryover stocks of 1.618 million tonnes, the government has sufficient stocks of around 7.0 million tonnes to meet the domestic requirements during the consumption year of 2014-15.

5. In formulating the price policy recommendations for 2014-15 wheat crop, following steps were undertaken by the API:

- i) Annual field survey in important wheat growing areas of Sindh and the Punjab was carried out during third week of June, 2014 to update the data on prices of inputs, hiring rates of farm operations and marketing cost.
- ii) The data on area and production, stocks, trade and prices; both domestic and global, and Consumer Price Index were collected from various agencies and published material. The producer prices of wheat in selected countries were collected from various national and international agencies and through internet. These data have been analyzed to reflect the domestic and international position on various aspects of wheat production and marketing.
- iii) Annual meeting of the API's Committee on wheat was held on 23rd June 2014 at Islamabad. The meeting was attended by the wheat growers, crop experts, policy makers and representatives of the provincial chambers of agriculture, growers' associations and officials from the Federal and Provincial governments. Issues relating to the production and marketing of wheat including prices of inputs and cost of production were discussed at length. A number of constraints impacting on farm production in general and wheat in particular were also highlighted which helped in suggesting certain measures to improve the efficiency of wheat farming and marketing. The views expressed in the meeting have been duly considered in formulating the policy recommendations for 2014-15 crop.

6. As wheat is not only the staple food but also a major food security crop of the country, its pricing is a complex phenomenon. It involves harmony of conflicting interests of various stakeholders like growers, consumers, millers, etc. In view of rising input prices and cost of production, the farmers argue for higher output prices otherwise wheat farming may not be a viable proposition. High producer prices of wheat in turn escalate the consumer prices, leading to

food inflation in the economy in view of its high weight in the average household budget. Accordingly, the governments hesitate to enhance consumer prices of wheat to their economic levels and subsidize the issue prices at considerable cost to the public exchequer.

7. As a very sensitive commodity, a slight change in its price and availability does have a positive or negative impact on consumers, especially on the poor sections of the community. Hence, the government has planned to develop a Safety Net for food assistance to the poor to save them from the adverse effects of hike in prices of staple food like wheat and other essential food items. In this regard, the Federal Government decided not only to continue Income Support Programme but also increase the monthly stipend from Rs 1000/- to Rs 1200/- per household for the food assistance of the poorest section of the society in 2013-14 budget and from Rs 1200/- to Rs 1500/- per household in 2014-15 budget.

2. SOWING AND HARVESTING TIMES OF WHEAT

8. Wheat is grown during rabi season across the country. A wide-ranging schedule of wheat sowing for various ecological zones in the country, as recommended by the Pakistan Agricultural Research Council, is presented in Table-1 below:

Table-1: Recommended Sowing and Harvesting Times of Wheat

Provinces		Times
Punjab		
i)	Southern	1 st November to 30 th December
ii)	Central	1 st November to 15 th December
iii)	Northern:	
a)	Irrigated	1 st November to 15 th December
b)	Un-irrigated	20 th October to 15 th November
Sindh		
i)	Southern	1 st November to 25 th December
ii)	Northern	1 st November to 31 st December
Khyber Pakhtunkhwa		
i)	Plain area	25 th October to 15 th December
ii)	Hilly area	1 st November to 15 th December
Balochistan		
i)	Upper	1 st October to 20 th February
ii)	Plain	1 st November to 15 th December

Source: PARC, Islamabad.

9. In the Punjab, wheat sowing in the irrigated areas generally starts from 1st November and extends upto end of December while in barani areas it begins from 20th October and continues upto 15th November.

10. In Sindh, wheat sowing commences from 1st November and goes upto the end of December.

11. In the Khyber Pakhtunkhwa, wheat is sown from 25th October to 15th December in plain areas and 1st November to 15th December in hilly areas.

12. In Balochistan, wheat sowing starts in advance than other provinces. It begins from 1st October in upper part of the province and goes upto 20th February, while in plain areas, sowing times of wheat ranges from 1st November to 15th December.

13. Wheat harvesting generally starts from end of March in south and continues till end of July in northern parts of the country. Harvesting of wheat depends on the climatic conditions and maturing time of varieties sown. By and large it starts in March/April and continues upto May, depending upon the sowing time, management practices, climatic conditions and the varieties.

3. REVIEW OF 2013-14 CROP

3.1 Provincial Shares in Area and Production

14. Based on 3-year average 2011-14, the Punjab and Sindh contribute about 75.9 and 15.6 per cent in total wheat production while shares of the KPK and Balochistan are around 5.1 and 3.4 per cent, respectively. The provincial shares of area and production are presented in Table-2 and depicted in Figures 1 & 2, respectively.

15. Around 86.6 per cent of wheat acreage is cultivated under irrigated conditions which contribute 94.3 per cent of wheat production in the country.

Table-2: Provincial Shares in Area and Production of Wheat (Average of 2011-12 to 2013-14)

Item/Country/ Province	Total	Pakistan	Punjab	Sindh	KPK	Balochistan
	000 hact.	----- Per cent -----				
A. Area						
Total	8795.4 (21734.4)	100.0	74.9	12.2	8.5	4.4
Irrigated	7618.0 (18824.8)	86.6	67.3	11.6	3.8	3.9
Un-irrigated	1177.4 (2909.5)	13.4	7.7	0.6	4.7	0.5
B. Production						
	000 tonnes	----- Per cent -----				
Total	24345.7	100.0	75.9	15.6	5.1	3.4
Irrigated	22951.5	94.3	72.7	15.4	2.9	3.2
Un-irrigated	1394.3	5.7	3.2	0.2	2.2	0.2

Note: Figures in parentheses are thousand acres.

Source: Worked out from Annex-I.

**Provincial shares in Area of Wheat:
(Average of 2011-12 to 2013-14)**

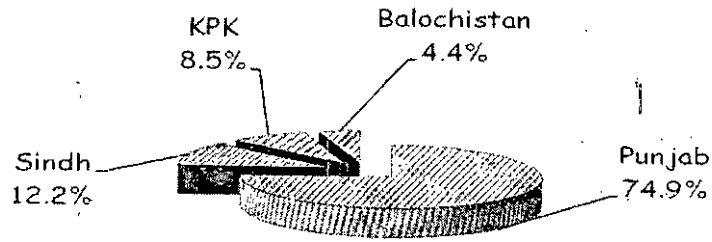


Figure-1: Shares in Area

**Provincial Shares in Production of Wheat:
(Average of 2011-12 to 2013-14)**

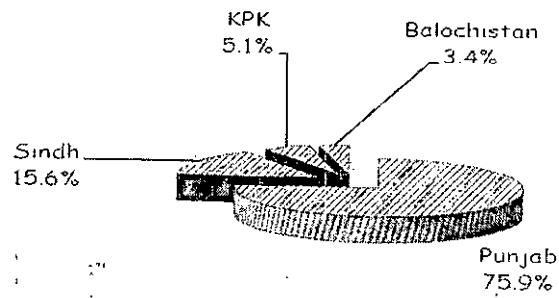


Figure-2: Shares in Production

3.2 Long-term Changes: 2003-04 to 2013-14

16. During the decade ending 2013-14, wheat production at country level has increased @ 2.1 per cent per annum owing to 1.3 per cent improvement in yield and 0.8 per cent expansion in area. In the Punjab, wheat production has risen @ 1.6 per cent annually due to 1.0 per cent improvement in yield and 0.6 per cent acreage expansion. In Sindh, wheat production has also risen @ 5.6 per cent per annum mainly due to improvement of yield by 3.0 per cent as the area expanded only by 2.5 per cent. Details of wheat area, yield and production by province are presented in Table-3.

Table-3: Average Annual Growth Rates of Area, Yield and Production of Wheat: 2003-04 to 2013-14

Country/ Province	Area	Yield	Production
	----- Per cent per annum -----		
Pakistan	0.8	1.3	2.1
Punjab	0.6	1.0	1.6
Sindh	2.5	3.0	5.6
KPK	0.1	1.9	1.9
Balochistan	1.2	0.7	1.9

Note: The growth rates have been worked out by estimating the equation, $Y=a(1+r)^x$, through Ordinary Least Squares (OLS) method from the data given in Annex-I.

3.3 Medium Term Changes: 2008-09 to 2013-14

17. The annual growth rates for the period 2008-09 to 2013-14 show that the wheat production has increased @ 0.9 per cent solely due to 1.4 per cent improvement in yield as the acreage has marginally been declined by 0.5 per cent at the country level. Provincial growth rates are presented in Table-4.

Table-4: Average Annual Growth Rates of Area, Yield and Production of Wheat: 2008-09 to 2013-14

Country/Province	Area	Yield	Production
	----- Per cent per annum -----		
Pakistan	-0.5	1.4	0.9
Punjab	-0.7	1.4	0.6
Sindh	0.7	0.5	1.1
KPK	-0.2	2.6	2.4
Balochistan	-0.1	3.7	3.7

Note: The growth rates have been worked out by estimating the equation, $Y=a(1+r)^x$, through the Ordinary Least Squares (OLS) method from the data given in Annex-I.

3.4 Short-term Changes: 2012-13 Vs 2013-14

18. Wheat production from 2013-14 crop is reported at 25.364 million tonnes at country level, showing 4.8 per cent increase over 24.200 million tonnes in 2012-13. Higher production is solely attributed to rise in area by 4.8 percent as yield remained same as last year. The provincial area, yield and production of wheat are presented in Table-5 and also depicted in Figures 3 & 4.

Table-5: Area, Yield and Production of Wheat: 2012-13 and 2013-14 Crops

Country/ Province	Area		Changes	Yield per hectare		Changes	Production		Changes
	2012-13	2013-14	Per cent	2012-13	2013-14	Per cent	2012-13	2013-14	Per cent
	-- 000 hectares --			-----Kgs ----			-- 000 tonnes --		
Pakistan	8660.2	9076.3	4.8	2794	2794	0.0	24200.4	25363.5	4.8
Punjab	6511.3	6778.4	4.1	2855	2821	-1.2	18587.0	19123.0	2.9
Sindh	1058.4	1121.6	6.0	3400	3568	4.9	3598.7	4002.1	11.2
KPK	727.3	776.8	6.8	1714	1755	2.4	1246.7	1363.1	9.3
Balochistan	363.2	399.5	10.0	2115	2191	3.6	768.0	875.3	14.0

Source: Annex-I.

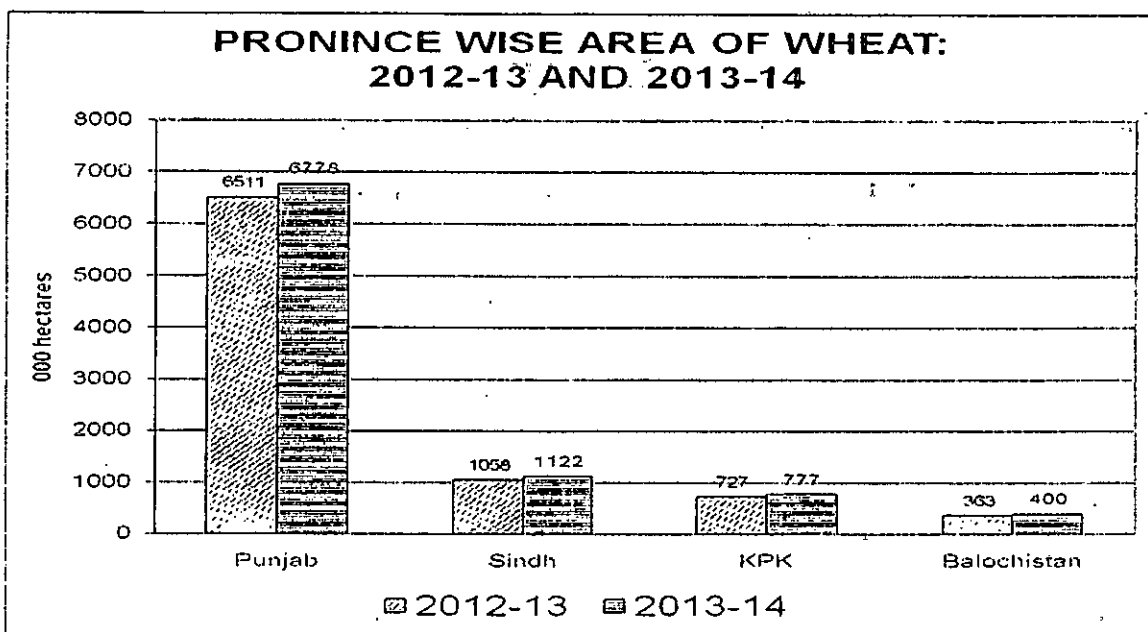


Figure-3

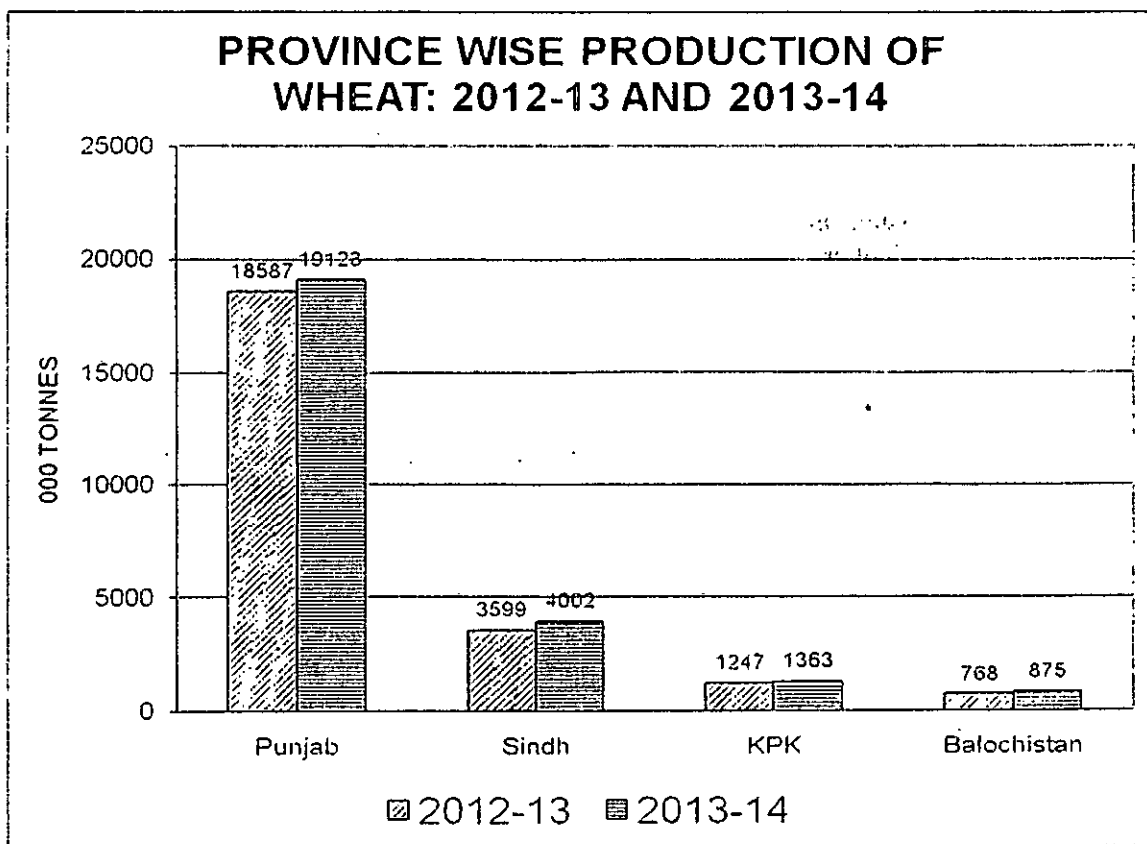


Figure-4

3.5 Factors Responsible for Changes in Area and Production: 2013-14 Crop

19. The Provincial Agriculture Departments of the Punjab and Sindh have reported following factors responsible for changes in area and production during 2013-14:

Punjab

Area

20. It shows an overall increase of 4.1 per cent over the previous year which is attributed to the following factors:

1. Attractive market rates induced the growers to put more area under crop.
2. Fallow area was also available due to early maturity of cotton crop.

Production

21. The overall production shows an increase of 2.9 percent over the previous year which is attributed to:

1. Corresponding increase in area under the crop.
2. In un-irrigated area, growth of crop was affected due to less rains received comparatively.

Sindh

Area

1. Due to pest attack, cotton crop was harvested earlier, therefore, more area came under wheat crop cultivation.
2. Timely availability of irrigation water at sowing time.

Production

1. Production increased due to increase in area
2. Production increased due to satisfactory availability of inputs i.e Seed, Fertilizer etc.

3.6 Important Wheat Producing Districts

22. The district of Bahawalnagar is on the top in wheat production producing more than one million tonnes of wheat per annum. The districts producing more than 500 thousand tonnes per annum are R.Y.Khan, Faisalabad, Muzaffargarh, Bahawalpur, Vehari, Jhang, Okara, Gujranwala, Sheikhpura, Khanewal, Sialkot, Lodhran, Sargodha, Kasur, Pakpattan, and T.T.Singh. These 17 districts produce 50 per cent of total wheat production in Pakistan while their share in area is estimated at 45 per cent. Multan, Layyah, Hafizabad, D.G Khan, Sahiwal, Rajanpur, Mianwali Bhakhar Narowal, M.B. Din and Nankana Sahib from the Punjab and Khairpur, NausheroFeroz, Ghotki and Sanghar from Sindh, Swat and Swabi from KPK, Nasirabad and Jaffarabad from Balochistan are other important wheat producing districts in the country. The districts have been arranged in descending order of wheat production in Annex-III.

3.7 Targets Vs Achievements: 2013-14 Crop

23. Wheat production target for 2013-14 crop was at 24.849 million tonnes from an area of 8.885 million hectares by the provincial governments. However, the production of wheat is reported at 25.364 million tonnes, which is 2.1 per cent more than the target. The production target could be achieved due to over achievement of 2.2 per cent in area inspite of 0.1 per cent decline in yield. Provincial details on area, yield and production may be seen in Table-6 and also depicted in Figures 5 and 6.

Table-6: Targets Vs Achievements in Area, Yield and Production of Wheat: 2013-14 Crop

Country/ Province	Area		Deviation from target	Yield per hectare		Deviation from target	Production		Deviation from target
	Targets	Achievements		Targets	Achievements		Targets	Achievements	
	000 ha		Per cent	Kgs		Per cent	000 tonnes		Per cent
Pakistan	8884.5	9076.3	2.2	2797	2794	-0.1	24849.0	25363.5	2.1
Punjab	6693.4	6778.4	1.3	2839	2821	-0.6	19000.0	19123.0	0.6
Sindh	1100.0	1121.6	2.0	3636	3568	-1.9	4000.0	4002.1	0.1
KPK	727.0	776.8	6.8	1576	1755	11.3	1146.0	1363.1	18.9
Balochistan	364.1	399.5	9.7	1931	2191	13.5	703.0	875.3	24.5

Sources: 1. For targets: (a) Provincial Agriculture Departments of Punjab and Sindh

(b) Average estimates of area & production of last three years for KPK and Balochistan

2. For Achievements: Annex-I.

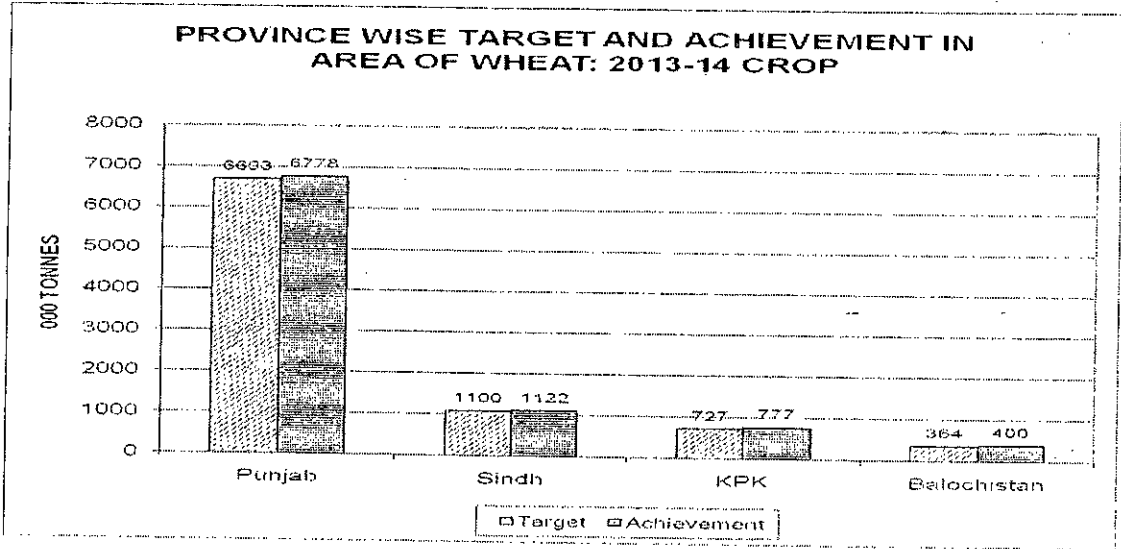


Figure-5

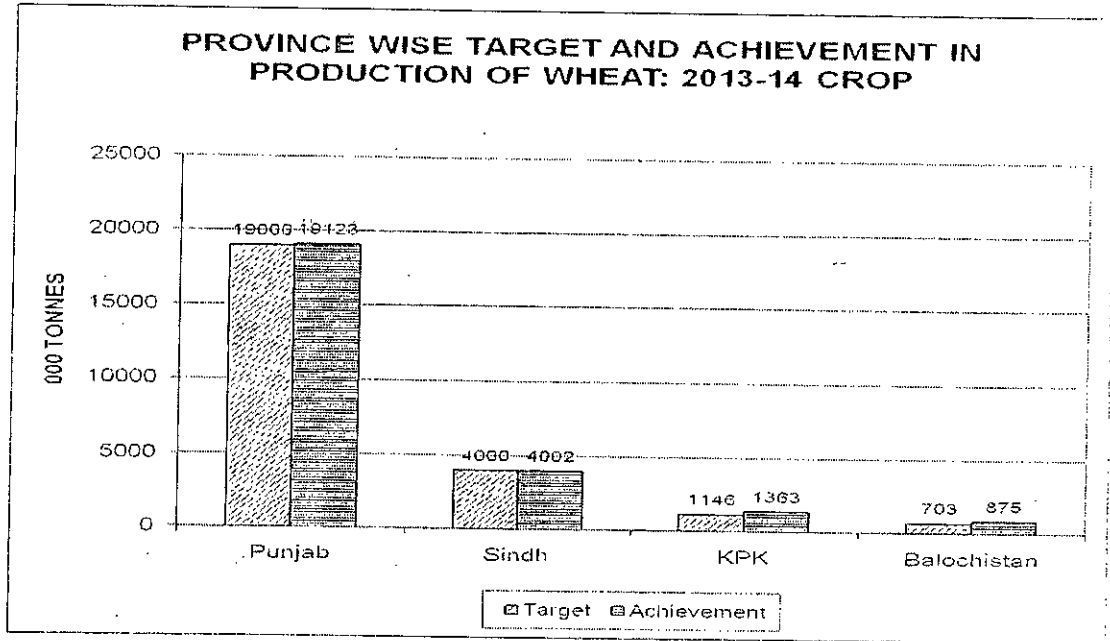


Figure-6

4. FACTORS CONSIDERED FOR PRICE POLICY ANALYSIS

24. Following major factors are considered for the analysis of the price policy of wheat crop:
- i) Domestic Demand, Supply, Stocks and Price Situation
 - ii) World Production, Consumption, Stocks and Trade Situation
 - iii) International Price
 - iv) Export and Import Parity Prices
 - v) Cost of Production
 - vi) Comparative Economics of Competing Crops
 - vii) Nominal and Real Support and Market Prices
 - viii) Economic Efficiency of Wheat Production in Pakistan
 - ix) Producer Prices of Wheat in Selected Countries
 - x) Impact of Increase in Support Price of Wheat on Consumer Price Index (CPI) and Average Household Expenditure

4.1 Domestic Demand, Supply, Stocks and Price Situation

4.1.1 Domestic Demand, Supply and Stocks

25. With the domestic production of 25.36 million tonnes from 2013-14 crop and carryover stocks of 1.18 million tonnes, total wheat supply in the country for 2014-15 consumption year becomes 26.54 million tonnes. This supply may slightly increase if production of wheat in Azad Kashmir and Gilgit Baltistan estimated at 0.25 million tonnes is added. Thus total availability of wheat in the country would be 26.79 million tonnes.

26. The estimation of consumption requirement of wheat for 2014-15 is based on its actual average per capita availability of 116 kgs per annum as worked by API through balance sheet method and 120 kgs per annum as per Planning Commission. Using total population of 197.77 million including AJK, GB and Afghan Refugees and 120 kgs per annum, human consumption requirement for 2014-15 is estimated at 23.73 million tonnes. Adding allowance for seed, feed and wastage @ 10 per cent of production and strategic reserve of one million tonne, gross

domestic requirements for 2014-15 wheat year works to 27.29 million tonnes. However, this requirement would be 26.50 million tonnes if estimated at per capita availability of 116 Kgs per annum as per API analysis based on balance sheet method (Annex-IV). The calculations are presented in Table -7.

Table-7: Domestic Requirements of Wheat for 2014-15 Wheat Year: (May-April)

S.No.	Item	Based on annual per capita	
		Consumption	Availability
		120 Kgs	116 Kgs*
1.	Population	197.77	197.77
2.	Human consumption requirement	23.73	22.94
3.	Allowance for seed, feed and wastage @ 10 per cent of total production	2.56	2.56
4.	Food Security reserves	1.00	1.00
5.	Total requirements	27.29	26.50

* Annex-IV.

4.1.2 Post harvest prices

27. Monthly wholesale prices of wheat during the post-harvest months of 2013-14 crop in the major producing area markets of the Punjab and Sindh are presented in Table-8.

Table-8: Monthly Average Wholesale Prices of Wheat in Main Producing Area Markets of Punjab and Sindh during Post-harvest Season of 2013-14 Crop

Markets	Apr	May	June	Jul	Average
Punjab					
Lahore	-	1266	1261	1265	1264
Faisalabad	-	1210	1227	1225	1221
Gujranwala	-	1226	1205	1276	1236
Okara	-	1219	1228	1291	1246
Sargodha	-	1182	1253	1271	1235
Multan	-	1201	1220	1220	1214
D. G. Khan	-	1230	1231	1295	1252
Bahawalpur	-	1217	1265	1302	1261
R. Y. Khan	-	1230	1237	1247	1238
Average	-	1220	1236	1266	1241
Sindh					
Badeen	1240	1275	-	-	1258
Tharparker	1250	1275	-	-	1263
Umer kot	1238	1275	-	-	1257
Mirpurkhas	1255	1275	-	-	1265
Tando Allah Yar	1225	1275	-	-	1250
Hyderabad	1250	1275	-	-	1263
Matiali	1245	1275	-	-	1260
Sanghar	1260	1275	-	-	1268
Nawabshah	1245	1275	-	-	1260
Khairpur	1250	1275	-	-	1263
Sukkur	1245	1275	-	-	1260
Sheikarpur	1225	1275	-	-	1250
Larkana	1235	1275	-	-	1255
Average	1243	1275	-	-	1259

Sources: i) Directorate of Agriculture (E&M), Lahore, Punjab.
ii) DG Agriculture Extension Hyderabad, Sindh.

28. The perusal of the market-wise data reveals that the monthly average wholesale prices of wheat in main producing areas of Punjab were above the support price of Rs 1200 per 40 Kgs during the post harvest period.

29. According to the price data of wheat in different markets of Sindh provided by D.G Agriculture Extension Hyderabad, the prices of wheat were higher than support price in open

market. It was difficult for the Government Food Department to purchase at support price of Rs 1200 per 40 kgs. Resultantly, the government of Sindh increased the support price of wheat during the post harvest period from Rs 1200 to Rs 1250 per 40 kgs. This increase further boost the wheat market and the prices surpassed the next level of support price in Sindh. The monthly average prices ranged between Rs 1243 to 1275 per 40 kgs during April and May 2014 in Sindh.

4.2 World Production, Consumption, Stocks and Trade Situation

30. The data on world production, consumption, stocks and trade situation from 2011-12 to 2014-15 are presented in Table-9.

Table-9: World Wheat Situation: 2011-12 to 2014-15

Items	2011-12	2012-13	2013-14 (Estimated)	2014-15 (Forecast)
Million tonnes.....			
Opening stocks	194	191	170	187
Production	695	655	713	717
Total Supply	889	847	883	904
Consumption	698	677	695	709
Closing stocks	191	170	188	195
Trade	145	141	155	147

Source: Grain Market Report, International Grains Council, London, September 25, 2014
GMR No 448.

31. The world wheat production in 2013-14 is estimated at 713 million tonnes, 58 million tonnes higher than that of last year. After adding the opening stocks of 170 million tonnes, the world supply of wheat in 2013-14 is estimated at 883 million tonnes, 36 million tonnes higher than the last year. Due to higher production, the closing stocks are estimated to significantly increase to 187 million tonnes in 2013-14.

32. According to the International Grains Council London, the global wheat production in 2014-15 is forecast for 717 million tonnes due to larger crop in Russia, the EU, CIS and China. Accounting for the opening stocks of 188 million tonnes, total supply is anticipated at 904 million tonnes against the consumption forecast of 709 million in 2014-15. Resultantly, the closing stocks forecast to further increase to 195 million tonnes. If this forecast become true, the wheat market is likely to remain bearish during the 2014-15 year.

4.3 International Prices of Wheat

33. Average Fob (Gulf) prices of US Hard Red Winter from 2004-05 to 2012-13 are presented in Annex-V. The prices of US Hard Red Winter showed a volatile pattern during the period under review. The prices averaged at US \$ 154 per tonne during 2004-05. The world prices of wheat followed a rising trend and averaged at US \$ 361 per tonne in 2007-08, the highest level of price during the period under review. However, the prices fell to US \$ 270 per tonne in 2008-09 and \$ 209 per tonne in 2009-10. The prices again trended upward to \$ 316 in 2011-12 but slightly declined to \$ 301 per tonne in 2011-12. In 2011-12, the prices increased to \$ 347 but decreased again to \$ 318 during 2013-14. In the first quarter of 2014-15, international price has averaged at US \$ 286 per tonne.

4.4 Import and Export Parity Prices

34. The import and export parity prices have been calculated on the basis of fob (Gulf) prices of Hard Red Winter US wheat while the export parity price on the basis of both Fob and average price of actual export price of Pakistani wheat. The results of the calculations have been summarized in Table-11 and 12, while the detail of these calculations may be seen at Annexes-VI and VII.

Table -10: Import Parity Price of Wheat on the Basis of US No 2 Hard Red Winter Fob (Gulf)

Item	Jul-Sep 2014-15	During 2013-14	During 2011-12 to 2013-14
Fob Gulf price (US \$ per tonne)	286	318	322
Import parity price of wheat (Rs. per 40 kgs):			
i) if consumed at Multan	1520	1657	1674
ii) If consumed at Karachi	1440	1577	1594

Table-11: Export Parity Prices of Wheat on the Basis of US No.2 Hard Red Winter Fob (Gulf)

Item	Jul-Sep 2014-15	During 2013-14	During 2011-12 to 2013-14
Fob Gulf price assuming Fob Karachi (US \$ per tonne)	286	318	322
Export parity price at procurement centre (Rs. per 40 kgs)	994	1121	1137

Source Annex-VI to VII

4.5 Cost of Production

35. In formulating price proposals for the farm produce, the cost of production (COP) is one of the crucial considerations. However, the empirical estimation of a typical COP involves a number of conceptual and practical difficulties. These difficulties in general arise from the larger number of growers with diverse farming systems involving substantial variations in the agro-climatic conditions, cropping pattern, use level of inputs, adoption of farm technologies, cultural practices etc, resulting in varying crop yields and unit cost of production.

36. The cost of production of wheat for 2014-15 crop in the Punjab and Sindh have been estimated by adopting the input-output parameters used in the 2013-14 Wheat Policy Analysis Report alongwith the latest inputs prices and custom hiring rates of cultural operations, collected through mini field survey conducted by the API during June 2014 in the major wheat growing areas of the Punjab and Sindh. The inputs prices and custom hiring rates were also supplemented with the information provided by the representatives of the Provincial Governments and Farmers' Associations in the meeting of the API's Committee on wheat, held on June 23, 2014 at

Islamabad. The details of the COP estimates for the Punjab and Sindh for 2013-14 and 2014-15 crops are presented at Annex-VIII and IX, respectively while the summary of these is presented in Table-12.

Average Farmers' Cost of Production of Wheat: 2013-14 and 2014-15 Crops

37. The cost of production estimates of wheat in the Punjab and Sindh for 2013-14 and 2014-15 crops are summarized and presented in Table-12.

Table-12: Average Farmers' Cost of Production of Wheat: 2013-14 and 2014-15 Crops

Items	Units	2013-14 Crop	2014-15 crop	Increase in 2014-15 over 2013-14
Punjab				
1. Cost of cultivation	Rs/acre	30570	33765	3195
2. Yield				
a) Yield in kgs	Kgs/acre	1108	1108	-
b) Yield in maunds	40 kgs/acre	28	28	-
3. Cost of production at farm level	Rs/40 kgs	1104	1219	115
4. Marketing cost	Rs/40 kgs	30	30	-
5. Cost of production at market/ procurement centre				
a) With land rent	Rs/40 kgs	1134	1249	115
b) Without land rent	Rs/40 kgs	827	888	61
Sindh				
1. Cost of cultivation	Rs/acre	30054	33543	3489
2. Yield				
a) Yield in kgs	Kgs/acre	1113	1113	-
b) Yield in maunds	40 kgs/acre	28	28	-
3. Cost of production at farm level	Rs/40 kgs	1080	1205	125
4. Marketing cost	Rs/40 kgs	30	30	-
5. Cost of production at market/ procurement centre				
a) With land rent	Rs/40 kgs	1110	1235	125
b) Without land rent	Rs/40 kgs	841	912	71

Source: Annex-VIII and IX.

Punjab

38. The expected cost of cultivation of one acre of wheat in the Punjab during 2014-15 crop year is likely Rs 33765 including land rent (Table 12). The cost of producing wheat at farm gate is worked out at Rs 1219 per 40 kgs, provided that average yield is 1108 kgs per acre. Accounting for the marketing charges @ Rs 30 per 40 kgs, the market/procurement centre level cost of production comes out to Rs 1249, higher by Rs 115 (10 %) than the corresponding cost of Rs 1134 in 2013-14.

Sindh

39. Cost of growing one acre of wheat in Sindh during 2014-15 crop is likely to be Rs 33543, inclusive of land rent. Distributing this cost over the average yield of 1113 kgs per acre, the farm level cost of production comes to Rs 1205 per 40 kgs. Adding marketing cost @ Rs 30 per 40 kgs, the cost of producing and delivering 40 kgs wheat at market/procurement centre level would be Rs 1235, reflecting an increase of Rs 125 (11 %) over the last year's corresponding cost of production.

40. The increases in the cost of production of wheat for the 2014-15 crop in the Punjab and Sindh over the last year's cost are mainly attributed to the escalated hiring rates of ploughing, irrigation and harvesting & threshing. Moreover, the rise in land rent has also added substantially to the increase in cost of production. However, lower prices of phosphatic fertilizers and increased value of wheat bhoosa have partially offset the impact of rise in the cost of production of wheat for 2014-15 crop.

Cost of major farm inputs and operations

41. The cost of major operations and farm inputs in the total cost of cultivation of wheat in the Punjab and Sindh during 2013-14 and 2014-15 crops alongwith percent changes therein is presented in Table-13.

Table-13: Cost of Major Farm Operations/Inputs of Wheat: 2013-14 and 2014-15 Crops

Operations/inputs	2013-14	2014-15	Share in increased cost
	crop		
	---Rs/acre---		Per cent
Punjab			
1. Land preparation	3286 (9)	3530 (9)	8
2. Seed and sowing operations	3443 (10)	3655 (10)	7
3. Weedicides	551 (2)	630 (2)	2
4. Irrigation	2928 (8)	3434 (9)	16
5. Fertilizer including FYM	8545 (24)	8442 (21)	-3
6. Harvesting and threshing etc	6599 (18)	6946 (18)	11
7. Land rent	8500 (24)	10000 (25)	46
8. Others	2218 (6)	2629 (7)	13
9. Total cost	66070 (100)	69265 (100)	100
Sindh			
1. Land preparation	4713 (14)	5163 (14)	13
2. Seed and sowing operations	2821 (8)	2997 (8)	5
3. Interculture/weedicides	434 (1)	464 (1)	1
4. Irrigation	1955 (6)	2185 (6)	7
5. Fertilizer including FYM	8536 (25)	8545 (23)	Neg.
6. Harvesting and threshing etc	5835 (17)	6527 (17)	20
7. Land rent	7500 (23)	9000 (24)	42
8. Others	2258 (7)	2662 (7)	12
9. Total cost	34054 (100)	37543 (100)	100

Notes:

1. Rounding of figures may result in slight deviation;
2. Others include mark-up, management charges, land tax and drainage cess;
3. Figures in parenthesis are percent shares in total cost of cultivation.

Source: Annex-VIII & IX.

Punjab

42. The land rent is the major component in gross cost of cultivation of wheat in the Punjab during 2014-15 crop year, accounting for 25 per cent. The other constituents are as: Fertilizer including FYM (21 %), Harvesting and threshing (18 %), Seed and sowing operations (10 %), Land preparation and Irrigation (9 % each), Others (7 %) and Interculture//weedicides (2 %).

Punjab

38. The expected cost of cultivation of one acre of wheat in the Punjab during 2014-15 crop year is likely Rs 33765 including land rent (Table 12). The cost of producing wheat at farm gate is worked out at Rs 1219 per 40 kgs, provided that average yield is 1108 kgs per acre. Accounting for the marketing charges @ Rs 30 per 40 kgs, the market/procurement centre level cost of production comes out to Rs 1249, higher by Rs 115 (10 %) than the corresponding cost of Rs 1134 in 2013-14.

Sindh

39. Cost of growing one acre of wheat in Sindh during 2014-15 crop is likely to be Rs 33543, inclusive of land rent. Distributing this cost over the average yield of 1113 kgs per acre, the farm level cost of production comes to Rs 1205 per 40 kgs. Adding marketing cost @ Rs 30 per 40 kgs, the cost of producing and delivering 40 kgs wheat at market/procurement centre level would be Rs 1235, reflecting an increase of Rs 125 (11 %) over the last year's corresponding cost of production.

40. The increases in the cost of production of wheat for the 2014-15 crop in the Punjab and Sindh over the last year's cost are mainly attributed to the escalated hiring rates of ploughing, irrigation and harvesting & threshing. Moreover, the rise in land rent has also added substantially to the increase in cost of production. However, lower prices of phosphatic fertilizers and increased value of wheat bhoosa have partially offset the impact of rise in the cost of production of wheat for 2014-15 crop.

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3. Weedicides	551 (2)	630 (2)	2
4. Irrigation	2928 (8)	3434 (9)	16
5. Fertilizer including FYM	8545 (24)	8442 (21)	-3
6. Harvesting and threshing etc	6599 (18)	6946 (18)	11
7. Land rent	8500 (24)	10000 (25)	46
8. Others	2218 (6)	2629 (7)	13
9. Total cost	86070 (100)	89265 (100)	100
Sindh			
1. Land preparation	4713 (14)	5163 (14)	13
2. Seed and sowing operations	2821 (8)	2997 (8)	5
3. Interculture/weedicides	434 (1)	464 (1)	1
4. Irrigation	1955 (6)	2185 (6)	7
5. Fertilizer including FYM	8536 (25)	8545 (23)	Neg.
6. Harvesting and threshing etc	5835 (17)	6527 (17)	20
7. Land rent	7500 (23)	9000 (24)	42
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1. Rounding of figures may result in slight deviation;
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Source: Annex-VIII & IX.

Punjab

42. The land rent is the major component in gross cost of cultivation of wheat in the Punjab during 2014-15 crop year, accounting for 25 per cent. The other constituents are as: Fertilizer including FYM (21 %), Harvesting and threshing (18 %), Seed and sowing operations (10 %), Land preparation and Irrigation (9 % each), Others (7 %) and Interculture//weedicides (2 %).

Sindh

43. In Sindh, land rent is the major constituent in the total cost of cultivation during 2014-15 crop season, accounting for 24 per cent. The other ingredients of the cost of cultivation are: Fertilizer including FYM (23 %), Harvesting & threshing operations (17 %), Land preparation (14 %), Seed and sowing operations (8 %), Others (7 %), Irrigation (6 %) and Interculture/weedicides (1 %).

4.6 Comparative Economics of Wheat and Competing Crops

44. Farmers allocate farm resources among the various competing farm enterprises keeping in view certain economic indicators more specifically output-input ratio, gross cost, gross income, gross margin, net income, returns to purchased inputs, revenue per acre-inch of irrigation water and revenue per day of crop duration, etc. These indicators provide useful insights about the options farmers consider before deciding on allocation of land and other resources. Largely, the farm management data and output-input prices help in constructing the indicators, which change over time and space, necessitating due care in the empirical estimation.

45. Wheat is grown under both the irrigated and rain-fed conditions throughout the country. Over 90 per cent of the production at the country level however, comes from the irrigated regions where it competes with oilseed crops like canola and spring sunflower. It also faces indirect competition from sugarcane, an annual crop competing against both 'rabi' and 'kharif' crops. In such a situation, wheat combination with 'kharif' crops would need to be considered. The likely combinations in this context could be basmati + wheat, IRRI + wheat, cotton + wheat, cotton + sunflower and IRRI + sunflower.

46. The economics of wheat and competing crops has been analyzed in terms of output and input prices received and paid by the growers during 2013-14 at farm level.

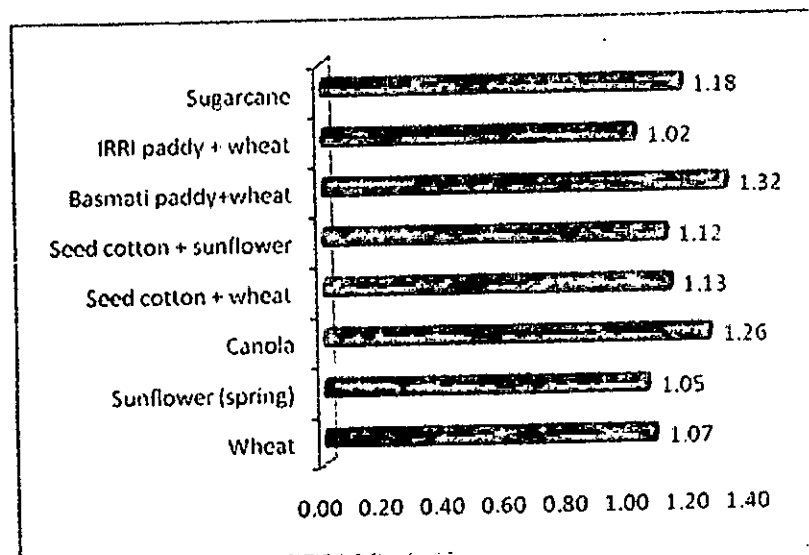


Fig-7 : Returns to Overall Investment in Punjab

Punjab

47. The summary of the analysis of various economic indicators reviewed particularly the output-input ratio and revenue per rupee of purchased inputs cost, day of crop duration and unit of irrigation water for the Punjab is given in the following lines:

Table-14: Economics of Wheat and Competing Crops at Prices Realized by the Growers in the Punjab: 2013-14 Crops

Province / crops /crop combination	Output- input ratio	Revenue per		
		Rupee of purchased inputs cost	Crop day	Acre-inch of water used
.....Rupees.....				
Wheat	1.07	2.8	214	3210
Sunflower (spring)	1.05	2.5	224	1836
Canola	1.26	3.5	161	2231
Cotton + wheat	1.13	3.1	228	2811
Cotton + sunflower	1.12	2.9	232	2215
Basmati + wheat	1.32	3.1	288	1481
IRRI + wheat	1.02	2.4	209	1019
Sugarcane	1.18	3.7	222	1825

Source: Annex-X.

48. Wheat crop has shown better performance during 2013-14 and farmers received a small margin over cost of wheat production (by 7%). However, this performance is relatively lower than the previous year wherein wheat returned 16% to the grower for the investment in wheat cultivation. Wheat crop performed better than sunflower in terms of all the economic criteria adopted except revenue per crop day (Fig-8).

49. Canola farming outcompeted wheat crop in terms of overall investment and returns to purchased inputs with a great margin. However, wheat performed much better than the earlier in terms of crop duration and irrigation water.

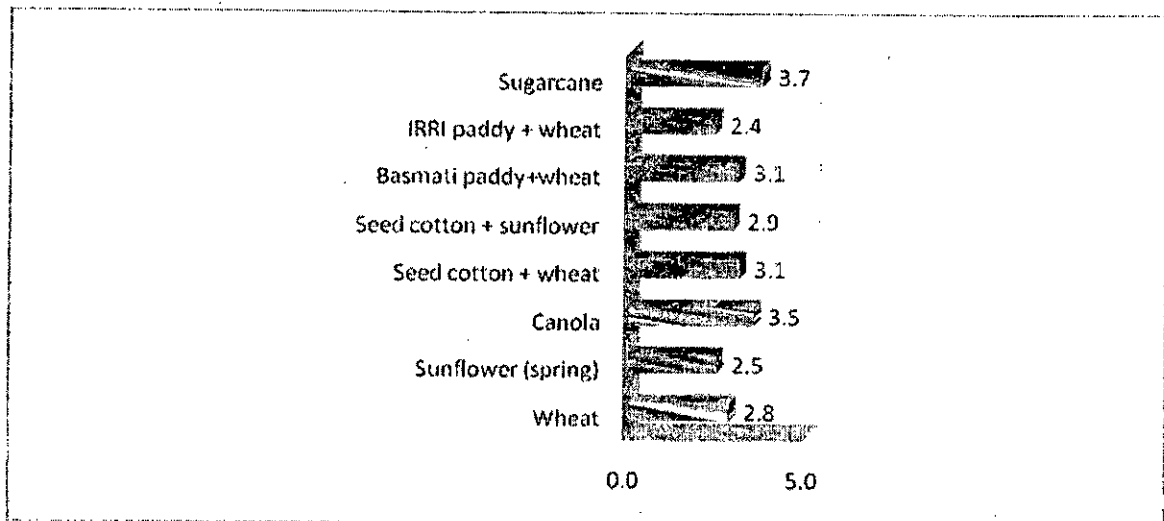


Fig-8 : Returns to Purchased Inputs in the Punjab

50. Under the indirect competition scenario, wheat combination with basmati performed much better in terms of returns to overall investment and crop duration. The sugarcane on the other hand, did well as compared to rest of crop combinations more specifically in terms of return to purchased inputs. However, Sugarcane lagged behind cotton combinations with wheat and sunflower in the returns to irrigation water (Fig-9). This indicates that sugarcane growers got profitable prices for their crop during 2013-14.

51. The IRRI + wheat combination was out competed by sugarcane in terms of all the economic indicators reviewed. Amongst the crop combinations, the economic position of cotton

wheat rotation remained better in terms of returns to crop duration and irrigation water, while the combinations of basmati with wheat performed better in returns to overall investment and crop duration, respectively.

Sindh

The economics of Wheat and competing crops at prices realized by the growers for 2013-14 Crops in Sindh has been analyzed against various economic indicators including the output-input ratio and revenue per rupee of purchased inputs cost, day of crop duration and unit of irrigation water and presented below:

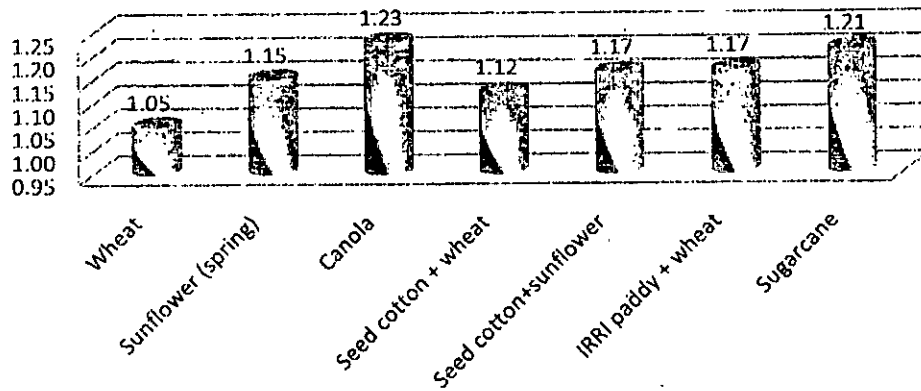


Fig- 9: Returns to Overall Investment in Sindh

In Sindh, the overall economic returns to wheat crop remained lower than rabi oilseed crops during 2013-14 (Fig-9). Also, like in the Punjab, these returns (5%) remained below the previous year level (10%). In respect of all economic indicators except irrigation water, sunflower performed much better than wheat. Although, canola performed much better in terms of overall investment and purchased inputs, however, wheat's returns to the grower were significantly better than the earlier in terms of crop duration and irrigation water.

Table-15: Economics of Wheat and Competing Crops at Prices Realized by the Growers in Sindh: 2013-14 Crops

Province / crops /crop combination	Output-input ratio	Revenue per		
		Rupee of purchased inputs cost	Crop day	Acre-inch of water used
.....Rupees.....				
Wheat	1.05	2.8	198	2972
Sunflower (spring)	1.15	2.8	249	2041
Canola	1.23	3.5	161	2231
Cotton + wheat	1.12	3.2	211	2952
Cotton + sunflower	1.17	3.6	233	2445
IRRI + wheat	1.17	3.1	226	1198
Sugarcane	1.21	3.7	221	1520

54. In case of indirect competition, sugarcane performed much better than all other combinations in respect of returns to overall investment and purchased inputs. Also, sugarcane's performance was better to cotton + wheat combination in terms of crop duration and against the IRRI + wheat combination in terms of irrigation water (Table-15). Cotton's combinations paid returns to grower much higher against the sugarcane in terms of irrigation water while the cotton + sunflower pattern gave higher returns in context of crop duration.

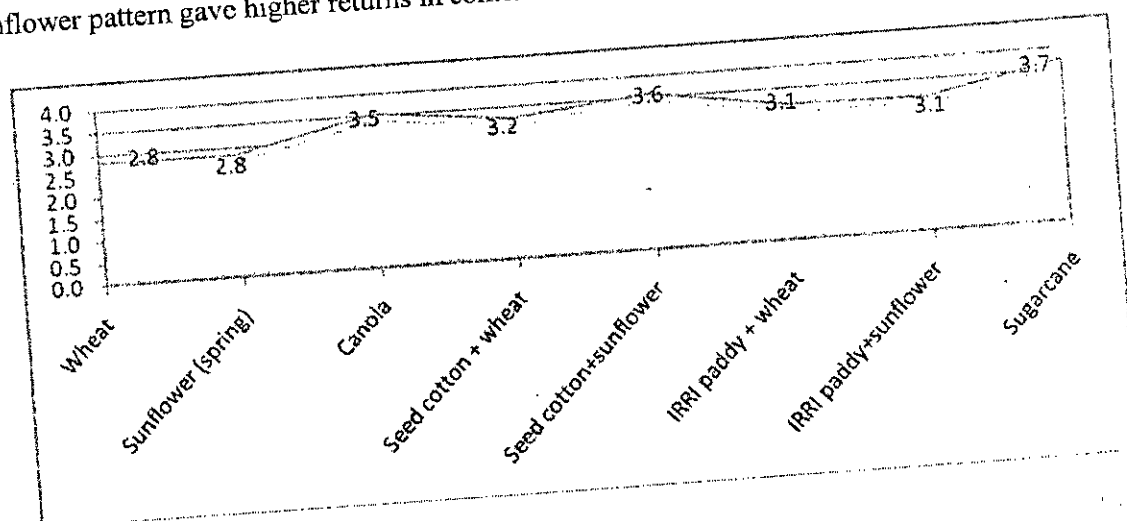


Fig-10 : Returns to Purchased Inputs in Sindh

4.7 Nominal and Real Prices of Wheat

55. The purchasing power of a certain commodity is influenced by the fluctuations in its price in relation to general price level in the economy. Such variations in the price also affect the welfare and real income of its producers. To ascertain overtime changes in the purchasing power of wheat, the nominal support and market prices of the crop during 2007-08 to 2013-14 have been deflated by the corresponding Consumer Price Index (CPI), the most common measure of inflation in the economy.

4.7.1 At Support Prices of Wheat

56. The analysis in terms of nominal and real support prices for the period 2007-08 to 2013-14 is presented in the Table-16:

Table-16: Nominal and Real Support Prices of Wheat: 2007-08 to 2013-14

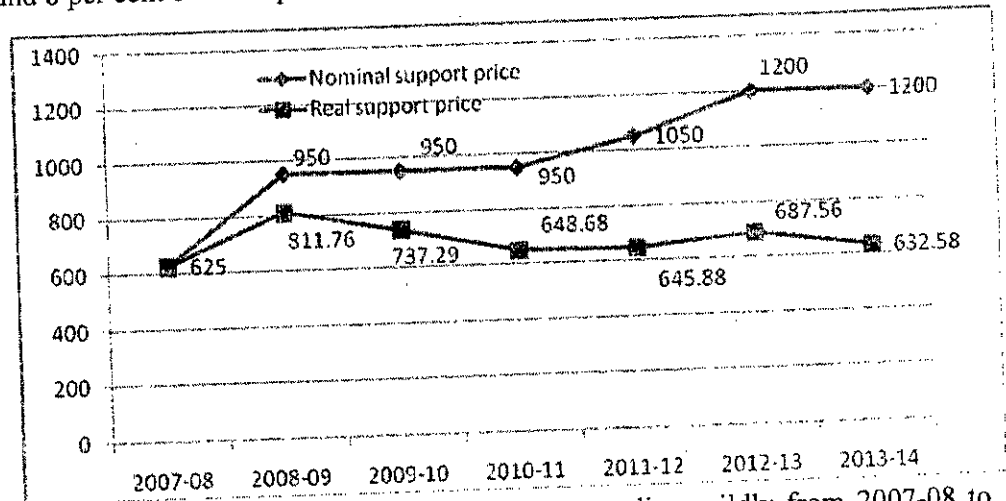
Year	Consumer Price Index (CPI)	Support Prices	
	2007-08=100	Nominal	Real
		Rs/40 Kgs	
1	2	3	4= $(3/2) \times 100$
2007-08	100.00	625	625.00
2008-09	117.03	950	811.76
2009-10	128.85	950	737.29
2010-11	146.45	950	648.68
2011-12	162.57	1050	645.88
2012-13	174.53	1200	687.56
2013-14	189.70	1200	632.58

Sources: Economic Survey of Pakistan: 2013-14.

57. The nominal support price of wheat was Rs 625 per 40 kgs in 2007-08. The price of wheat in nominal terms remained constant consecutively in the following three years 2008-09 to 2010-11. In 2011-12, nominal price evidenced an increasing trend, thus giving a cumulative push of 68 per cent over the base year 2007-08. The nominal price further increased to Rs 1200 in 2012-13 and remained constant for 2013-14. Variation in CPI during the period was evidenced quite high i.e. over 17 per cent in 2008-09 and 14 per cent in 2010-11 over the previous year.

This higher trend in CPI pushed back the real worth of crop which is illustrated by the declining trend in the real price line in next three years in a row (Fig-11). The real support price of wheat for 2013-14 crop estimated at Rs 632.58 per 40 kgs in terms of 2007-08 price, not only showing a decline of around 8 per cent over the previous, but dropped to the lowest level of the base year.

**Fig.11:
Nominal and
real support
price of
wheat**



58. As illustrated in Fig-11, the absolute gap

in the nominal and real support prices of wheat has been expanding mildly from 2007-08 to 2008-09 but a sharp expansion is evidenced afterwards. To retain the purchasing power of the wheat farmer at previous year level, the support price should have been at least Rs 1304 per 40 kgs.

4.7.2 At Market Prices of Wheat

59. The analysis in terms of real and nominal average market prices for the period 2007-08 to 2013-14 is set out in the Table-17.

60. Market prices of wheat have evidenced a consecutive change during the entire period under review. These prices remained lower than the support price throughout the period under review except 2007-08. After 2007-08, the market price could not gain an identical value as of support price and remained below at Rs 924 per 40 kgs in 2008-09. The price further declined to Rs 894 in 2009-10. However, the price took a reverse move and started upward direction i.e. gaining a 3 per cent value in 2010-1. In 2011-12, the real value of wheat further declined 3.5 per cent. The market price took a 20.22 per cent jump in 2012-13 despite a 7.36 per cent increase in CPI which is attributed mainly to 14.3 per cent increase in support price announced by the

government. This helped improvement in real value of the crop by 12%, the only 2nd highest price after 2008-09.

Table-17: Nominal and Real Market Prices of Wheat: 2007-08 to 2013-14

Crop year	Consumer Price Index (CPI) 2007-08=100	Market Prices	
		Nominal	Real
	Rs/ per 40 Kgs		3
1	2	3	4=(3/2)x100
2007-08	100.00	671	671.00
2008-09	117.03	924	789.54
2009-10	128.85	894	693.83
2010-11	146.45	919	627.52
2011-12	162.57	984	605.28
2012-13	174.53	1183	677.82
2013-14	189.70	1250	658.94

Sources: i) For CPI, Economic Survey of Pakistan: 2013-14.
ii) For Market prices, Directorates of Agriculture, Government of the Punjab and Sindh (Average of major producing markets).

61. The real market value of wheat remained below the nominal value during the entire period under review. As depicted in Fig-12, the absolute gap between both the prices widened with increasing rate as the years passed over. This widening gap between the two prices indicates that farmers are on the losing end of the game in context of the real purchasing power of the biggest commodity of the economy.

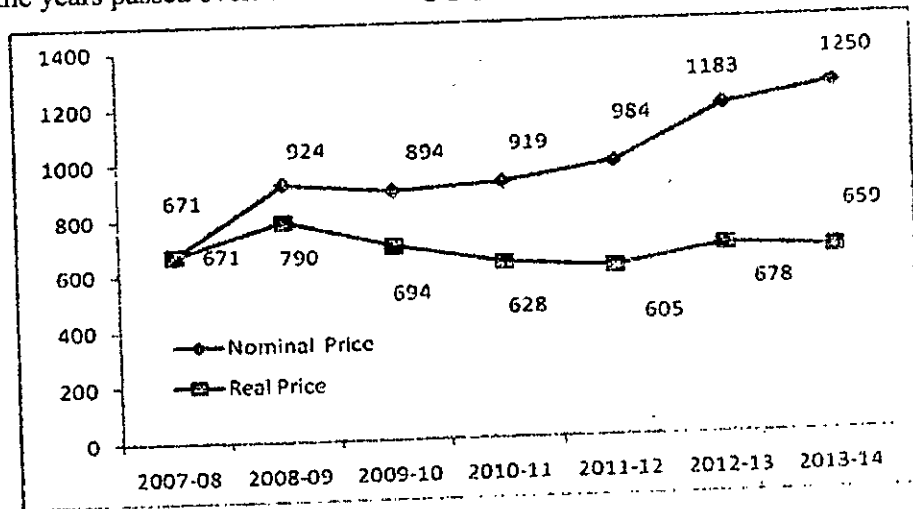


Fig. 12: Nominal and real market prices of wheat

62. If the market prices were averaged at Rs 1286 per 40 kgs, the farmers would have been ensured retaining the real purchasing power equivalent to 2012-13 level.

4.8 Economic Efficiency of Wheat Production in Pakistan

63. In Pakistan, wheat is important from both farmer as well as consumer point of view. A vast majority of farmers cultivate wheat and the crop occupies a significant proportion of the cropped area of the country.

64. Considerable economic resources are employed in wheat cultivation. Some of these are purchased with cash and are called traded inputs while others are called non-traded inputs because these are not purchased with cash. Traded inputs include seed, fertilizer, machinery, hired labour, tube well water etc. On the other hand, non-traded inputs comprise family labour, management charges, land rent and interest on capital invested in the crop. Economic efficiency of the referred resources used for producing wheat is normally assessed through three indicators. These are Nominal Protection Coefficient (NPC), Effective Protection Coefficient (EPC) and Domestic Resource Cost Coefficient (DRC). Their definitions and estimates for wheat are described in detail in the following paragraphs.

4.8.1 Nominal Protection Coefficient (NPC)

65. NPC is the ratio of the market price to the social price of a commodity. It examines the impact of domestic market price of a crop without any consideration to the distortions in the input prices. As a rule of thumb, if NPC is greater than one it means that local producers are protected through produce pricing policy. If it is less than one it means that domestic producers are not protected through pricing policy rather they are implicitly taxed. In this regard implicit taxation to a crop means outflow of resources from that crop.

66. Nominal Protection Coefficients for wheat production under import scenario are produced in Table-18. It is evident from the data in the referred table that NPC values for the Punjab province remained less than one throughout the period under analysis. It ranged between 0.66 and 0.89 which implies implicit taxation to the wheat growers of Pakistan.

Table - 18 Nominal and Effective Protection Coefficients for Wheat Under Import Scenario

Year	NPC		EPC	
	Punjab		Sindh	
2009-10	0.89	1.23	0.91	0.98
2010-11	0.66	0.79	0.63	0.66
2011-12	0.69	0.82	0.61	0.63
2012-13	0.67	0.79	0.64	0.77
2013-14	0.78	0.96	0.76	0.93

Source: Annex-XI.

Table -19: Nominal and Effective Protection Coefficients for Wheat Under Export Scenario

Year	NPC		EPC	
	Punjab		Sindh	
2009-10	1.52	3.59	1.55	3.24
2010-11	0.98	1.51	0.94	1.07
2011-12	1.04	1.98	0.93	1.11
2012-13	0.98	1.54	0.93	1.42
2013-14	1.14	2.23	1.10	2.21

Source: Annex-XII.

67. Similarly the NPC numeric for Sindh province remained less than one - ranged between 0.61 and 0.91. Wide fluctuation in NPC values may be attributed to volatile prices of wheat in the open market.

4.8.2 Effective Protection Coefficient (EPC)

68. Unlike NPC, EPC is the ratio of the difference between the revenue and the cost of tradable inputs at the private prices and the difference between the revenue and the tradable inputs cost at social prices. Thus EPC is the indicator of the net incentive and disincentive effects of all policies affecting prices of tradable inputs and output. EPC greater than one means that private profit is higher which would be without government intervention in the input/ output markets. In contrast, EPC less than one indicates that net effect of policies which change prices of inputs and output reduces private profit in wheat cultivation. In the former case there is domestic protection to the producers of wheat while in the later case the producers are implicitly taxed which discourages domestic production.

69. EPC in contrast with NPC, measures competitiveness of a crop by including prices of both inputs and the output. Table-18 and Table-19 present EPC estimates. Under import scenario EPC estimates remained less than one except in 2009-10 for Punjab (which may be due to relatively less increase in input prices as compared with the price of wheat). The EPC estimates are found above NPC estimates which are due to domestically suppressed prices of traded agricultural inputs.

70. It is visible from the data that NPC and EPC estimates significantly increased during 2013-14 over 2012-13 under export scenario. Its main reason is sharp decline in international price of wheat during 2013-14. International market price of wheat in 2012-13 was US\$ 347/tonne which decreased to US\$ 318/ Tonne in 2013-14. As social prices of wheat and inputs used are based on import and export price of wheat which are derived from the international price, NPC and EPC estimates changed in accordance with the international market price.

4.8.3 Domestic Resource Cost Coefficient (DRC)

71. DRC is the ratio of the social cost of domestic factors to value added at social prices. If DRC is less than one it implies comparative advantage as the domestic production can save foreign exchange at costs less than the corresponding cost of imports. When DRC is greater than one, it indicates comparative disadvantage in domestic production as in such situations import of a commodity is cheaper. However, it should be noted that DRC varies with changes in opportunity cost of non-tradable inputs as well as the social value of output. Based on cost of production of average farmers and import prices of wheat, DRC for Punjab and Sindh are estimated and produced in Table-20.

Table -20: Domestic Resource Cost Coefficient (DRC) for Wheat in Punjab and Sindh Provinces

Year	Under import situation		Under export situation	
	Punjab	Sindh	Punjab	Sindh
2009-10	0.52	0.52	1.52	2.60
2010-11	0.38	0.38	0.73	1.06
2011-12	0.46	0.45	1.12	1.92
2012-13	0.36	0.43	0.71	1.33
2013-14	0.51	0.52	1.19	2.19

Source: Annex-XI and XII.

72. It is visible from data in the Table-20 that under import scenario, Domestic Resource Cost Coefficients are substantially below one which indicate Pakistan's comparative advantage in wheat production. In other words, domestic resource cost would be less than the corresponding import cost if wheat is imported. Therefore, it would be an economic proposition to invest in wheat production and marketing at home rather than to import.

73. On the other hand under export situation DRC coefficients do not indicate comparative advantage as most of the time these are above one. It means that Pakistan should not promote wheat for export purposes.

4.9 Producer Prices of Wheat in Selected Countries

74. Wheat is widely grown all over the world. Major wheat producing countries provide to their growers a variety of incentives including the minimum guaranteed prices. For a comparative analysis of the producer prices in Pakistan with those of other countries, the relevant information has been obtained through internet.

75. The data on the minimum guaranteed producer prices of wheat for 2011-12 to 2013-14 crops in major wheat producing countries are presented in Table-21.

76. While comparing the producer prices of a commodity across the globe, following major factors are being kept in view:

- i) Quality of the produce;
- ii) Structure of input prices;
- iii) Policy objectives;
- iv) Fluctuations in exchange rates
- v) Stage of agriculture development;
- vi) Adjustment payments
- vii) Country-specific commodity programmes;
- viii) Counter-cyclical payments

77. The producer price of wheat in China is higher than support price of wheat in Pakistan by one-third during 2013-14. Similarly, in Australia premium white wheat Net Pool Return of Rs 1232 equivalent is also higher by 2.7%. While the minimum support price of wheat in India Rs 919 equivalent is less than support price of wheat in Pakistan by over 23 %. The Average Farm Price of US HRW wheat was also less by 12.2 per cent in 2013-14, from the minimum support price in Pakistan.

Table-21: Minimum Guaranteed Producer Prices of Wheat in Selected Countries: 2011-12 to 2013-14 Crops

Country	2011-12		2012-13		2013-14		Remarks
	US \$/ Tonne	Pak Rs/ 40 kgs	US \$/ Tonne	Pak Rs/ 40 kgs	US \$/ Tonne	Pak Rs/ 40 kgs	
Australia	272.00	970	331.00	1281	295.00	1232	Australian premium white (PW) wheat net Pool Return
Brazil	238.50	851	245.50	950	N.A	N.A	Minimum support price
China	294.12	1050	356.00	1378	385.43	1610	Minimum support price for white wheat
India	268.14	957	246.57	954	220.08	919	Minimum support price
USA	254.26	908	288.80	1118	252.43	1054	Average Farm Price of US Hard Red Winter Wheat
Pakistan	294.15	1050	310.08	1200	291.49	1200	Support price

Note: Exchange rates are one US\$ to Rs. 89.24 for 2011-12, Rs. 96.75 for 2012-13 and 104.417 for 2013-14.

N.A: Not available.

4.10 Impact of Increase in Support Price of Wheat on Consumer Prices Index (CPI) and Average Household Expenditure

78. Expenditure on wheat is an important item in average household budget. Accordingly, wheat and its products are included in the basket of goods used in estimating the Consumer Price Index (CPI). The support price of wheat affects both the household expenditure and CPI via consumer prices of wheat flour and its products. Any change in the price of wheat and general price level in the economy impacts on the household budget. The details of analysis are presented in Annex-XIII, while a summary of the results is provided in Table-22. Major findings of the analysis are discussed as under:

4.10.1 Impact on CPI

79. The Pakistan Bureau of Statistics (PBS) has estimated changes in CPI as a result of increase in support price of wheat over the existing level of Rs 1200 per 40 kgs in 2013-14. The analysis is based on the assumption that the market prices of wheat and wheat flour would increase in the same proportion as the support price. The impact of increase in the support price of wheat on CPI and average household expenditure are given in Table-22.

Table-22: Impact of Increase in Wheat Prices on CPI and Average Household Expenditure

Wheat price Rs per 40 kg	Rise in CPI Per cent	Increase in annual expenses on the basis of average per capita wheat availability @ 120 kgs per year	
		Per person	Per household**
		----- Rupees -----	
1200*			
1225	0.23	75	480
1250	0.31	150	961
1275	0.40	225	1442
1300	0.48	300	1923
1385	0.57	375	2403
1350	0.65	450	2884

Sources:

1. Pakistan Bureau of Statistics (PBS), Islamabad.
2. Annex-XIII.
- * Existing price for 2013-14 wheat crop.
- ** HH size 6.4.

80. It is evident from the above Table that every increase of Rs 25 per 40 kgs over the existing support price of wheat is expected to raise the CPI by 0.23 per cent, other things remaining the same. In case the support price of wheat is enhanced by Rs 50, Rs 100 and Rs 150 per 40 kgs, the CPI is likely to rise by 0.31, 0.48 and 0.65 per cent, respectively.

81. The above analysis is predicted on the assumption that prices of wheat flour and other products would increase in the same proportion as that of wheat. Moreover, increase in the CPI analyzed above is the direct effect of increase in support price of wheat. The indirect and multiplier effects, if any, resulting from the increase in support price of wheat should be over and above the estimated changes in CPI.

4.10.2 Impact on Household Expenditure

82. According to the Household Integrated Economic Survey (HIES) 2011-12 by the PBS, the average household in Pakistan consists of 6.41 members. Taking the annual per capita consumption of wheat at 120 kgs and average household size of 6.41 members, the impact of selected increases in the support price of wheat on the average household expenditure has been estimated in Annex-XIII and summarized in Table-22.

83. According to the above analysis, every increase of Rs 25 in the support price of wheat over the existing level of Rs 1200 per 40 kgs in 2013-14 would increase the annual expenditure by Rs 75 per person and Rs 480 per average household, other factors remaining constant. While the monthly expenses on wheat consumption due to every increase of Rs 25 per 40 kgs in the support price of wheat would rise by Rs 6.25 per person and Rs 40.1 per household. Likewise, the increase of Rs 100 per 40 kgs over the existing support price would bring additional expenditure of Rs 300 per capita per year and Rs 1923 per household. The above results are based on the assumption that increases in the support price of wheat are proportionately reflected in prices of wheat flour and other wheat products.

5. CONSULTATIVE MECHANISM IN PRICE FORMULATION OF WHEAT

84. Annual meeting of the API's Committee on wheat was held on 23rd June 2014 at Islamabad. The meeting was attended by the representatives of the wheat growers, growers' associations, chambers of agriculture, crop experts, policy makers and officials of the Federal and Provincial Governments concerned with wheat production and marketing. The meeting discussed the issues relating to food security, production and marketing of wheat including prices of inputs and cost of production at length. A number of constraints impacting on farm production in general and wheat in particular were also highlighted. Future prospects of wheat crop in the changing scenario also engaged the attention of the committee for some time.

85. The farming community showed serious concerns over the procurement system of wheat and complained about the malpractices in the system. Procurement Departments were not fair in

the distribution of Bardana. Bardana was issued only to influential growers, middlemen and to those who offered bribe. The growers demanded that the number of 8 bags per acre as assigned Bardana is not sufficient which may be increased to 12 bags per acre. The committee members emphasized that the price hike in phosphatic and potashic fertilizers has declined its use disturbing the balanced input use. They stressed that Inputs Price Regulatory Authority should be established for check and control of input prices. The participants of the meeting highly criticized the imposition of GST on agriculture. The GST at 16-18 per cent on agriculture has inflated the cost of production more than the benefits to the exchequer. The farming community stressed that the support price for the coming crop should increase to Rs 1400 per 40 kgs as the cost of wheat cultivation has increased due to sharp rise in prices of inputs and rates of cultural practices. The committee members emphasized the need for development of suitable technology package for sustainable production of wheat. There was a consensus in the meeting for having a programme which ensures incentive prices to the farmers during the harvest season in general and for bumper harvest in particular. The meeting also suggested a number of measures to improve the productivity and marketing system of wheat in the country.

6. PARITY BETWEEN PRICES OF FERTILIZERS AND WHEAT

86. The parity ratio indicates the quantity of wheat required to buy one nutrient unit of fertilizer. Higher the ratio, lower the purchasing power of wheat as more units of the commodity are needed to buy a given quantity of fertilizer and vice versa. A favourable parity will be required to stimulate fertilizer application towards optimal level. As the prices of inputs and outputs do not change proportionately, the parity ratios may favour or go against the output level. Hence, it is important to monitor and analyse the parity ratios between prices of wheat and fertilizer.

87. In order to study the overtime changes in the purchasing power of wheat in terms of nitrogen and phosphatic fertilizers, the parity ratios between fertilizer nutrients and wheat have been calculated for the period of 2004-05 to 2013-14 (Table-23).

**Table-23: Parity Between Market Prices of Fertilizers and Wheat:
2004-05 to 2013-14**

Year	Price of fertilizer		Market price of wheat	Units of wheat needed to buy one unit of fertilizer	
	N	P		N	P
----- Rupees per tonne -----			----- Units -----		
2004-05	19565	31474	10800	1.81	2.91
2005-06	21260	36180	10275	2.07	3.52
2006-07	22870	37220	11050	2.07	3.37
2007-08	23200	43750	15675	1.48	2.79
2008-09	30260	122290	23475	1.29	5.21
2009-10	34320	70240	22262	1.54	3.16
2010-11	37700	97987	22625	1.67	4.33
2011-12	68913	148600	23750	2.90	6.26
2012-13	74783	138324	29125	2.57	4.75
2013-14	78700	137330	31250	2.52	4.39

Sources: i) Directorates of Agriculture, Punjab and Sindh for market prices of wheat.
ii) Fertilizer prices have been worked out from the prices of Urea and DAP used in COP estimates by the API for the relevant crop year.

88. The parity ratios between market prices of fertilizer and wheat show that the quantity of wheat needed to buy one nutrient tonne of N fertilizer has fluctuated between 1.29 and 2.90 tonnes during the period under consideration. Similarly, the parity ratios between prices of wheat and those of phosphatic fertilizer have fluctuated from 2.79 to 6.26 units. The parity ratio for N-wheat prices generally hovered around 2 upto 2006-07. It dipped to the lowest level of 1.29 in 2008-09 owing to hike in wheat prices as a result of global food crisis. However, the parity ratio has jumped to the highest level of 2.90 in 2011-12 from 1.67 in 2010-11, a rise of 74 per cent. It implies that the purchasing power of wheat for N fertilizer has deteriorated by 74 per cent. However, due to appreciated market prices of wheat the position has gradually improved in the following two years as compared with the previous year and 2.52 units of wheat were required to buy one unit of N fertilizer during 2013-14.

89. The parity ratio for P-wheat prices generally hovered around 3 upto 2007-08. It jumped to 5.21 in 2008-09 due to hike in price of P fertilizer as a result of global energy crisis. In 2011-12, the parity ratio peaked at 6.26 owing to record high prices of P-fertilizer in the world. As compared to last year, the parity ratio for P-wheat prices was estimated to the record high level of 6.26, a rise of 45 per cent. In 2012-13, prices of P fertilizer and wheat moved in the opposite direction which again improved the purchasing power of wheat in terms of phosphatic fertilizer by 24 per cent. The situation further improved in favour of wheat during the current year due to appreciated prices of wheat in the market and 4.39 units of wheat were required to buy one unit of P fertilizer.

7. WHEAT YIELD AMONG COMPETING COUNTRIES

90. Wheat, the most popular cereal crop of the world covers the acreage that no other cereal crop can ever get. Global wheat during 2013 occupied an area of around 218.46 million hectares with a total production of 713.22 million tonnes. The world top 25 producing countries contribute 76 per cent of total area and 89 per cent of total production as narrated in Table-24.

91. In terms of wheat area, India is on the top with 29.7 million hectares followed by China with 24.1 million hectares and Russian Federation with 23.4 million hectares Pakistan lies at 8th number in this regard with almost 4 per cent global share.

**Table- 24: Wheat Area in Major Wheat Producing Countries Of the World:2013
Crop**

S.No.	Country	Area in million	per cent share in
		hectares	world area
1	India	29.6500	13.57
2	China, mainland	24.1000	11.03
3	Russian Federation	23.3714	10.70
4	United States of America	18.2742	8.37
5	Kazakhstan	12.9535	5.93
6	Australia	12.5000	5.72
7	Canada	10.4415	4.78
8	Pakistan	8.6930	3.98
9	Turkey	7.7726	3.56
10	Iran (Islamic Republic of)	7.0500	3.23
11	Ukraine	6.5660	3.01
12	France	5.3230	2.44
13	Morocco	3.2042	1.47
14	Argentina	3.1621	1.45
15	Germany	3.1282	1.43
16	Afghanistan	2.5529	1.17
17	Brazil	2.2097	1.01
18	Poland	2.1376	0.98
19	Spain	2.1219	0.97
20	Romania	2.0975	0.96
21	Algeria	1.9000	0.87
22	Italy	1.8885	0.86
23	Ethiopia	1.7063	0.78
24	Iraq	1.7000	0.78
25	United Kingdom	1.6150	0.74
Total		166.47	76.20
Total World Area		218.46	100.00

Source: FAO Production Year Book 2013

92. FAO reported wheat production during 2013 at 713.22 million tonnes. In terms of wheat production, China, is on the top with 121.72 million tonnes followed by India with 93.51 million tonnes and USA with 57.97 million tonnes. However, Pakistan stands at 8th in wheat production of the world. (Table-25)

Table-25: Wheat Production in Major Wheat Producing Countries Of the World:2013
Crop

S.No.	Country	Production in million tonnes	per cent share in world Production
1	China, mainland	121.7200	17.07
2	India	93.5100	13.11
3	United States of America	57.9667	8.13
4	Russian Federation	52.0908	7.30
5	France	38.6139	5.41
6	Canada	37.5296	5.26
7	Germany	25.0191	3.51
8	Pakistan	24.2310	3.40
9	Australia	22.8556	3.20
10	Ukraine	22.7930	3.20
11	Turkey	22.0500	3.09
12	Iran (Islamic Republic of)	14.0000	1.96
13	Kazakhstan	13.9408	1.95
14	United Kingdom	11.9210	1.67
15	Poland	9.4695	1.33
16	Egypt	9.4602	1.33
17	Argentina	8.0250	1.13
18	Spain	7.5979	1.07
19	Romania	7.2964	1.02
20	Italy	7.0090	0.98
21	Morocco	6.9340	0.97
22	Uzbekistan	6.8400	0.96
23	Brazil	5.7178	0.80
24	Afghanistan	5.1692	0.72
25	Bulgaria	5.0970	0.71
Total		636.86	89.29
Total World Production		713.22	100.00

Source: FAO Production Year Book 2013

93. In terms of yield per hectare, New Zealand lies at the top with 9102 kgs per hectare followed by Ireland with 8993 and Belgium with 8935 kgs per hectare. It is an alarming situation that Pakistan ranks at **62nd** in terms of yield at 2787 kgs per hectare while India lies at **53rd** position with 3154 kgs per hectare. However, the world average yield of wheat is 3265 kgs per hectare (Annex- XIV)

8. ISSUE PRICE OF WHEAT AND CONSUMER SUBSIDY

.94. For the year of 2013-14, the provincial governments of the Punjab, Sindh and Khyber Pakhtunkhwa fixed the issue price of wheat supplied to flour mills at Rs 1330, 1380 and 1350 per 40 kgs over the corresponding support price of Rs 1200 per 40 kgs. However, the Balochistan province supplied wheat to flour mills at the issue price of Rs 1460 per 40 kgs PASSCO issued wheat @ Rs 1520 per 40 kgs at full cost except to Utility Stores Corporation (USC). All the four provinces released 5.85 million tonnes of wheat to flour mills during May 2013 to April 2014. Details of wheat releases are given in Table-26.

Table-26: Release of Wheat to Flour Mills and Issue Price during 2013-14

Provinces	Release (Million tonnes)	Issue Price (Rs/40 kgs)
Punjab	4.020	1330
Sindh	1.310	1380
KPK	0.464	1350
Balochistan	0.058	1460
PASSCO	0.297	1520
Total	6.149	

* Including price of bag

.95. The issue price did not cover the full costs incurred on procurement, storage, marketing and unforeseen losses, shortage etc. Resultantly, the provincial governments had to bear huge amount of subsidy on procurement and supply of wheat to flour mills during the year. During 2013-14, the Provincial Governments subsidized wheat consumers over 24.80 billion as given in Table-27.

Table-27: Subsidy on Wheat 2013-14

Federal/Provinces	Subsidy (Rs in billion)
Punjab	19.30
Sindh	3.00
KPK	2.50
Balochistan	0.00
Total	24.80

Source: Provincial Food Departments.

96. According to the above data, total releases of wheat to the flour mills by the Provincial Food Departments and PASSCO come to 6.149 million tonnes. As per the information shared by the Provincial Food Departments, the consumer subsidy through releases to flour mills amount to Rs 24.80 billion for 2013-14. In addition, other subsidies for releases to USC and Ramzan packages by Federal Government add to Rs 1.60 billion and by the Punjab Government to Rs.10.40 billion. Thus the gross consumer subsidy on wheat releases by both the Federal and Provincial Governments is estimated at Rs 36.80 billion.

9. MAJOR WHEAT VARIETIES AND THEIR YIELD POTENTIAL

97. Seed is a material which is used for planting or regeneration purpose. It is a vital input in crop production. Seed is the cheapest input in crop production but key to agriculture progress. Crop status largely depends on the seed materials used for sowing. Response of other inputs in crop production depends on seed material used. The seed required for raising crop is quite small and its cost is so less as compared to other inputs. This emphasizes the need for increasing the areas under quality seed production. In this regard, over 50 wheat varieties have been evolved over the time by the wheat research institutes at country level. During the last decade, among 20 high yielding varieties, 15 have been developed for irrigated areas and 5 for rainfed areas in the Punjab while 6 varieties of wheat are released in Sindh.

98. The high yielding varieties of wheat released by Research Institutes in the Punjab for commercial cultivation in specified areas are presented in Table-28.

Table-28: Commercial wheat varieties and their yield potential in the Punjab

Sr. no	Variety	Year of release	Yield potential (kg/ha)
IRRIGATED AREA			
1	Bhakhar - 02	2002	6000
2	AS 2002	2002	6750
3	SH 2002	2002	6900
4	Seher 2006	2006	7000
5	Shafaq 2006	2006	6000
6	Freed 2006	2006	6000
7	Fsd. 2008	2008	6732
8	Lasani 2008	2008	6100
9	Meraj2008	2008	6200
10	NARC 2011	2009	5400
11	AARI 2011	2011	6563
12	Punjab 2011	2011	6893
13	Millat 2011	2011	6358
14	AAS 2001	2011	6500
15	Galaxy 2013	2013	7917
RAINFED AREAS			
16	GA 2002	2002	5200
17	Chakwal 50	2008	6000
18	BARS 2009	2009	5800
19	Dharabi 2011	2011	6000
20	NARC 2011	2011	6200

Source: Wheat Research Institute, AARI, Faisalabad.

99. The yield potentials of these varieties range between 5200 and 7917 kgs per hectare. The highest yield potential of galaxy 13, seher-06 and SH 2002 varieties are estimated at 7917 kgs, 7000 kgs and 6900 kgs per hectare followed by Punjab 2011 at 6893 kgs, AS 2002 at 6750 kgs, AARI 2011 at 6563 and ASS 2011 at 6500 kgs per hectare. If these varieties are adopted for vast cultivation in their specified areas with recommended production technology and timely supply of inputs and application, the yield per hectare would definitely improve at the country level.

100. High yielding wheat varieties evolved by Research Institute in Sindh along with their yield potential and other characteristics are presented in Table -29.

Table-29: Commercial wheat varieties and their yield potential in Sindh

S. No	Variety	Year of Release	Sowing Time		Maturity Days	Yield Potential ----- kgs/hectare-----	Average Farmer Yield	Protein Per cent
			Southern Sindh	Northern Sindh				
1	Moomal 2002	2002	1 st Nov. to 20 th Nov	7 th Nov. to 30 th Nov	136	6721	5436	15.50
2	T.D-1	2004	1 st Nov to 21 st Dec		120	7907	5930	14.20
3	Imdad-2005	2006	1 st Nov. to 20 th Nov.	7 th Nov. to 30 th Nov.	130	6919	5436	13.20
4	SKD-1	2006	1 st Nov to 21 st Dec		118	5930	5732	14.00
5	Benazir-13	2013	1 st Nov. to 10 th Dec.		126	8401	5930	12.00
6	Hamal-13	2013	Full month of November		130	7018	5634	13.96

Source: Wheat Research Institute, Sakrand, Sindh.

101. The yield potential of 6 varieties in Sindh is reported from 8401 to 5930 kgs per hectare. The average farmer yield of these varieties ranged from 5930 to 5436 kgs per hectare. The average farmer yield of Benazir-13 variety was recorded 5930 kgs per hectare which is the highest average yield among other varieties. Other high yield varieties are SKD-1 with yielding potential of 5732 kgs, Hamal-13 with 5634 kgs per hectare and Imdad-2005 with yield potential of 5436 kgs at the farmer's field.

10. WHEAT PROCUREMENT TARGETS AND ACHIEVEMENTS

102. The Federal Government fixed the wheat procurement target at 8 million tonnes for 2013-14 crop through Provincial Food Departments and PASSCO. Agency-wise targets with their achievements in provinces are shown in Table-30.

Table-30: Procurement Targets and Achievements: 2013-14 Wheat Crop

Province/agency	Target	Achievement	Achievement as per cent of target
	----- 000 tonnes -----		Per cent
Pakistan	8000.00	6130.11	76.63
- Provincial Food Departments	6400.00	5119.00	79.98
- PASSCO	1600.00	1011.11	63.19
Punjab	6016.50	4736.70	78.73
- Food Department	4500.00	3743.00	83.18
- PASSCO	1516.50	993.70	65.53
Sindh	1356.00	1220.95	90.04
- Food Department	1300.00	1215.00	93.46
- PASSCO	56.00	5.95	10.63
K.P.K	453.50	71.00	15.66
Food Department	450.00	71.00	15.78
PASSCO	3.500	0.00	0.00
Balochistan	174.00	101.46	58.31
Food Department	150.00	90.00	60.00
PASSCO	24.00	11.46	47.75

Source: PASSCO and respective Provincial Food Departments.

103. It may be seen from Table-30 that procurement agencies have achieved around 77 percent of the targets. The Food Departments achieved 80 percent of the target while the PASSCO achieved 63 percent of the procurement target.

104. In the Table-31 production of wheat and procurement of wheat as per cent of total wheat production and comparison of support price with the market price are presented for the years of 2006-07 to 2013-14. During the period under review, wheat production has ranged between 21.70 and 25.29 million tonnes. Procurement has been in the range of 3.92 to 9.23 million tonnes. The wheat procurement by the public sector has varied from 19 to 39 per cent of the respective production. The support price ranged between Rs 425 to 1225 per 40kgs The average market prices ranged between Rs 437 to Rs 1250 per 40 kgs during the period under review.

Table-31: Production, Procurement, Market and Support Prices of Wheat: 2006-07 to 2013-14

Crop year (May-April)	Production	Procurement	Procurement as percent of production	Support price	Average market price (May-July)*
	-----Million tonnes-----		Per cent	---Rupees per 40 kgs---	
2006-07	23.29	4.42	18.98	425	437
2007-08	21.70	3.92	18.06	625	659
2008-09	24.03	9.23	38.41	950	939
2009-10	23.31	6.71	28.00	950	902
2010-11	25.21	6.24	24.75	950	905
2011-12	23.34	9.07	38.86	1050	949
2012-13	24.30	5.94	24.44	1200	1165
2013-14**	25.29	6.13	24.24	1225	1250

* Average of Punjab and Sindh

** For production 2nd estimate and for support price average of Punjab and Sindh.

Source: PASSCO and Provincial Food Departments.

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Chairman, API

AREA, YIELD AND PRODUCTION OF WHEAT : 2003-04 TO 2013-14

Year	Punjab	Sindh	KPK	Balochistan	Pakistan
----- Thousand hectares -----					
AREA					
2003-04	6255.5	878.2	741.6	340.6	8215.9
2004-05	6378.9	887.4	748.6	327.9	8342.8
2005-06	6483.4	933.2	721.3	330.7	8468.5
2006-07	6432.8	982.2	754.3	385.1	8554.4
2007-08	6402.0	989.9	747.4	402.5	8541.8
2008-09	6836.2	1031.4	769.5	408.9	9046.0
2009-10	6913.5	1092.3	758.3	367.5	9131.6
2010-11	6691.0	1144.4	724.5	340.8	8900.7
2011-12	6482.9	1049.2	729.3	388.4	8649.8
2012-13	6511.3	1058.4	727.3	363.2	8660.2
2013-14	6778.4	1121.6	776.8	399.5	9076.3
----- kgs per hectare -----					
YIELD					
2003-04	2500	2473	1382	1948	2373
2004-05	2724	2827	1458	1944	2591
2005-06	2588	2947	1526	1965	2512
2006-07	2775	3471	1538	2264	2723
2007-08	2438	3446	1434	2158	2454
2008-09	2694	3432	1565	2123	2657
2009-10	2592	3390	1520	1459	2553
2010-11	2846	3747	1595	2139	2833
2011-12	2736	3585	1550	2170	2714
2012-13	2855	3400	1714	2115	2794
2013-14	2821	3568	1755	2191	2794
----- Thousand tonnes -----					
PRODUCTION					
2003-04	15639.0	2172.2	1025.2	663.4	19499.8
2004-05	17375.0	2508.6	1091.1	637.6	21612.3
2005-06	16776.0	2750.3	1100.6	649.9	21276.8
2006-07	17853.0	3409.2	1160.4	872.1	23294.7
2007-08	15607.0	3411.4	1071.8	868.6	20958.8
2008-09	18420.0	3540.2	1204.5	868.2	24032.9
2009-10	17919.0	3703.1	1152.5	536.2	23310.8
2010-11	19041.0	4287.9	1155.8	729.1	25213.8
2011-12	17738.9	3761.4	1130.3	842.7	23473.3
2012-13	18587.0	3598.7	1246.7	768.0	24200.4
2013-14	19123.0	4002.1	1363.1	875.3	25363.5

- Sources:
1. For 2003-04 to 2012-13: Agricultural Statistics of Pakistan, 2012-13 MNFS&R, Islamabad.
 2. For 2013-14: Second estimate of Punjab, Sindh, KPK and Balochistan provided by concerned Provincial Agriculture Departments.

AREA, YIELD AND PRODUCTION OF WHEAT : 2003-04 TO 2013-14

Year	Punjab	Sindh	KPK	Balochistan	Pakistan
AREA					
----- Thousand acres -----					
2003-04	15458.0	2170.1	1832.6	841.7	20302.3
2004-05	15762.9	2192.9	1849.9	810.3	20615.9
2005-06	16021.0	2306.1	1782.4	817.1	20926.5
2006-07	15896.1	2427.1	1864.0	951.7	21138.9
2007-08	15820.0	2446.1	1846.9	994.6	21107.6
2008-09	16892.9	2548.7	1901.5	1010.4	22353.6
2009-10	17083.9	2699.2	1873.8	908.1	22565.1
2010-11	16534.1	2827.9	1790.3	842.2	21994.5
2011-12	16019.9	2592.7	1802.2	959.8	21374.5
2012-13	16090.1	2615.4	1797.1	897.5	21400.1
2013-14	16750.1	2771.6	1919.6	987.2	22428.5
YIELD					
----- kgs per acre -----					
2003-04	1012	1001	559	788	960
2004-05	1102	1144	590	787	1048
2005-06	1047	1193	617	795	1017
2006-07	1123	1405	623	916	1102
2007-08	987	1395	580	873	993
2008-09	1090	1389	633	859	1075
2009-10	1049	1372	615	590	1033
2010-11	1152	1516	646	866	1146
2011-12	1107	1451	627	878	1098
2012-13	1155	1376	679	856	1130
2013-14	1142	1444	710	887	1131
PRODUCTION					
----- Thousand tonnes -----					
2003-04	15639.0	2172.2	1025.2	663.4	19499.8
2004-05	17375.0	2508.6	1091.1	637.6	21612.3
2005-06	16776.0	2750.3	1100.6	649.9	21276.8
2006-07	17853.0	3409.2	1160.4	872.1	23294.7
2007-08	15607.0	3411.4	1071.8	868.6	20958.8
2008-09	18420.0	3540.2	1204.5	868.2	24032.9
2009-10	17919.0	3703.1	1152.5	536.2	23310.8
2010-11	19041.0	4287.9	1155.8	729.1	25213.8
2011-12	17738.9	3761.4	1130.3	842.7	23473.3
2012-13	18587.0	3598.7	1221.0	768.0	24174.7
2013-14	19123.0	4002.1	1363.1	875.3	25363.5

Sources:

1. For 2003-04 to 2012-13: Agricultural Statistics of Pakistan, 2012-13 MNFS&R, Islamabad.
2. For 2013-14: Final estimate of Sindh, KPK and Balochistan and second estimate of Punjab provided by concerned Provincial Agriculture Departments.

**AREA, YIELD AND PRODUCTION OF WHEAT BY PROVINCE AND BY IRRIGATION:
2012-13 AND 2013-14**

Country/ Province	Area			Yield per hectare			Production		
	2012-13	2013-14	Change Per cent	2012-13	2013-14	Change Per cent	2012-13	2013-14	Change Per cent
	000 ha			Kgs			000 tonnes		
IRRIGATED									
PAKISTAN	7504.6	7900.0	5.27	3024	3031	0.23	22696.2	23946.6	5.51
PUNJAB	5852.1	6112.3	4.45	3025	3006	-0.65	17704.9	18372.0	3.77
SINDH	1011.1	1071.0	5.92	3523	3698	4.95	3562.5	3960.2	11.16
KPK	324.0	352.4	8.77	2200	2212	0.52	712.9	779.4	9.33
BALUCHISTAN	317.4	364.3	14.78	2256	2292	1.62	715.9	835.0	16.64
UNIRRIGATED									
PAKISTAN	1155.6	1176.3	1.80	1302	1205	-7.47	1504.2	1416.9	-5.81
PUNJAB	659.2	666.1	1.05	1338	1127	-15.74	882.1	751.0	-14.86
SINDH	47.3	50.6	6.98	765	828	8.20	36.2	41.9	15.75
KPK	403.3	424.4	5.24	1324	1375	3.89	533.8	583.7	9.74
BALUCHISTAN	45.8	35.2	-23.14	1138	1145	0.64	52.1	40.3	-22.65
TOTAL									
PAKISTAN	8660.2	9076.3	4.81	2794	2794	0.00	24200.4	25363.5	4.81
PUNJAB	6511.3	6778.4	4.10	2855	2821	-1.17	18587.0	19123.0	2.88
SINDH	1058.4	1121.6	5.97	3400	3568	4.94	3598.7	4002.1	11.21
KPK	727.3	776.8	6.81	1714	1755	2.36	1246.7	1363.1	9.34
BALUCHISTAN	363.2	399.5	9.99	2115	2191	3.62	768.0	875.3	15.77

Sources:

1. For 2003-04 to 2012-13: Agricultural Statistics of Pakistan, 2012-13 NFS&R, Islamabad.
2. For 2013-14: Final estimate of Sindh, KPK and Balochistan and Second estimate of the Punjab provided by concerned Provincial Agriculture Departments.

**DISTRICT- WISE AREA, YIELD AND PRODUCTION OF WHEAT
AVERAGE OF 2011-12 TO 2013-14**

ANNEX-III

Area: 000 ha
Production: 000 tonnes
Yield: kgs/hectare

S.No	Province/ District/ Agency	Area	Production	Share In total production	Yield	S.No	Province/ District/ Agency	Area	Production	Share in total production	Yield
PUNJAB						KPK					
1	Bahawalnagar	339.93	1011.02	4.15	2974.17	1	Swat	61.87	107.73	0.44	1741.28
2	R.Y.Khan	286.11	923.12	3.79	3226.48	2	Swabi	46.90	92.81	0.38	1979.10
3	Faisalabad	282.87	873.75	3.59	3088.87	3	Mansehra	37.48	89.60	0.37	2390.42
4	Muzaffargarh	298.11	835.15	3.43	2801.48	4	Mardan	42.56	87.78	0.36	2062.28
5	Bahawalpur	269.38	832.31	3.42	3089.78	5	Peshawar	36.42	80.39	0.33	2207.46
6	Vehari	251.17	816.25	3.35	3249.80	6	Charsadda	30.42	78.27	0.32	2573.38
7	Jhang	264.79	772.97	3.17	2919.14	7	Bunir	55.59	75.39	0.31	1356.13
8	Okara	215.42	768.27	3.16	3566.40	8	D.I.Khan	42.02	74.77	0.31	1779.19
9	Gujranwala	235.25	764.50	3.14	3249.70	9	Haripur	37.48	66.47	0.27	1773.45
10	Sheikhupura	225.00	671.10	2.76	2982.62	10	Nowshera	23.06	57.62	0.24	2498.84
11	Khanewal	204.49	625.63	2.57	3059.42	11	Kohat	33.36	48.29	0.20	1447.71
12	Sialkot	205.44	605.69	2.49	2948.19	12	Dir Lower	26.71	44.10	0.18	1651.19
13	Lodhran	188.85	593.09	2.44	3140.61	13	Dir Upper	21.28	35.04	0.14	1646.89
14	Sargodha	214.21	573.10	2.35	2675.45	14	Malakand	27.15	33.01	0.14	1215.97
15	Kasur	181.43	549.69	2.26	3029.69	15	Bajour AG.	34.39	28.23	0.12	820.98
16	Pakpattan	150.27	518.51	2.13	3450.54	16	Shanlpar	23.30	27.93	0.11	1199.01
17	T.T.Singh	155.13	501.53	2.06	3232.99	17	Abbottabad	14.44	23.03	0.09	1594.83
18	Multan	174.96	491.04	2.02	2806.57	18	Tank	11.20	21.99	0.09	1962.90
19	Layyah	193.98	490.21	2.01	2527.14	19	Lakki Marwat	22.17	20.80	0.09	938.20
20	Hafizabad	155.40	472.44	1.94	3040.18	20	Khyber AG.	13.63	20.08	0.08	1473.51
21	D.G.Khan	168.62	468.62	1.92	2779.22	21	Bannu	10.61	19.32	0.08	1870.66
22	Sahiwal	137.05	427.53	1.76	3119.42	22	Chitral	8.18	16.98	0.07	2075.93
23	Rajanpur	164.70	423.61	1.74	2571.94	23	Kurram AG.	9.21	15.18	0.06	1648.92
24	Mianwali	175.90	410.26	1.69	2332.30	24	Battagram	7.58	13.99	0.06	1844.95
25	Bhakkar	170.91	398.08	1.64	2329.20	25	Hangu	11.39	12.67	0.05	1112.86
26	Narowal	165.92	389.78	1.60	2349.27	26	Mohmand AG.	8.05	11.07	0.05	1374.69
27	M.B.Din	139.07	389.39	1.60	2799.91	27	Karak	19.97	7.98	0.03	399.26
28	Nankana Sahib	118.57	369.61	1.52	3117.20	28	S.Waziristan	7.27	7.51	0.03	1033.80
29	Chiniot	98.47	304.38	1.25	3091.09	29	F.R.Peshawar	3.74	5.93	0.02	1583.07
30	Gujrat	153.23	284.79	1.17	1858.56	30	N.Waziristan	4.15	5.51	0.02	1326.48
31	Lahore	60.97	188.04	0.77	3084.09	31	Orakzai AG	3.77	5.04	0.02	1338.58
32	Attock	156.74	164.55	0.68	1049.81	32	F.R.D.I.Khan	4.25	4.39	0.02	2033.41
33	Rawalpindi	116.28	161.91	0.67	1392.44	33	F.R.Bannu	1.94	3.16	0.01	1628.69
34	Khushab	87.68	157.79	0.65	1799.54	34	Kohistan	1.39	2.59	0.01	1865.10
35	Chakwal	121.54	155.87	0.64	1282.49	35	F.R.Kohat	1.54	2.03	0.01	1323.13
36	Jhelum	50.05	82.09	0.34	1640.34						
37	Islamabad	17.95	17.27	0.07	1333.33						
Sub Total		6590.86	18482.96	75.92	2804.33	Sub Total		744.46	1246.70	5.12	1674.64
SINDH						BOLUCHISTAN					
1	Khairpur	102.38	395.99	1.63	3867.91	1	Nasirabad	66.45	168.78	0.69	2540.00
2	N.Feroze	104.72	386.08	1.59	3686.96	2	Jaffarabad	56.85	144.14	0.59	2535.55
3	Ghotki	100.66	377.81	1.55	3753.26	3	Jhal Magsi	47.50	107.93	0.44	2272.77
4	Sanghar	99.64	366.96	1.51	3682.96	4	Khuzdar	40.59	82.88	0.34	2042.16
5	Sh. Benazirabad	81.29	323.75	1.33	3982.70	5	Dera Bughti	17.29	30.47	0.13	1762.34
6	Dadu	71.33	255.88	1.05	3587.10	6	Killa Saifullah	15.81	28.76	0.12	1819.62
7	Mirpurkhas	60.80	212.19	0.87	3490.22	7	Sibi	12.98	27.53	0.11	2120.21
8	Sukkur	47.74	171.23	0.70	3586.33	8	Barkhan	12.26	24.61	0.10	2008.08
9	Matiari	37.81	148.34	0.61	3922.94	9	Loralai	11.38	24.57	0.10	2159.18
10	Larkana	46.13	145.12	0.60	3145.83	10	Lasbela	11.60	22.22	0.09	1916.07
11	Shaheedkot	45.88	142.94	0.59	3115.50	11	Awaran	13.15	21.92	0.09	1666.66
12	Jamshoro	39.86	133.29	0.55	3343.48	12	Kachhi	9.19	20.95	0.09	2778.88
13	Tando Allahyar	31.20	120.64	0.50	3866.05	13	Turbat	6.93	14.05	0.06	2026.59
14	Umerkot	33.64	108.56	0.45	3226.86	14	Pishin	7.99	13.24	0.05	1656.90
15	Shikarpur	36.08	99.69	0.41	2763.16	15	Kalat	5.96	11.81	0.05	1982.15
16	Badin	33.76	97.54	0.40	2889.48	16	Noushki	5.24	10.56	0.04	2014.11
17	Kashmore	34.40	94.00	0.39	2732.54	17	Mastung	5.12	9.85	0.04	1923.82
18	Hyderabad	14.95	55.96	0.23	3743.33	18	Kharan	5.31	9.52	0.04	1792.39
19	Jacobabad	19.28	52.32	0.21	2713.67	19	K.Abdullah	5.23	8.68	0.04	1659.10
20	Thatta	17.50	48.68	0.20	2782.58	20	Panjoor	3.44	7.03	0.03	2045.97
21	Tando Muhammad	12.79	37.71	0.15	2949.01	21	Quetta	3.37	6.48	0.03	1925.94
22	Tharparkar	2.79	7.86	0.03	2815.79	22	Sherani	4.62	5.99	0.02	1297.47
23	Karachi	1.78	4.91	0.02	2760.24	23	Zhob	3.66	5.79	0.02	1580.75
						24	Chaghi	2.47	5.06	0.02	2046.51
						25	Washuk	2.52	4.58	0.02	1812.86
						26	Harnai	1.70	3.56	0.01	2096.07
						27	Musa Khel	2.40	3.47	0.01	1446.16
						28	Kohlu	2.11	3.35	0.01	1592.05
						29	Ziarat	0.58	0.92	0.00	1589.83
Sub Total		1076.40	3787.43	15.56	3518.59	Sub Total		383.68	828.68	3.40	2159.85
Pak Total								8795.39	24345.76	100.00	2788.01

Notes:

1. Data have been arranged in descending order of production.
2. Percentage shares are calculated on the basis of country total.

PER CAPITA AVAILABILITY OF WHEAT:2011-12 to 2013-14 (MAY-APRIL)

S.No	Description	Production year	2010-11	2011-12	2012-13
		Consumption year	2011-12	2012-13	2013-14
1	Total Population (a)		187.10	190.82	194.02
			-----000 tonnes-----		
2	Opening stocks as on 1st May		3109	3109	1618
3	Production of Pakistan		25214	23473	24211
4	Production of AJ&K and GB (b)		252	235	242
5	Imports		0	21	377
6	Exports (wheat and wheat preparation)		1301	228	43
7	Closing stocks as on 30th April		3506	1618	1177
8	Total availability		23768	24992	25228
9	Deduction for seed,feed and wastage @ 10 per cent of production		2547	2371	2445
10	Available for human consumption (item 8 minus item 9)		21222	22621	22783
			-----Kgs/ annum-----		
11	Per capita availability (item 10 divided by item 1)		113	119	117
12	Average per capita availability during 2011-12 to 2013-14			116 Kgs	

- Notes:**
- It includes the population of Pakistan, AJ&K, GB and Afghan Refugees.
 - Due to non-availability of data, production of AJ&K and GB in the past has been estimated on the basis ratio between the production of Pakistan and that of AJ&K and GB during 1987-88.

- Sources:**
- PASSCO and Provincial Food Departments.
 - Population Census Organization, Islamabad.
 - Ministry of Kashmir Affairs and Gilgit Baltistan and States and Frontier Regions, Government of Pakistan, Islamabad.

INTERNATIONAL PRICES (FOB GULF) OF US NO-2 HARD RED WINTER WHEAT
2004-05 TO 2014-15

Year (July - June)	Month	US\$ per tonne
2004-05		154
2005-06		175
2006-07		212
2007-08		361
2008-09		270
2009-10		209
2010-11		316
2011-12		301
2012-13		347
2013-14		318
2014-15		286
	July	297
	August	284
	September	277

Source: International Grains Council, London.

IMPORT PARITY PRICES OF WHEAT ON THE BASIS OF US NO 2 HRW (FOB GULF) QUOTED PRICE

S. No	Item	2014-15 Jul-Sep	2013-14	2011-12 to 2013-14
		-----US \$ per tonne-----		
1	Average Fob(Gulf) price			
2	Freight charges from Gulf port to Karachi	286.00	318.00	322.00
		45.00	45.00	45.00
3	Average c&f (Karachi) price in US \$	331.00	363.00	367.00
		-----Rs per tonne-----		
4	Exchange rate	102.77	102.77	102.77
5	Average c&f (Karachi) price in Pak Rupees	34017	37306	37717
6	Marine insurance charges @0.23% of c & F cost	78	86	87
7	Lc opening charges @0.4% of c&f cost.	136	149	151
8	Stevedoring, clearing, handling, wharfage, weightment, inland insurance, survey & pre-shipment charges and provision for unforeseen losses	651	651	651
9	TCP commission @ 2 % of c&f cost as per ECC	680	746	754
10	Bank markup @ 15.5 % per annum for 30 days	439	482	487
11	Landed cost (Item 3 to 8) at Karachi	36002	39420	39847
12	Transport cost from Karachi to Multan	2200	2200	2200
13	Expences from procurement center to Multan	200	200	200
14	Import parity price at procurement center level	38002	41420	41847
		-----Rs per 40 kgs-----		
15	Import parity prices of wheat			
	i) If consumed at Multan	1520	1657	1674
	ii) If consumed at Karachi	1440	1577	1594

Sources:

- i) For fob (Gulf) prices: Annex - V.
- ii) For, incidental and transport charges from Karachi to Multan, Universal Cargo (private) Limited, Karachi.
- iii) For expenses from procurement centre to Multan: PASSCO, Lahore.

EXPORT PARITY PRICES OF WHEAT ESTIMATED FROM US NO 2 HRW (FOB GULF) QUOTED PRICE

S.No	Item	2014-15 Jul-Sep	2013-14	2011-12 to 2013-14
		-----US \$ Per Tonne-----		
1	Fob(Gulf) price assuming Fob (Karachi) price	286.00	318.00	322.00
2	Exchange rate	102.77	102.77	102.77
3	Fob(Gulf) price assuming Fob (Karachi) price in Pak Rupees	29392	32681	33092
4	Incidental charges: (items i to xi)	4553	4646	4658
	i) Expenses from procurement centre to Multan	200	200	200
	ii) Transport cost from Multan to Karachi	1500	1500	1500
	iii) Cleaning/grading	750	750	750
	iv) Bagging, spillage, loading, unloading & testing	850	850	850
	v) Wharfage, stevedoring, weightment and port charges	70	70	70
	vi) Pre shipment inspection charges	100	100	100
	vii) Export development surcharges @1.25% of fob price	367	409	414
	viii) Insurance charges at port 1 % for one month	24	27	28
	ix) Bank commission & charges 0.25 %	73	82	83
	x) Mark up @ 1.5% per annum for one month	367	409	414
	xi) Miscellaneous charges (Ghati, Wastage, Godown rent)	250	250	250
5	Export parity price of wheat at procurement centre level(item 1- items 2)	24839	28035	28434
		-----Rs per 40kgs-----		
6	Export parity price at procurement center level	994	1121	1137

- Sources: i) For fob (Gulf) prices: Annex - V.
ii) Incidental charges: Garib and Sons (Pvt)Ltd
iii) For expenses from procurement centre and transport charges: PASSCO, Lahore.

**AVERAGE FARMERS' COST OF PRODUCTION ESTIMATES OF WHEAT
IN THE PUNJAB: 2013-14 AND 2014-15 CROPS**

S. No.	Operations / Inputs	Average No. of oprs/units/acre	2013-14 crop		2014-15 crop		Change in 2014-15 over 2013-14
			Cost per unit	Cost per acre	Cost per unit	Cost per acre	
1	2	3	4	5 = 3 * 4	6	7 = 3 * 6	8 = 7-5
-----Rupees-----							
1	Land preparation:						
	1.1 Rotavator/disc plough	0.598	1300.00	777.40	1400.00	837.20	59.80
	1.2 Ploughing	2.137	650.00	1389.05	700.00	1495.90	106.85
	1.3 Ploughing & planking	0.714	750.00	535.50	800.00	571.20	35.70
	1.4 Planking	0.649	325.00	210.93	350.00	227.15	16.23
	1.5 Levelling (hrs)	0.498	750.00	373.50	800.00	398.40	24.90
2	Seed and sowing operations:						
	2.1 Seed used (kgs)	52.577	40.00	2103.08	42.00	2208.23	105.15
	2.2 Tractor drilling	0.166	650.00	107.90	700.00	116.20	8.30
	2.3 Labour for seed broadcasting (m.hrs)	0.858	38.00	32.60	44.00	37.75	5.15
	2.4 Ploughing in case of broadcasting	1.390	650.00	903.50	700.00	973.00	69.50
	2.5 Planking in case of broadcasting	0.321	325.00	104.33	350.00	112.35	8.03
3	Bund making:						
	3.1 Manual (m.hrs)	1.033	38.00	39.25	44.00	45.45	6.20
	3.2 tractor (hrs)	0.203	750.00	152.25	800.00	162.40	10.15
4	Weedicides	0.787	700.00	550.90	800.00	629.60	78.70
5	Irrigation: * (Nos)						
	5.1 Canal	0.507	-	50.00	-	50.00	0.00
	5.2 Private tubewell	3.002	765.00	2296.53	900.00	2701.80	405.27
	5.3 Mixed	0.230	500.00	115.00	600.00	138.00	23.00
6	Labour for irrigation and water course cleaning (m.days)						
	6.1 For irrigation	1.225	300.00	367.50	350.00	428.75	61.25
	6.2 For water course cleaning	0.329	300.00	98.70	350.00	115.15	16.45
7	Farm Yard Manure (50 %)	-	-	400.00	-	500.00	100.00
8	Fertilizers: (bags)						
	8.1 DAP	1.090	3917.00	4269.53	3578.00	3900.02	-369.51
	8.2 Urea	1.747	1829.00	3195.26	1896.00	3312.31	117.05
	8.3 SSP	0.132	1094.00	144.41	972.00	128.30	-16.10
	8.4 NP	0.079	2667.00	210.69	3090.00	244.11	33.42
	8.5 CAN	0.039	1623.00	63.30	1613.00	62.91	-0.39
	8.6 SOP	0.024	4075.00	97.80	4767.00	114.41	16.61
	8.7 Gypsum	0.024	300.00	7.20	300.00	7.20	0.00
	8.8 Transport and application	3.135	50.00	156.75	55.00	172.43	15.68
9	Mark up on investment on item 1to 8 excluding item 5(1) @15 % per annum for 6 months	-	-	1122.17	-	1473.02	350.85
10	Harvesting charges (40 kgs/acre)	2.997	1157.00	3467.53	1206.00	3614.38	146.85
11	Threshing:						
	11.1 Threshing @ 3.23 kgs/40 kgs (40 kgs)	2.237	1157.00	2588.21	1206.00	2697.82	109.61
	11.2 M.days	1.810	300.00	543.00	350.00	633.50	90.50
12	Land rent for 6 months	-	17000.00	8500.00	20000.00	10000.00	1500.00
13	Average weighted land tax @ Rs 132/acre/annum for 8 months	-	132.00	86.00	132.00	86.00	0.00
14	Management charges for 6 months	-	-	1030.00	-	1090.00	60.00
15	Total cost per acre			66069.77		39264.94	3195.18
16	Value of wheat bhoosa			5500.00		5500.00	0.00
17	Net cultivation cost (item 15-16)			60569.77		33764.94	3195.18
18	Yield per acre (Kgs)			1108.00		1108.00	
19	Cost of production at farm level: (Rs/40 kgs)			1103.60		1218.95	115.35
20	Marketing cost (Rs/40 kgs)			30.00		30.00	0.00
21	Cost of production at market/procurement centre (Rs/40 kgs)						
	21.1 Including land rent			1133.60		1248.95	115.35
	21.2 Excluding land rent			826.74		887.94	61.20

Note: In view of changes in mark-up rates by different agriculture credit disbursing agencies, mark-up for 2014-15 crop has changed from 12 to 15 % accordingly.

**AVERAGE FARMERS' COST OF PRODUCTION ESTIMATES OF WHEAT
IN SINDH: 2013-14 AND 2014-15 CROPS**

S. No.	Operations / Inputs	Average No. of oprs/units/acre	2013-14 crop		2014-15 crop		Change in 2014-15 over 2013-14
			Cost per unit	Cost per acre	Cost per unit	Cost per acre	
1	2	3	4	5 = 3 * 4	6	7 = 3 * 6	8 = 7-5
-----Rupees-----							
1	Land preparation:						
1.1	Rotavator/disc plough	0.349	1600.00	558.40	1700.00	593.30	34.90
1.2	Ploughing	3.034	1000.00	3034.00	1100.00	3337.40	303.40
1.3	Ploughing & planking	0.070	1000.00	70.00	1100.00	77.00	7.00
1.4	Planking	0.081	500.00	40.50	550.00	44.55	4.05
1.5	Levelling (hrs)	1.010	1000.00	1010.00	1100.00	1111.00	101.00
2	Seed and sowing operations:						
2.1	Seed used (kgs)	55.817	40.00	2232.68	42.00	2344.31	111.63
2.2	Tractor drilling	0.037	1000.00	37.00	1100.00	40.70	3.70
2.3	Labour for seed broadcasting (m.hrs)	1.127	38.00	42.83	44.00	49.59	6.76
2.4	Ploughing in case of broadcasting	0.275	1000.00	275.00	1100.00	302.50	27.50
2.5	Planking in case of broadcasting	0.162	500.00	81.00	550.00	89.10	8.10
3	Bund making:						
3.1	Manual (m.hrs)	1.611	38.00	61.22	44.00	70.88	9.67
3.2	tractor (hrs)	0.091	1000.00	91.00	1100.00	100.10	9.10
4	Interculture/weeding						
4.1	Interculture	0.037	1000.00	37.00	1100.00	40.70	3.70
4.2	Weedicides	0.529	750.00	396.75	800.00	423.20	26.45
5	Irrigation: * (Nos)						
5.1	Canal	1.763	-	53.30	-	53.30	0.00
5.2	Lift pump	0.551	745.00	410.50	800.00	440.80	30.30
5.3	Private tubewell	1.046	775.00	810.65	900.00	941.40	130.75
5.4	Mixed	0.449	600.00	269.40	600.00	269.40	0.00
6	Labour for irrigation and water course cleaning (m.days)						
6.1	For irrigation	1.022	300.00	306.60	350.00	357.70	51.10
6.2	For water course cleaning	0.349	300.00	104.70	350.00	122.15	17.45
7	Farm Yard Manure (50 %)	-	-	500.00	-	600.00	100.00
8	Fertilizers: (bags)						
8.1	DAP	1.013	3817.00	3866.62	3483.00	3528.28	-338.34
8.2	Urea	1.950	1790.00	3490.50	1878.00	3662.10	171.60
8.3	NP	0.186	2633.00	489.74	2950.00	548.70	58.96
8.4	CAN	0.020	1600.00	32.00	1573.00	31.46	-0.54
8.5	Transport and application	3.169	50.00	158.45	55.00	174.30	15.85
9	Mark up on investment on item 1 to 8 excluding item 5(1) @15 % per annum for 6 months	-	-	1104.39	-	1447.55	343.15
10	Harvesting charges (40 kgs/acre)	2.876	1098.00	3157.85	1224.00	3520.22	362.38
11	Threshing:						
11.1	Threshing @ 2.95 kgs/40 kgs (40 kgs)	2.052	1098.00	2253.10	1224.00	2511.65	258.55
11.2	M.days	1.415	300.00	424.50	350.00	495.25	70.75
12	Land rent for 6 months	-	15000.00	7500.00	18000.00	9000.00	1500.00
13	Land tax @ Rs 200/acre/annum for 6 months	-	200.00	100.00	200.00	100.00	0.00
14	Drainage cess	-	-	24.00	-	24.00	0.00
15	Management charges for 6 months	-	-	1030.00	-	1090.00	60.00
16	Total cost per acre	-	-	34053.66	-	37542.59	3488.92
17	Value of wheat bhoosa	-	-	4000.00	-	4000.00	0.00
18	Net cultivation cost (item 15-16)	-	-	30053.66	-	33542.59	3488.92
19	Yield per acre (kgs)	-	-	1113.00	-	1113.00	0.00
20	Cost of production at farm level: (Rs/40 kgs)	-	-	1080.10	-	1205.48	125.39
21	Marketing cost (Rs/40 kgs)	-	-	30.00	-	30.00	0.00
22	Cost of production at market/procurement centre (Rs/40 kgs)	-	-	1110.10	-	1235.48	125.39
22.1	Including land rent	-	-	1110.10	-	1235.48	125.39
22.2	Excluding land rent	-	-	840.55	-	912.03	71.48

Note: In view of changes in mark-up rates by different agriculture credit disbursing agencies, mark-up for 2014-15 crop has changed from 12 to 15 % accordingly.

Notes for Annex-VIII and IX

1. The input-output parameters for estimating cost of production of wheat 2014-15 crop have been adopted from the Wheat Policy Analysis Report for wheat 2013-14 Crop, API's Series No 248.
2. The inputs prices and hiring rates of field operations have been revised in the light of the information provided by the Provincial Agriculture Departments, Farmers' Associations and discussion made in the meeting of the Standing Committee on Wheat, held on June 23, 2014 at Islamabad and other sources and published data.
3. The prices of chemical fertilizers have been revised in the light of the fertilizer prices published by the Pakistan Bureau of Statistics, Islamabad for the week ending on 11th September, 2014.
4. The cost of supplementary irrigation has been revised in view of changes in prices of diesel and power tariff rates over the year.
5. The management charges for a manager looking after a 25-acre farm and devoting one-fourth of his time to the managerial activities have been worked out at Rs 18169 per month for a Field Assistant at the 15th stage in BPS-6 as per revised scale of July 2011, including the Adhoc Reliefs uptill 2014.
6. The value of kind payments for harvesting and threshing of wheat has been revised in the light of current average market prices of Rs 1206 per 40 kgs in the Punjab and Rs 1224 in Sindh. Marketing charges of Rs 30 per 40 Kgs have been deducted from the market prices to bring these costs at the farm level.
7. In both provinces of Punjab and Sindh, land rent is the most significant item of the cost of cultivation. There are no specific measures for updating the land rentals. However, the land rent has been adjusted keeping in view of the observations obtained during the field survey conducted by API in June 2014 and discussion made in the meeting of the API's Committee on wheat.

**ECONOMICS OF WHEAT AND COMPETING CROPS AT
PRICES REALIZED BY THE GROWERS: 2013-14 CROPS**

S.No	Province/crops/crop combination	Crop duration	Water used	Gross cost	Cost of purchased inputs	Gross revenue	Gross margin	Net income	Output-input ratio	Revenue per		
		Days	Acre inchesRupees per acre.....					Ratio	Rupees of purchased inputs	Crop day	Acre inch of water used
				10=6/5	11=6/2	12=6/3						
1	2	3	4	5	6	7=6-5	8=6-4	9=6/4	10=6/5	11=6/2	12=6/3	
Punjab												
1	Wheat	180	12	35832	13596	38518	24922	2687	1.07	2.8	214	3210
2	Seed Cotton	240	22	48701	17218	57068	39850	8368	1.17	3.3	238	2594
3	Basmati paddy	180	58	42714	20134	65137	45004	22423	1.52	3.2	362	1123
4	IRRI paddy	180	62	38122	17685	36887	19202	-1235	0.97	2.1	205	595
5	Sunflower (spring)	180	22	38414	16272	40400	24129	1986	1.05	2.5	224	1836
6	Canola	180	13	23046	8258	29000	20742	5954	1.26	3.5	161	2231
7	Seed cotton + wheat	420	34	84532	30814	95587	64772	11054	1.13	3.1	228	2811
8	Seed cotton + sunflower	420	44	87115	33490	97468	63979	10353	1.12	2.9	232	2215
9	Basmati paddy+wheat	360	70	78545	33730	103656	69926	25110	1.32	3.1	288	1481
10	Basmati paddy+sunflower	360	80	81128	36405	105537	69132	24409	1.30	2.9	293	1319
11	IRRI paddy + wheat	360	74	73954	31281	75406	44125	1452	1.02	2.4	209	1019
12	IRRI paddy+sunflower	360	84	76536	33956	77287	43331	751	1.01	2.3	215	920
13	Sugarcane	394	48	74550	23533	87598	64065	13048	1.18	3.7	222	1825
Sindh												
1	Wheat	180	12	33867	12710	35665	22955	1798	1.05	2.8	198	2972
2	Seed cotton	240	18	44854	14793	52884	38091	8030	1.18	3.6	220	2938
3	IRRI paddy	180	56	35725	13433	45821	32388	10096	1.28	3.4	255	818
4	Sunflower (spring)	180	22	38955	16006	44900	28895	5945	1.15	2.8	249	2041
5	Canola	180	13	23548	8246	29000	20754	5452	1.23	3.5	161	2231
6	Seed cotton + wheat	420	30	78721	27502	88549	61046	9828	1.12	3.2	211	2952
7	Seed cotton+sunflower	420	40	83809	27502	97784	70282	13975	1.17	3.6	233	2445
8	IRRI paddy + wheat	360	68	69592	26143	81486	55344	11894	1.17	3.1	226	1198
9	IRRI paddy+sunflower	360	78	74680	29438	90721	61283	16041	1.21	3.1	252	1163
10	Sugarcane	488	71	88853	29138	107947	78809	19094	1.21	3.7	221	1520

Notes for Annex -X:

1. The economic analysis presented in the above exercise is based on the input-output prices applicable for 2013-14 crops.
2. The data regarding input-output parameters have been adopted from the API's price policy papers for sugarcane, seed cotton, rice paddy and wheat, 2013-14 crops. However, the relevant data for sunflower and canola were adopted from the last support price policy for non-traditional oilseeds 2000-01 crops, with necessary adjustments in input prices for updating costs and incomes for the 2013-14 crops. To incorporate the escalations in input prices, which occurred during the growing period of 2013-14 crops, some marginal revisions have been made as under:
 - 2.1 The cost of supplementary irrigation has been adjusted in accordance with the variation in the electric charges @ 3.37 percent for wheat, while for sugarcane, seed cotton and rice paddy there is no change in the cost. Diesel rates have also been adjusted @ 14.29 percent for wheat crop.
 - 2.2 The cost of fertilizers has been revised in view of their prices prevailed at the time of application for the respective crops in 2013-14 season.
3. Water use has been estimated from the number of irrigations as reported in the cost of production estimates of the respective crops assuming each irrigation of 3 inches and 'rauni' of 4 inches.
4. The following prices as realized by the growers for different crops are adopted for the analysis:
 - 4.1 The support price of Rs 1200 per 40 kgs, as maintained by the government for 2013-14 crop, has been adopted for the current analysis.
 - 4.2 The wholesale market prices of basmati paddy and IRRJ paddy during the post-harvest period in major producer area markets have averaged at Rs 2286 and Rs 924 per 40 kgs, respectively. While, the average price of IRRJ paddy in Sindh is reported at Rs 901 per 40 kgs.
 - 4.3 The wholesale market prices of seed cotton during the post-harvest months of Aug - Feb 2013-14 in the main producer area markets have averaged at Rs 3044 per 40 kgs in the Punjab. In Sindh, the corresponding prices are averaged at Rs 2755 per 40 kgs.
 - 4.4 For the sunflower and canola 2013-14 crop, the market prices have averaged at Rs 2275 and 2350 per 40 kgs, respectively.
 - 4.5 The market prices of sugarcane at mill-gate in the major cane producing areas are reported to hover around Rs 170 per 40 kgs in the Punjab and Rs 174 per 40 kgs in Sindh.

5. The market prices have been adjusted for the marketing expenses to make them effective at the farm level. These expenses amount to Rs 13.5 per 40 kgs in Punjab and Rs 7.32 in Sindh for sugarcane, Rs 25 for seed cotton in Punjab and Rs 27 in Sindh, Rs 20 for rice paddy, and Rs 18 for wheat and oilseeds.
6. Gross income = (Yield per acre multiplied by price of principal produce at farm gate) plus (value of by-products per acre).
7. Cost of purchased inputs = Cost incurred on seed and related items, fertilizer, supplementary irrigation including labour, canal water rate, pesticides and weedicides.
8. Gross margin = Gross income minus cost of purchased inputs.
9. Net income = Gross income minus gross cost.
10. Output-input ratio = Gross income divided by gross cost
11. Revenue per rupee of purchased inputs cost = Gross income divided by cost of purchased inputs
12. Revenue per crop day = Gross income divided by crop duration in days.
13. Revenue per acre-inch of water used = Gross income divided by irrigation water used in acre inches.

Annex - XI

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN PUNJAB
POLICY ANALYSIS MATRIX (PAM)
 Based on import parity prices

Description	Revenues	Traded cost	Domestic Factors Cost	Profits
----- Rupees per acre -----				
2009-10				
Private Prices	28985	9361	7370	10255
Social Prices	23870	9580	7477	6813
Transfers	3115	-219	-107	3411
2010-11				
Private Prices	27678	10734	8088	8856
Social Prices	32557	11029	8200	13328
Transfers	-4879	-285	-112	-4472
2011-12				
Private Prices	29783	14335	8645	6803
Social Prices	33852	14820	8774	10158
Transfers	-4069	-585	-129	-3355
2012-13				
Private Prices	35018	14722	9164	11133
Social Prices	41064	15285	9282	16487
Transfers	-6046	-584	-128	-5355
2013-14				
Private Prices	35240	15387	10428	9425
Social Prices	38576	15957	10557	10063
Transfers	-1336	-570	-128	-638

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN SINDH
POLICY ANALYSIS MATRIX (PAM)
 Based on import parity prices

Description	Revenues	Traded cost	Domestic Factor Cost	Profits
----- Rupees per acre -----				
2009-10				
Private Prices	22187	2027	10641	9518
Social Prices	22576	1931	10756	9889
Transfers	-389	97	-115	-371
2010-11				
Private Prices	21364	2457	10880	8027
Social Prices	31195	2340	11004	17851
Transfers	-9831	117	-124	-9824
2011-12				
Private Prices	21679	2856	13380	5443
Social Prices	32602	2720	13549	16333
Transfers	-10923	136	-169	-10890
2012-13				
Private Prices	31665	3410	15675	12580
Social Prices	39814	3248	15835	20731
Transfers	-8150	162	-160	-8152
2013-14				
Private Prices	33390	3770	16499	13121
Social Prices	35326	3591	16655	15080
Transfers	-1836	180	-156	-1959

Note:

The calculations are based on the analysis of data from the respective cost of production and import parity price estimates made in the previous Price Policy Analysis reports of API, Islamabad

Annex -XII

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN PUNJAB
POLICY ANALYSIS MATRIX (PAM)
 Based on export parity prices

Description	Revenues	Traded	Domestic	Profits
		Inputs	Factor	
		Cost	Cost	
----- Rupees per acre -----				
2009-10				
Private Prices	26985	9361	7370	10255
Social Prices	14492	9580	7477	-2565
Transfers	12494	-219	-107	12820
2010-11				
Private Prices	27678	10734	8088	8856
Social Prices	22285	11029	8200	3056
Transfers	5393	-295	-112	5800
2011-12				
Private Prices	29783	14335	8645	6803
Social Prices	22731	14920	8774	-962
Transfers	7052	-585	-129	7765
2012-13				
Private Prices	35018	14735	9267	11017
Social Prices	28470	15297	9395	3778
Transfers	6548	-563	-128	7239
2013-14				
Private Prices	35240	15387	10428	9425
Social Prices	24853	15957	10557	-1661
Transfers	10387	-570	-128	11086

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN SINDH
POLICY ANALYSIS MATRIX (PAM)
 Based on Export parity prices

Description	Revenues	Traded	Domestic	Profits
		Inputs	Factors	
		Cost	Cost	
----- Rupees per acre -----				
2009-10				
Private Prices	22187	8807	10641	2739
Social Prices	13197	9062	10756	-6621
Transfers	8990	-255	-115	9360
2010-11				
Private Prices	21364	10236	10880	249
Social Prices	20923	10555	11004	-635
Transfers	441	-319	-124	884
2011-12				
Private Prices	21679	13815	13380	-5516
Social Prices	21481	14411	13549	-6478
Transfers	197	-596	-169	962
2012-13				
Private Prices	31665	14782	15675	1208
Social Prices	27220	15341	15835	-3956
Transfers	4445	-559	-160	5164
2013-14				
Private Prices	32277	15430	16499	349
Social Prices	23603	15983	16655	-9035
Transfers	8674	-554	-156	9384

Note:

The calculations are based on the analysis of data from the respective cost of production and export parity price estimates made in the previous Price Policy Analysis reports of API, Islamabad

**IMPACT OF RISE IN SUPPORT PRICE OF WHEAT ON AVERAGE
HOUSEHOLD EXPENDITURE**

Proposed support price	Expenditure on wheat at average per capita consumption @ 120kgs per year**		Rise in expenditure	
	Per person	Per household	Per person	Per household
Rs per 40 kgsRupees per year.....			
*1200	3600	23076	-	-
1225	3675	23556	75	480
1250	3750	24037	150	961
1275	3825	24518	325	1442
1300	3900	24999	300	1923
1325	3975	25479	375	2403
1350	4050	25960	450	2884

Note: Average size of Household comprises of 6.41 members.

* Existing price for 2013-14 wheat crop.

** Planning Commission of Pakistan.

Source: PSLM, Household Integrated Survey (HIES) 2011-12, Pakistan Bureau of Statistics (PBS), Islamabad.

**YIELD PER HECTARE OF MAJOR WHEAT PRODUCING COUNTRIES IN THE WORLD:
2013 CROP**

S.No.	Country	Yield per Hactare in Kgs	S.No.	Country	Yield per Hactare in Kgs
1	New Zealand	9102	32	Albania	4110
2	Ireland	8993	33	Mali	3975
3	Belgium	8935	34	Bosnia and Herzegovina	3921
4	Netherlands	8719	35	Latvia	3886
5	Germany	7998	36	Finland	3877
6	United Arab Emirates	7600	37	Japan	3862
7	United Kingdom	7381	38	Lebanon	3784
8	Denmark	7284	39	Italy	3711
9	France	7254	40	Republic of Korea	3680
10	Namibia	7000	41	Norway	3636
11	Egypt	6668	42	Canada	3594
12	Zambia	6544	43	Spain	3581
13	Luxembourg	6368	44	South Africa	3520
14	Chile	5814	45	Romania	3479
15	Sweden	5776	46	Ukraine	3471
16	Czech Republic	5668	47	Estonia	3258
17	Austria	5374	48	China, Taiwan Province o	3250
18	Switzerland	5372	49	The former Yugoslav Rep	3198
19	Malta	5357	50	Oman	3182
20	Mexico	5293	51	United States of America	3172
21	China, mainland	5051	52	Niger	3158
22	Croatia	4885	53	India	3154
23	Serbia	4775	54	Armenia	3127
24	Uzbekistan	4757	55	Belarus	3062
25	Hungary	4656	56	Kenya	3037
26	Saudi Arabia	4615	57	Bangladesh	3014
27	Slovakia	4581	58	Tajikistan	2914
28	Poland	4430	59	Montenegro	2875
29	Slovenia	4353	60	Turkey	2837
30	Lithuania	4302	61	Greece	2811
31	Bulgaria	4248	62	Pakistan	2787
World Average					3265

Source:

FAO Production Year Book 2013

