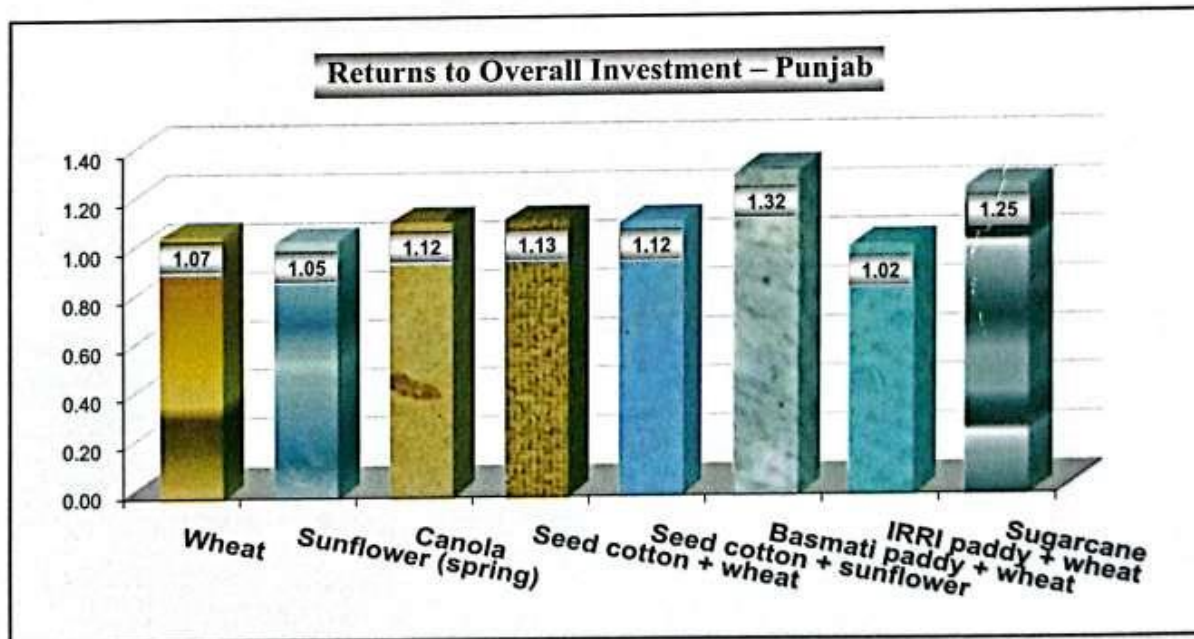
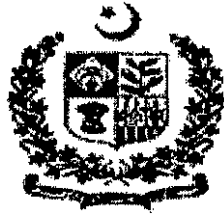




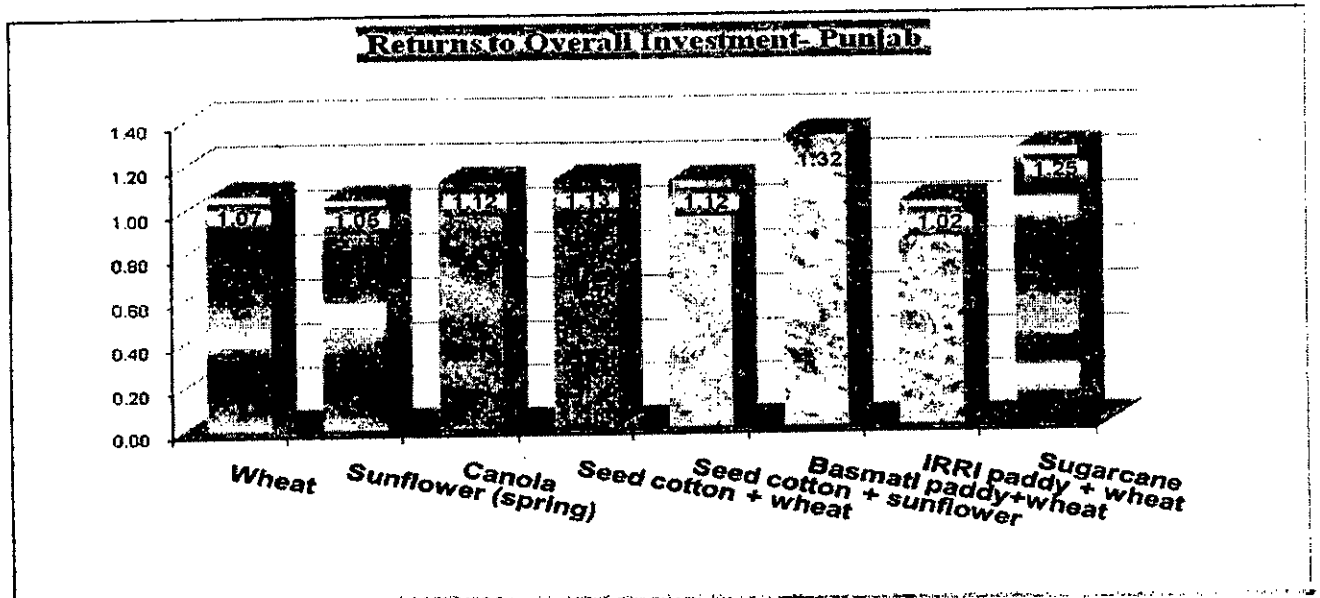
WHEAT POLICY ANALYSIS FOR 2015-16 CROP



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

AARI	Ayub Agriculture Research Institute
AJ&K	Azad Jammu and Kashmir
API	Agriculture Policy Institute
APW	Australian Premium White
C&F	Cost and Freight
COP	Cost of Production
CPI	Consumer Price Index
CWRS	Canada Western Red Spring
DAP	Di Ammonium Phosphate
DRC	Domestic Resource Cost
ECC	Economic Coordination Committee (of the Cabinet)
E&M	Economics and Marketing
EPC	Effective Protection Coefficient
EU	European Union
FAO	Food and Agriculture Organization
PBS	Pakistan Bureau of Statistics
FOB	Free on Board
FYM	Farm Yard Manure
GDP	Gross Domestic Product
GMR	Grain Market Report
GST	General Sales Tax
HIES	Household Integrated Economic Survey
HRW	Hard Red Winter
HSD	High Speed Diesel
HYVs	High Yielding Varieties
IRRI	International Rice Research Institute
KPK	Khyber Pakhtunkhwa
N	Nitrogen
NAs	Northern Areas
NFDC	National Fertilizer Development Centre
NPC	Nominal Protection Coefficient
P	Phosphatic
PAM	Policy Analysis Matrix
PARC	Pakistan Agricultural Research Council
PASSCO	Pakistan Agricultural Storage and Services Corporation
USA	United States of America
USDA	United States Department of Agriculture

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

Area and Production

- Punjab and Sindh on average, contribute about 76.5 and 15 per cent in wheat production while the share of KPK and Balochistan is 5.1 and 3.3 per cent, respectively.
- During the last decade, wheat production has risen @ 1.8 per cent per annum contributed by 1.0 per cent improvement in yield and 0.8 per cent expansion in area.
- Wheat production from 2014-15 crop is estimated at 25.09 million tonnes, a fall of 3.4 per cent over the production of 25.98 million tonnes in 2013-14.
- During last one decade, 20 high yielding wheat varieties have been developed by Research Institutes in Punjab for the irrigated and rainfed areas, while 6 varieties of wheat are released by Research Institutes in Sindh.

Domestic Requirements

- Based on 3-year average per capita availability of 114 kgs per annum, the domestic requirement of wheat for human consumption comes to 23.13 million tonnes for the year 2015-16.
- Assuming the per capita consumption at 120 kgs per annum, the domestic requirement for human consumption comes to 24.35 million tonnes.
- Including one million tonnes as food security reserve and 2.534 million tonnes for seed, feed and wastage, the total domestic requirement will range between 26.66 and 27.88 million tonnes. Adding the last year stocks, the surplus estimates at 2.80 to 1.58 million tonnes, respectively.

Domestic Prices

- Monthly average market prices of wheat for 2014-15 crop remain below the support price, both in the Punjab and Sindh.
- The wholesale prices of wheat averaged at Rs 1216 per 40 kgs in the Punjab and Rs 1146 in Sindh during the post harvest season in major producing areas.

- 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 2014-15 crop.

Cost of Production

- In the Punjab, the cost of wheat cultivation for 2015-16 season is estimated at Rs 32,996 per acre including land rent.
- The cost of production at market/procurement centre level would be Rs 1226 per 40 kgs, reflecting fall of -1.8 per cent over the last year due to falling cost of farm operations, tubewell irrigation and harvesting/threshing charges.
- In Sindh, the cost of wheat cultivation for 2015-16 crop is expected at Rs 31,911 per acre including land rent.
- The cost of production at market/procurement centre level would come to Rs 1182 per 40 kgs, showing decrease of (4.37) per cent over the last year.

Economics of Wheat and Competing Crops

- Wheat farming in the Punjab has performed better than sunflower during 2014-15 in terms of the most of the economic criteria adopted in the analysis. However, canola proved better in terms of returns to overall investment and purchased inputs.
- In Sindh, wheat cultivation has lagged behind the sunflower in terms of output-input ratio and returns to crop duration. Canola also performed better in terms returns to overall investment and purchased inputs.
- In case of indirect competition, sugarcane has performed better than most of the crop combinations in majority of economic indicators both in Punjab and Sindh.
- However, certain combinations performed better than sugarcane like basmati+wheat in terms of output-input ratio and crop duration. Cotton combinations were also better in terms of irrigation water.
- In Punjab, wheat rotations with cotton and Basmati have paid better returns than rest of the crop combinations. Sugarcane also performed better in terms of returns to overall investment and purchased inputs.

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 the decade of 2005 to 2015.

- During 2014-15, the parity ratio between market prices of N and wheat was not in favour of wheat due to high prices of N fertilizer and 2.77 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 between 2.79 to 6.26 tonnes during 2015-16.
- During 2014-15, the parity ratio between market prices of P and wheat was not in favour of wheat due to high prices of P fertilizers and 4.98 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 2014-15 have experienced overall increase of 108 per cent, while the real support prices have decreased by 4.37 per cent.
- During 2014-15, the nominal support price increased by 8.33 per cent over the last year, while the real support price has increased by 3.43 per cent.

Nominal and Real Market Prices

- The nominal market prices of wheat have shown an overall surge of 76 per cent, while the real market prices have shown negative change by 11.42 per cent during the period.
- During 2014-15, the nominal market price has declined by 5.5 per cent, while the real market price has deteriorated by 9.8 per cent in the wake of inflationary trend.

World Production and Prices

- World wheat production estimated at 729 million tonnes in 2014-15 is higher by 12 million than the last year while it is forecast to 732 million tonnes in 2015-16, 0.4 per cent increase over the last year.
- The closing stocks at 188 million tonnes in 2013-14 improved to 201 million tonnes in 2014-15 and are forecast to further improve to 213 million in 2015-16.
- The average Fob (gulf) prices of US Hard Red Winter (HRW) wheat fluctuated widely and rising as high as \$ 361 per tonne in 2007-08 to 209 per tonnes in 2009-10. In 2014-15, wheat prices continued to decline reaching USD 266 per tonnes.

- During the first half-year of 2015-16, international prices of US No. 2 HRW wheat have averaged at US \$ 220 per tonne. The prices further dipped to US \$ 208 per tonne during the 3rd quarter (Jan-Mar).

Export/Import Parity Prices

- Based on the average Fob (gulf) price of US HRW wheat during 2014-15, the export parity price works to Rs 941 per 40 kgs. The export parity price calculates to Rs 1119 per 40 kgs on the basis of average fob price during 2012-13 to 2014-15.
- Based on the average Fob (gulf) price of 2015-16 (July-September), the export parity price of wheat works back to Rs 783 per 40 kgs.
- Based on average Fob (gulf) prices during 2012-13 to 2014-15, the import parity prices work to Rs 1607 per 40 kgs at Multan, while Rs 1535 per 40 kgs at Karachi.
- Based on the Fob price during 2015-16 (July-Sep), the import parity prices calculate to Rs 1247 per 40 kgs at Multan and Rs 1175 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 remains below one under the importing scenario for 2009-10 to 2014-15 in both Punjab and Sindh.
- The EPCs below one during the entire period imply that wheat remained implicitly taxed in Punjab and Sindh
- Under export scenario, the NPC values are either greater than or very close to one both in the Punjab and Sindh. This means that for the 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 less than one during the period, indicating a Comparative Advantage in domestic wheat production for import substitution. While under export scenario, DRCs do not indicate Comparative Advantage

being greater than one; this implying that wheat production for export is not a viable proposition.

World Comparison

- Pakistan is the 8th largest wheat producer in terms of area and production but ranks at 64th position in terms of yield.
- Among the major wheat producing countries, Pakistan lies at the bottom in the context of yield.
- Support price of wheat in India during 2011-12 to 2014-15 was lower as compared to Pakistan, through providing huge subsidies on farm inputs.

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 1300 per 40 kgs, the CPI would likely to rise by 0.195 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 1905 per household.

Policy Options

Based on the analysis of relevant factors covered in the main text of the Report, the likely policy options for wheat 2015-16 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 2014-15, if exported from Multan	941
b) Fob (gulf) average price of US HRW wheat during 2012-13 to 2014-15, if exported from Multan	1119
c) Fob (gulf) price of US HRW wheat during 2014-15 (Jul-Sep), if exported from Multan	783
2. Import parity price on the basis of:	
a) Fob (gulf) price of US Hard Red Winter (HRW) wheat during 2014-15, if consumed at:	
- Karachi	1344
- Multan	1416
b) Fob (gulf) price of US HRW wheat during 2012-13 to 2014-15, if consumed at:	
- Karachi	1535
- Multan	1607
c) Fob (gulf) price of US HRW wheat during 2014-15 (July-Sep), if consumed at:	
- Karachi	1175
- Multan	1247
3. Monthly average wholesale market prices of wheat in major producing areas during the post-harvest period of 2014-15 crop:	
- Punjab	1216
- Sindh	1146
4. Cost of production estimates at market/procurement centre level for 2015-16 crop:	
- Punjab	1226
- Sindh	1182

- Recommendations

In view of the field information, consultation with the stakeholders in the API Committee meeting on Wheat and analysis of relevant factors, following recommendations are made regarding the support price, improving productivity and marketing of 2015-16 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 crop situation, stocks, consumption and production estimates of wheat, the Ministry of National Food Security and Research may like to consider the support price of wheat and maintain at Rs 1300 per 40 kgs for 2015-16 crop.
- It provides a reference point for procurement by the public sector agency to meet the food security requirements of the country.
- It is important to ensure that 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 needs to be further strengthened.
- This price is expected to provide some profit margin over the cost of production for improving productivity through balanced input use, better management and optimal technology adoption.
- PASSCO and Provincial Food Departments may be designated as the implementing agencies for the procurement of wheat at the support price announced by the government.
- 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.
- To overcome the energy crisis, the Solar Tubewell Technology may be promoted through providing subsidy by the government
- The Government should emphasize on timely availability of certified seed and grading of farm seed for wheat cultivation.
- Measures should be taken for strict quality control to check adulteration of weedicides, herbicides, pesticides and fertilizer to enhance their efficiency.
- For the efficient use of fertilizer, the Government should control the black marketing of DAP and Urea to keep the prices at optimal level to maintain certain level of ratio in prices of fertilizer and wheat.
- The Seed Act may be implemented in true spirit and the private seed companies selling spurious and fake seeds may be strictly penalized.

- The prices of ploughing tubewell irrigation/mechanical harvesting and threshing have not gone down in line with reduction in diesel/petrol prices. Government should ensure that benefit of reduced prices of petroleum products should be trickled down at farm level.

Improving Statistics and Marketing

- The Government should establish Input Price Regulatory Authority in order to check and control the input prices and other related matters.
- The Government should stress on value addition in wheat produce to improve its export competitiveness in the world market.
- 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 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
- 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.
- Farmers suggested reduction in mark up by the ZTBL and other commercial Banks on small loans to growers.

WHEAT POLICY ANALYSIS FOR 2015-16 CROP

INTRODUCTION

Being the leading food commodity, wheat occupies central position in the economy. Wheat is the largest crop of the country in terms of area and contributes about 10 per cent to the value added in agriculture and 2.1 per cent to the GDP¹. The crop occupies around 39 per cent of total cropped area. It is generally cultivated over 9 million hectares with an annual average production of 25.1 million tonnes (2012-15). During the decade ending 2014-15, wheat production has increased @ 1.8 per cent per annum. About 87 per cent of wheat area is irrigated which accounts for about 93.7 per cent of the annual production. During certain years like 2010-11 and 2011-12 wheat was exported in high quantity. During 2014-15, wheat production of 25.09 million tonnes remained 3.5 per cent lower than the target of 26 million tonnes. The reduced production was due to decline in yield by 7 per cent against the target, while the area was over sown by 3 per cent.

2. Among the world wheat producing countries, Pakistan ranks 8th in terms of both area and production of wheat but falls much lower in ranks i.e. 64th in terms of yield per hectare², 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 yield can be narrowed through adoption of optimal technology and better management on general field conditions. Productivity gap between the progressive and resource poor farmers in Pakistan is almost 40 per cent. The resource poor farmers cannot use quality seed, fertilizers, herbicides and other inputs to the optimum level for want of resources. 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 uncertainty and price risk in wheat farming and to ensure food security in the country.

¹ Economic Survey of Pakistan, 2014-15.

² Food and Agriculture Organization.

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 2014-15 and enhanced to Rs 1300 per 40 kgs.

4. The PASSCO and the Provincial Food Departments were reported to have procured 5.146 million tonnes of wheat during 2014-15, around 64 per cent of the target of 8 million tonnes³. The government has sufficient stocks of around 8.840 million tonnes to meet the domestic requirements during the consumption year of 2015-16.

5. In formulating the price policy recommendations for 2015-16 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, 2015 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 20th August 2015 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 2015-16 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

³ M/o National Food Security and Research (Brief on 16th September 2015).

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. Wheat being a very sensitive food 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 been implementing 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.

2. SOWING AND HARESTING TIMES OF WHEAT

8. 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.

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 during 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. Normally in Pakistan, wheat harvesting starts from end of March in south and continues till end of July in northern parts. Harvesting of wheat depends on the climatic conditions and maturing time of varieties sown. By and large, it starts in March/April and continues up to May, depending upon the sowing time, management practices, climatic conditions and varieties.

3. REVIEW OF 2014-15 CROP

3.1 Provincial Shares in Area and Production

14. Based on 3-year average ending 2012-15, the Punjab and Sindh contribute about 76.5 and 15.0 per cent in total wheat production while the shares of the KPK and Balochistan are around 5.1 and 3.3 per cent, respectively. The provincial shares of area and production are presented in Table-2 and depicted in Figures 1 & 2, respectively.

15. Around 87.0 per cent of wheat acreage is cultivated under irrigated conditions which contribute 93.7 per cent of wheat production in the country.

Table-2: Provincial Shares in Area and Production of Wheat (Average of 2012-13 to 2014-15)

Item/Country/ Province	Total	Pakistan	Punjab	Sindh	KPK	Balochistan
	000 hact.	----- Per cent -----				
A. Area						
Total	9021.1 (22292.1)	100.0	75.3	12.1	8.3	4.2
Irrigated	7850.1 (19398.5)	87.0	67.8	11.6	3.7	3.9
Un-irrigated	1171.0 (2893.6)	13.0	7.5	0.5	4.6	0.3
B. Production						
	000 tonnes	----- Per cent -----				
Total	25088.6	100.0	76.5	15.0	5.1	3.3
Irrigated	23520.3	93.7	72.8	14.8	2.9	3.2
Un-irrigated	1568.3	6.3	3.7	0.2	2.2	0.1

Note: Figures in parentheses are thousand acres.

Source: Worked out from Annex-I.

3.2 Long-term Changes: 2004-05 to 2014-15

16. During the decade ending 2014-15, wheat production at country level has increased @ 1.8 per cent per annum owing to 1.0 per cent improvement in yield and 0.8 per cent expansion in area. In the Punjab, wheat production has increased @ 1.4 per cent annually due to 0.8 per cent

**Provincial shares in Area of Wheat:
(Average of 2012-13 to 2014-15)**

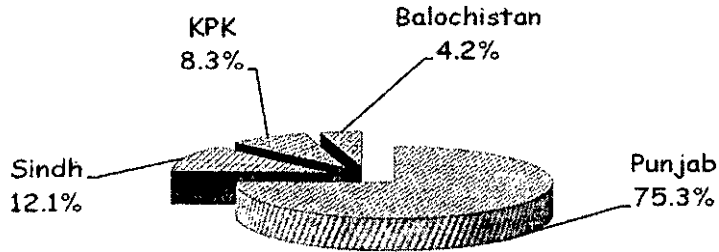


Figure-1: Shares in Area

**Provincial Shares in Production of Wheat:
(Average of 2012-13 to 2014-15)**

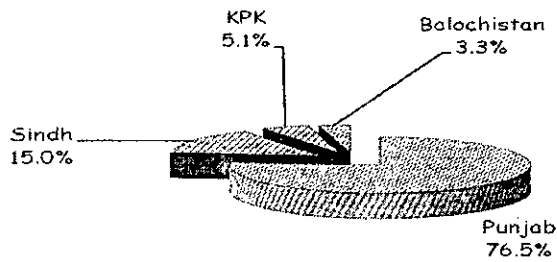


Figure-2: Shares in Production

improvement in yield and 0.7 per cent acreage expansion. In Sindh, wheat production has also risen @ 3.7 per cent per annum mainly due to improvement of yield by 1.5 per cent as the area expanded only by 2.1 per cent. Details of wheat area, yield and production by province are presented in Table-3.

Table-3: Average Annual Growth Rate of Area, Yield and Production of Wheat: 2004-05 to 2014-15

Country/ Province	Area	Yield	Production
Pakistan	0.8	1.0	1.8
Punjab	0.7	0.8	1.4
Sindh	2.1	1.5	3.7
KPK	0.0	1.7	1.7
Balochistan	1.0	0.9	2.0

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

3.3 Medium Term Changes: 2009-10 to 2014-15

17. The annual growth rate for the period 2009-10 to 2014-15 shows that the wheat production has increased @ 1.4 per cent solely due to 1.0 per cent improvement in yield as the acreage has marginally improved 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: 2009-10 to 2014-15

Country/Province	Area	Yield	Production
Pakistan	0.4	1.0	1.4
Punjab	0.4	1.1	1.5
Sindh	0.0	-0.9	-0.8
KPK	0.1	2.9	3.0
Balochistan	1.9	6.6	8.6

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

3.4 Short-term Changes: 2013-14 Vs 2014-15

18. Wheat production from 2014-15 crop is reported at 25.086 million tonnes at country level, showing 3.4 per cent decline over 25.979 million tonnes in 2013-14 due to decrease of

yield by 3.5 per cent despite the area marginally increased by 0.1 per cent. The provincial area, yield and production of wheat are presented in Table-5 and also depicted in Figures 3 and 4.

Table-5: Area, Yield and Production of Wheat: 2013-14 and 2014-15 Crops

Country/ Province	Area		Changes	Yield per hectare		Changes	Production		Changes
	2013-14	2014-15		2013-14	2014-15		2013-14	2014-15	
	-- 000 hectares --		Per cent	-----Kgs ----		Per cent	-- 000 tonnes --		Per cent
Pakistan	9199.3	9203.9	0.1	2824	2726	-3.5	25979.4	25086.0	-3.4
Punjab	6901.4	6979.5	1.1	2860	2763	-3.4	19738.9	19281.9	-2.3
Sindh	1121.6	1106.9	-1.3	3568	3318	-7.0	4002.1	3672.2	-8.2
KPK	776.8	732.5	-5.7	1755	1720	-2.0	1363.1	1259.9	-7.6
Balochistan	399.5	385.0	-3.6	2191	2265	3.4	875.3	872.0	-0.4

Source: Annex-I and II.

3.5 Factors Responsible for Changes in Area and Production: 2014-15 Crop

19. The Provincial Agriculture Departments of the Punjab and Sindh have reported following factors responsible for changes in area and production during 2014-15.

Punjab

Area

20. The average shows a nominal increase of 1.1 percent over the previous year which is attributed to the following:

1. Enhancement of support price.
2. Shifting the area of competitive crops into wheat crop.

Production

21. The production shows an overall decrease of about 2.3 percent over the previous year which is attributed to:

22. In irrigated area quantum of rains, hail/wind storms, stagnant water and partially lodging affected the crop.

1. In un-irrigated tract intermittent rains played positive role resultant boost the crop.

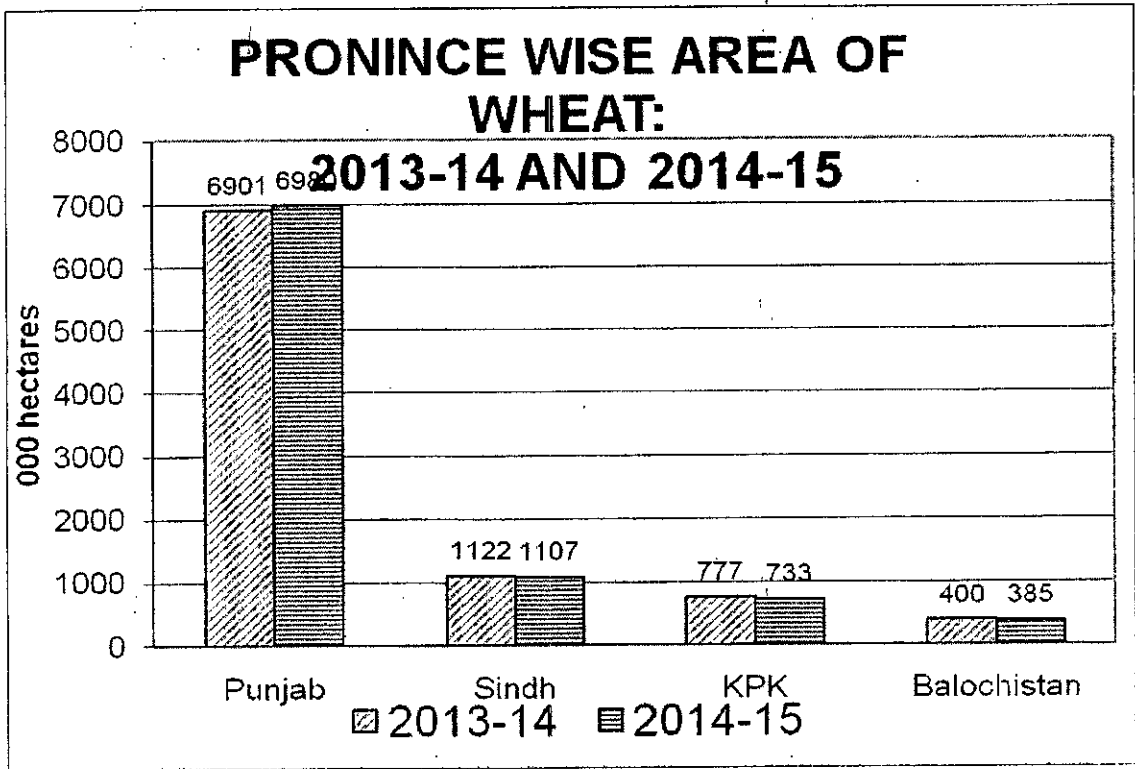


Figure-3

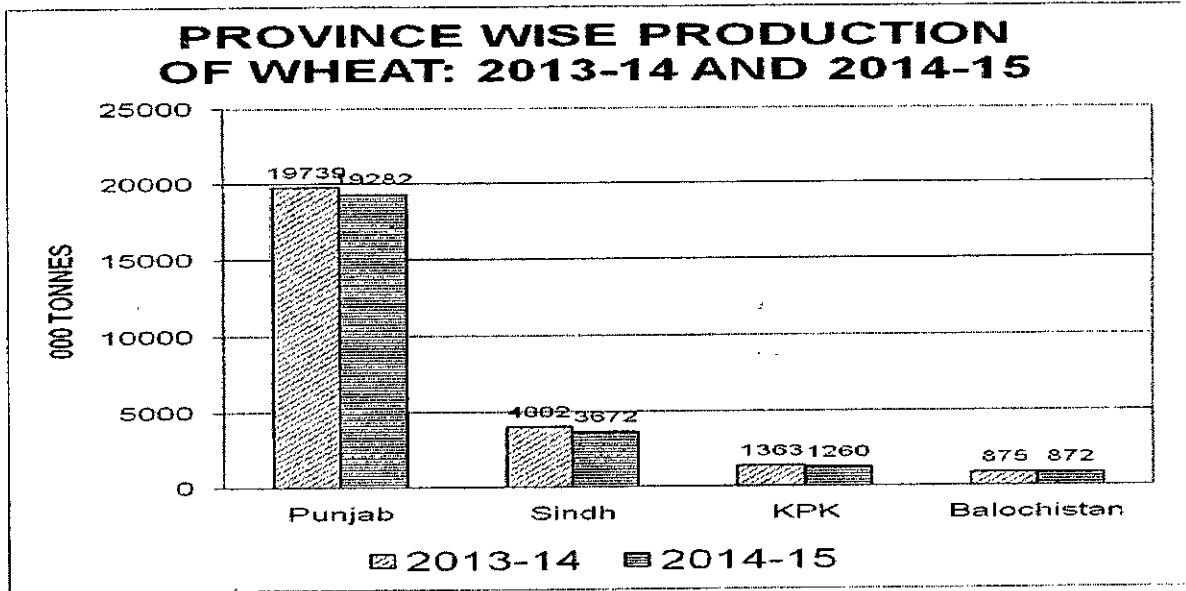


Figure-4

Sindh

Area

23. The reasons of decrease in area and production are given as under:

1. Late start of Sugar Mills and delayed cutting of Sugarcane Crop resulted in less sowing of Wheat crop as compared to last year area.

Production

1. Due to prolonged annual closure of Barrages particularly Rohri Canal, growers could not apply irrigation water at boosting stage, which adversely affected yield per acre of the crop.
2. Due to change in climatic winter season started late, resultantly wheat crop could not receive proper cold, which affected grain formation and caused decrease in production.
3. Due to uncertain rainfall hail storm in certain upper Sindh districts in the month of April 2015, yield has been badly affected.

3.6 Important Wheat Producing Districts

24. The Bhawalnagar district 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, Vehari, Jhang, Bahawalpur, Muzaffargarh, Okara, Gujranwala, Sheikhpura, Khanewal, Lodhran, Layyah, T.T.Singh. Multan, Pakpattan, Sialkot, Sargodha, Kasur and D.G.Khan. These 20 districts produce around 57 per cent of total wheat production in Pakistan while their share in area is estimated at 52 per cent. Hafizabad, Rajanpur, Sahiwal, Bhakhar, Mianwali, Nankana Sahib, M.B.Din, Narowal, and Chinniot from the Punjab and Sanghar, NausheroFeroz, Khairpur and Ghotki from Sindh, Swat from KPK, Nasirabad and Jaffarabad from Balochistan are other important wheat producing districts in the country. Names of the districts in descending order of wheat production are given in Annex-III.

3.7 Targets Vs Achievements: 2014-15 Crop

25. Wheat production target for 2014-15 crop was at 26.000 million tonnes from an area of 8.910 million hectares fixed by Federal Committee on Agriculture. However, the production of wheat is reported at 25.086 million tonnes, reduced by 3.5 per cent against the target. The production target could not be achieved due failing in yield by 6.6 per cent. However 3.3 per cent

improvement was achieved in area. 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: 2014-15 Crop

Country/ Province	Area		Deviation from target	Yield per hectare		Deviation from target	Production		Deviation from target
	Targets	Achieve- Ments		Targets	Achieve- Ments		Targets	Achieve- Ments	
	000 ha		Per cent	Kgs		Per cent	000 tonnes		Per cent
Pakistan	8910.0	9203.9	3.3	2918	2726	-6.6	26000.0	25086.0	-3.5
Punjab	6600.0	6979.5	5.8	2955	2763	-6.5	19500.0	19281.9	-1.1
Sindh	1150.0	1106.9	-3.7	3652	3318	-9.2	4200.0	3672.2	-12.6
KPK	760.0	732.5	-3.6	1842	1720	-6.6	1400.0	1259.9	-10.0
Balochistan	400.0	385.0	-3.8	2250	2265	0.7	900.0	872.0	-3.1

Sources: 1. For targets: Minutes of the meeting of FCA held on 14-10-2014 at Islamabad

2. For Achievements: Annex-I.

4. FACTORS CONSIDERED FOR PRICE POLICY ANALYSIS

26. Following major factors were considered for the analysis of the price policy of wheat 2015-16 crop:

- i) Domestic Demand, Supply, Stocks and Price Situation
- ii) World Production, Consumption, Stocks and Trade Situation
- iii) International Price
- iv) Export or 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

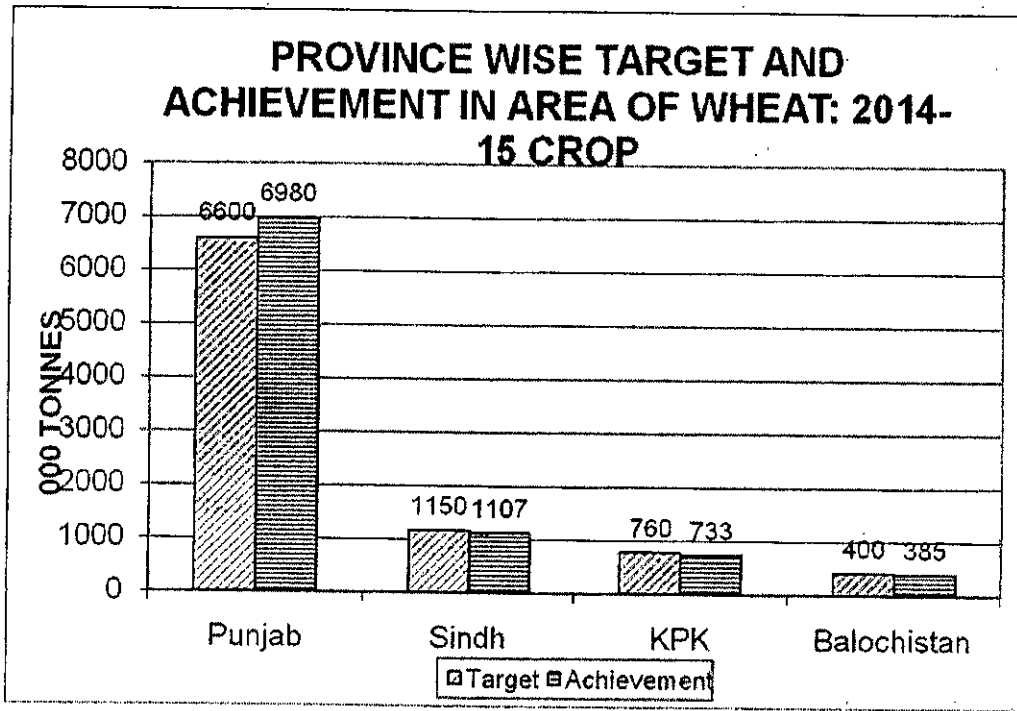


Figure-5

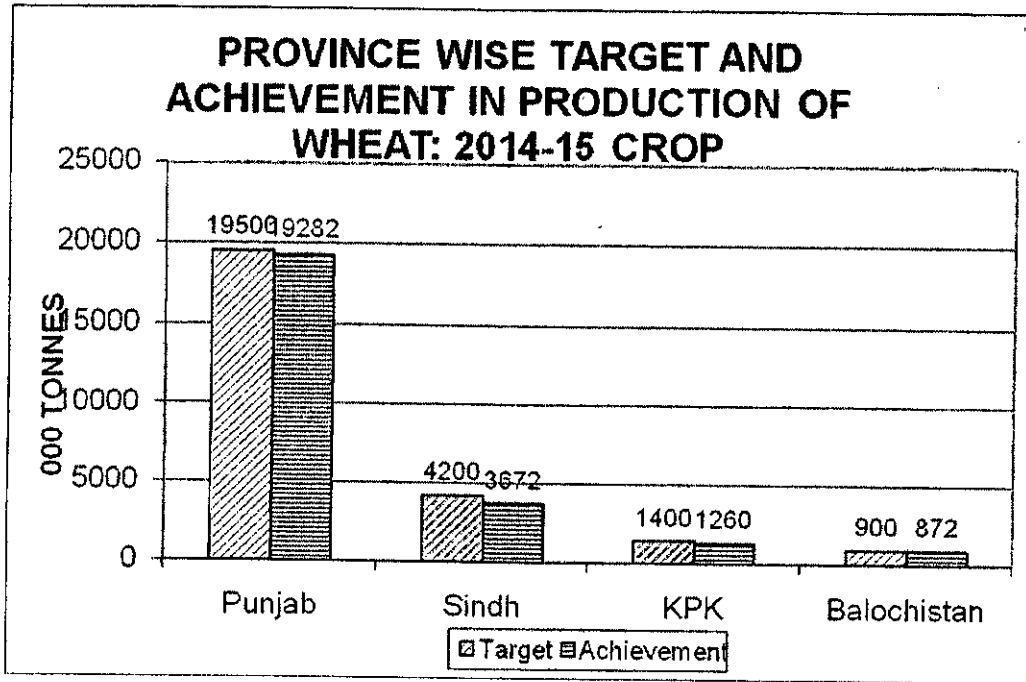


Figure-6

4.1 Domestic Demand, Supply, Stocks and Price Situation

4.1.1 Domestic Demand, Supply and Stocks

27. The per capita availability of wheat has been calculated on the basis of three years balance sheet method as shown in Annex-IV. The average per capita availability calculates at 114 kgs per annum. The country has produced 25.09 million tonnes wheat during 2014-15. After adding carryover stocks 4.12 million tonnes from previous year, total wheat supply in the country for 2015-16 consumption year becomes 29.21 million tonnes. This supply may slightly increase if production of wheat in Azad Kashmir and Gilgit-Baltsitan estimated at 0.25 million tonnes is added. Thus total availability of wheat in the country would be 29.46 million tonnes.

28. The estimation of consumption requirement of wheat for 2015-16 is based on its actual average per capita availability of 114 kgs per annum as worked by API, and 120 kgs as per Planning Commission. At these two levels using total population of 202.89 million human consumption requirements for 2015-16 are estimated at 24.35 and 23.13, respectively. Adding allowance for seed, feed and wastage @ 10 per cent of production and strategic reserve of one million tonne, gross domestic requirements for 2015-16 wheat year works to 27.88 and 26.66 million tonnes, respectively. Against the overall requirement, the surplus wheat of 1.58 to 2.80 is available. A summary of domestic requirements of wheat is presented in Table-7 below:

Table-7: Domestic Requirements of Wheat for 2015-16 Wheat Year: (May-April)

S.No.	Item	Based on annual per capita	
		Planning Comm:	API
		120 Kgs	114 Kgs
1.	Population (Million)	202.89	202.89
2.	Human consumption requirement (Million tonnes)	24.35	23.13
3.	Food Security Reserves (Million tonnes)	1.00	1.00
4.	Seed, Feed and Wastage of Production (M. tones)	2.534	2.534
5.	Total requirements (M. tones)	27.88	26.66
5.	Surplus/Deficit (M. tones)	1.58	2.80

Source: Annex-IV.

4.1.2 Post harvest prices

29. Table-8 provides the monthly average wholesale prices in the main producing area markets of the country during the post-harvest period of 2014-15.

Table-8: Monthly Average Wholesale Prices of Wheat in Main Producing Area Markets of Punjab and Sindh during Post-harvest Season of 2014-15 Crop

Markets	April	May	June	Average
	----- Rs per 40 kgs-----			
Punjab				
Lahore	1,259	1,256	1,247	1,254
Faisalabad	1,343	1,267	1,225	1,278
Multan	1,191	1,223	1,188	1,201
Gujranwala	1,096	1,256	1,261	1,204
Okara	1,240	1,229	1,227	1,232
R.Y. Khan	1,165	1,186	1,141	1,164
Bahawalpur	1,226	1,224	1,182	1,211
D.G. Khan	1,198	1,180	1,180	1,186
Average	1,215	1,228	1,206	1,216
Sindh				
Hyderabad	1,125	1,213	1,225	1,188
Sanghar	1,090	1,183	1,155	1,143
Nawabshah	1,120	1,240	1,240	1,200
Matyari	1,125	1,275	1,195	1,198
Mirpur Khas	1,055	1,070	1,110	1,078
Sukkur	1,125	1,145	1,180	1,150
Larkana	1,050	1,050	1,088	1,063
Average	1,099	1,168	1,170	1,146

Sources:

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

30. It may be observed from the table that in Punjab markets, wholesale prices range between Rs 1096 per 40 kgs; the lowest, in Gujranwala market during April 2015 to Rs 1267, the highest, in Faisalabad market during May 2015. While in Sindh, the price ranged between Rs 1050 per 40 kgs in Larkana during April-May 2015 to Rs 1275 in Matyari during May 2015.

31. The market-wise data discloses that the monthly average wholesale prices of wheat in main producing areas of country were much below the support price of Rs 1300 per 40 Kgs during the postharvest period.

4.2 World Production, Consumption, Stocks and Trade Situation

32. The data on world production, consumption, stocks and trade situation from 2012-13 to 2015-16 are presented in Table-9.

Table-9: World Wheat Situation: 2012-13 to 2015-16

Items	2012-13	2013-14	2014-15 (Estimated)	2015-16 (Forecast)
.....Million tonnes.....				
Opening stocks	194	171	188	201
Production	655	717	729	732
Total Supply	849	888	917	933
Consumption	677	699	716	719
Closing stocks	171	188	201	213
Trade	142	157	153	152

Source: Grain Market Report, International Grains Council, London, February, 2016.

33. The world wheat production during 2014-15 is estimated at 729 million tonnes, 12 million tonnes higher than the last year. After adding the opening stocks of 188 million tonnes, the world supply of wheat in 2014-15 is estimated at 917 million tonnes, 29 million tonnes higher than the last year. Higher production along with higher closing stock of previous year has added the closing stock further to 201 million tonnes for 2014-15.

34. According to the International Grains Council London, the global wheat production in 2015-16 is forecast to 732 million tonnes, 3 million tonnes over the previous year. Accounting for the opening stocks of 201 million tonnes, total supply is anticipated at 933 million tonnes against the consumption forecast of 719 million in 2015-16. Resultantly, the end-season stocks in 2015-16 forecast to increase further to 213 million tonnes, while the global trade may be around 152 million tonnes.

35. It is observed from the ongoing analysis that the world wheat situation in 2015-16 would likely remain same as of the previous year. Continuously increasing global stocks may likely to push the prices downward in the world market.

4.3 International Prices of Wheat

36. Average Fob (Gulf) prices of US Hard Red Winter (HRW) from 2006-07 to 2015-16 are presented in Annex-V. The prices of HRW remained volatile and divergent during the period under review. The prices averaged at US \$ 212 per tonne during 2006-07, which increased sharply in the next year and averaged at US \$361, the highest during the period under review. In the next two years, the prices were on declining side and plummeted to \$ 209 per tonne during 2009-10, than surged upward in the 2010-11 reaching \$ 316 per tonne, but slightly decreased to \$ 301 in next year. In 2013-14 the wheat price jumped to \$ 318 per tonne and once again fell drastically to \$ 266 per tonne in 2014-15.

37. During the current year i.e 2015-16 the fob prices are observed generally on decreasing side. These prices averaging at \$ 251 per tonne in July fell further to \$ 213 per tonne in November. As discussed that the World stocks increasing persistently, the international price of wheat continued to decline further reaching \$ 204 per tonne in February 2016, all time lowest.

4.4 Import and Export Parity Prices

38. 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 prices 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-10 and 11, 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) Price

Item	Jul-Sep 2015-16	During 2014-15	During 2012-13 to 2014-15
Fob Gulf price (US \$ per tonne)	227	266	310
Import parity price per 40 kgs of wheat:			
i) if consumed at Multan	1247	1416	1607
ii) If consumed at Karachi	1175	1344	1535

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

Item	Jul-Sep 2015-16	During 2014-15	During 2012-13 to 2014-15
Fob Gulf price assuming for Karachi (US \$ per tonne)	227	266	310
Export parity price per 40 kgs at procurement centre	783	941	1119

Source Annex-VI to VII.

4.5 Cost of Production

39. 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.

40. The cost of production of wheat for 2015-16 crop in the Punjab and Sindh have been estimated by adopting the input-output parameters used in the 2014-15 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 July 2015 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 August 20, 2015 at Islamabad. The details of the COP estimates for the Punjab and Sindh for 2014-15 and 2015-16 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: 2014-15 and 2015-16 Crops

41. The cost of production estimates of wheat in the Punjab and Sindh for 2014-15 and 2015-16 crops are summarized and presented in Table-12.

Table-12: Average Farmers' Cost of Production of Wheat: 2014-15 and 2015-16 Crops

Items	Units	2014-15 Crop	2015-16 crop	Increase/decrease in 2015-16 over 2014-15
Punjab				
1. Cost of cultivation	Rs/acre	33765	32996	-769
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	1219	1191	-28
4. Marketing cost	Rs/40 kgs	30	35	5
5. Cost of production at market/ procurement centre				
a) With land rent	Rs/40 kgs	1249	1226	-23
b) Without land rent	Rs/40 kgs	888	919	31
Sindh				
1. Cost of cultivation	Rs/acre	33543	31911	-1632
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	1206	1147	-59
4. Marketing cost	Rs/40 kgs	30	35	5
5. Cost of production at market/ procurement centre				
a) With land rent	Rs/40 kgs	1236	1182	-54
b) Without land rent	Rs/40 kgs	912	912	-

Source: Annex-VIII and IX.

Punjab

42. The expected cost of cultivation of one acre of wheat in the Punjab during 2015-16 crop year is likely Rs 32996 including land rent (Table 12). The cost of producing wheat at farm gate is worked out at Rs 1191 per 40 kgs, provided that average yield is 1108 kgs per acre. Accounting for the marketing charges @ Rs 35 per 40 kgs, the market/procurement centre level cost of production comes out to Rs 1226, low by Rs 23 (1.8 %) than the corresponding cost of Rs 1249 in 2014-15.

Sindh

43. Cost of sowing one acre of wheat in Sindh during 2015-16 crop is likely to be Rs 31911, 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 1147 per 40 kgs. Adding marketing cost @ Rs 35 per 40 kgs, the cost of producing and delivering 40 kgs wheat at market/procurement centre level would be Rs 1182, reflecting a decrease of Rs 54 (4.3 %) over the last year's corresponding cost of production.

44. The decreases in the cost of production of wheat for the 2015-16 crop in the Punjab and Sindh over the last year's cost are mainly attributed to the declined hiring rates of ploughing, irrigation and harvesting & threshing. Moreover, the shrinking in land rent has also added considerably to this decrease in cost of production.

Cost of major farm inputs and operations

45. The cost of major operations and farm inputs in the total cost of cultivation of wheat in the Punjab and Sindh during 2014-15 and 2015-16 crops along with percent changes therein is presented in Table-13.

Table-13: Cost of Major Farm Operations/Inputs of Wheat: 2014-15 and 2015-16 Crops

Operations/inputs	2014-15	2015-16	Share in increased/ decreased cost
	crop	crop	Per cent
	---Rs/acre---		
Punjab			
1. Land preparation	3530 (9)	3748 (10)	-28 <i>218</i>
2. Seed and sowing operations	3655 (9)	3751 (10)	-12 <i>96</i>
3. Weedicides	630 (2)	708 (2)	-10
4. Irrigation	3434 (9)	3422 (9)	1
5. Fertilizer including FYM	8442 (21)	8595 (22)	-20
6. Harvesting and threshing etc	6946 (18)	6998 (18)	-7
7. Land rent	10000 (25)	8500 (22)	195
8. Others	2629 (7)	2772 (7)	-19
9. Total cost	39265 (100)	38496	100 - 769
Sindh			
1. Land preparation	5163 (14)	4956 (14)	13
2. Seed and sowing operations	2997 (8)	3140 (9)	-9
3. Interculture/weedicides	464 (1)	515 (1)	-3
4. Irrigation	2185 (6)	2185 (6)	0
5. Fertilizer including FYM	8545 (23)	8673 (24)	-8
6. Harvesting and threshing etc	6527 (17)	6162 (17)	22
7. Land rent	9000 (24)	7500 (21)	92
8. Others	2662 (7)	2779 (8)	-7
9. Total cost	37543 (100)	35911 (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

46. The land rent and Fertilizer including FYM are the major component in gross cost of cultivation of wheat in the Punjab during 2015-16 crop year, accounting for 22 per cent each. The other ingredients are: Harvesting and threshing (18%), Land preparation and Seed and sowing operations (10% each), Irrigation (9%), Others (7%) and Interculture/weedicides (2%).

Sindh

47. In Sindh, Fertilizer including FYM remained the major constituent in the total cost of cultivation during 2015-16 crop season, accounting for 24 per cent. The other components of the cost of cultivation are: land rent (21%), Harvesting & threshing operations (17%), Land preparation (14 %), Seed and sowing operations (9%), Others (8%), Irrigation (6%) and Interculture/weedicides (1 %).

4.6 Comparative Economics of Wheat and Competing Crops

48. 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.

49. 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.

50. The economics of wheat and competing crops has been analyzed in terms of output and input prices received and paid by the growers during 2014-15 at farm level.

Punjab

51. 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.

52. Wheat crop has shown better performance during 2014-15 and farmers received a small margin over the cost of wheat production (by 7%). Wheat crop performed better than sunflower in terms of all the economic criteria adopted.

Table-14: Economics of Wheat and Competing Crops at Prices Realized by the Growers in the Punjab: 2014-15 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	231	3459
Sunflower (spring)	1.05	2.4	224	1836
Canola	1.12	3.1	144	1990
Cotton + wheat	1.13	3.1	228	2811
Cotton + sunflower	1.12	2.8	232	2219
Basmati + wheat	1.32	3.1	288	1176
IRRI + wheat	1.02	2.4	209	1019
Sugarcane	1.25	4.0	237	1943

Source: Annex-X.

53. 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.

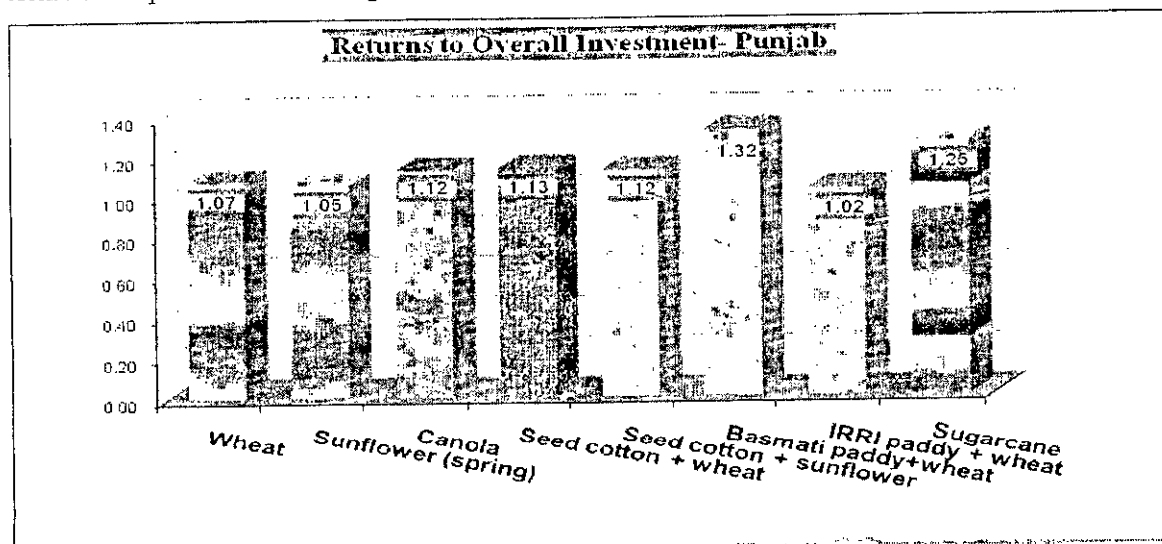


Fig - 7 : Returns to Overall Investment in Punjab

54. 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 returns to purchased inputs. However, Sugarcane lagged behind cotton combinations with wheat and sunflower in the returns to irrigation water. This indicates that sugarcane growers got profitable prices for their crop during 2014-15.

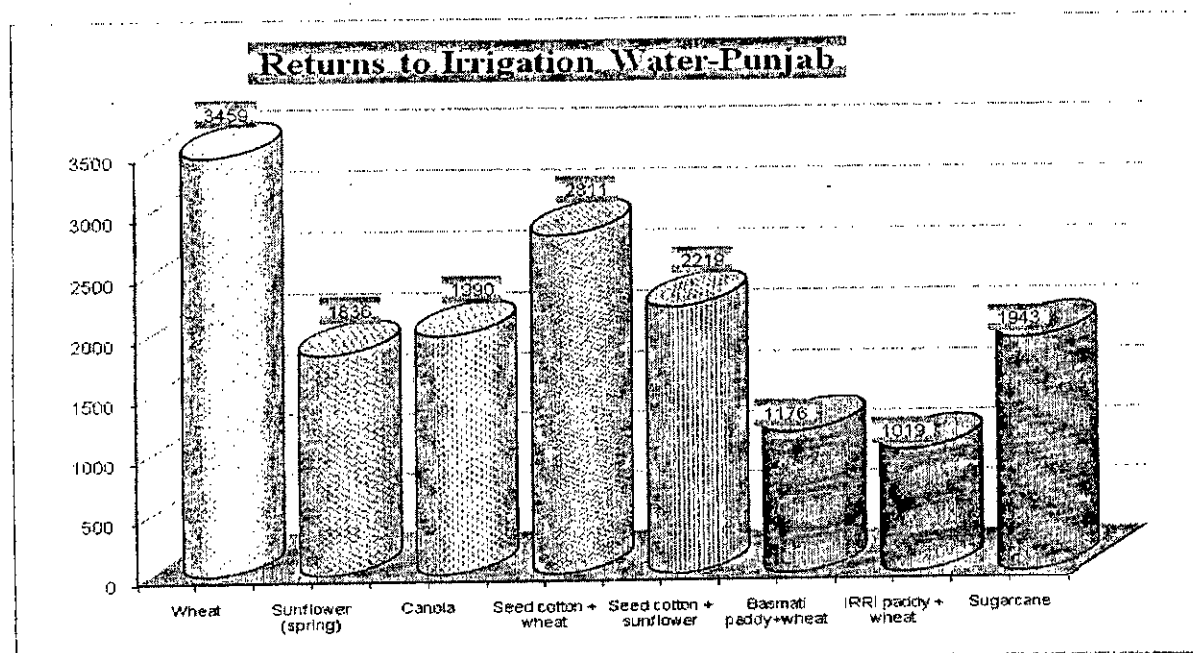


Fig-8 : Returns to Irrigation Water in the Punjab

55. 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 relatively better in terms of returns to purchased inputs and irrigation water, while the combinations of basmati with wheat and sunflower performed better in returns to overall investment and crop duration, respectively.

56. Wheat has to struggle hard against the oilseed crops for retaining its position in terms of economic returns in various indicators.

Sindh

57. The economics of wheat and competing crops at prices realized by the growers for 2014-15 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:

Table-15: Economics of Wheat and Competing Crops at Prices Realized by the Growers in Sindh: 2014-15 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	3.0	223	2972
Sunflower (spring)	1.15	2.5	224	2041
Canola	1.10	3.1	144	2231
Cotton + wheat	1.12	3.4	238	2952
Cotton + sunflower	1.17	3.6	239	2445
IRRI + wheat	1.17	3.2	236	1198
IRRI+Sunflower	1.21	2.8	237	1163
Sugarcane	1.28	3.9	232	1520

Source: Annex-X

58. In Sindh, the returns to overall investment in wheat crop remained lower than rabi oilseed crops during 2014-15 (Fig-9). In respect of other economic indicators like crop duration, sunflower performed marginally better than wheat. Canola's position was also marginally better than wheat with respect to returns to overall investment and purchased inputs. However, wheat's returns to the grower were significantly better than sunflower in terms of purchased inputs, canola crop in terms of crop duration and both the oilseeds in terms of irrigation water.

59. This scenario indicates that wheat in Sindh requires much more improvement in productivity to gain edge over the oilseed crops and attract resources for investment by the farmer.

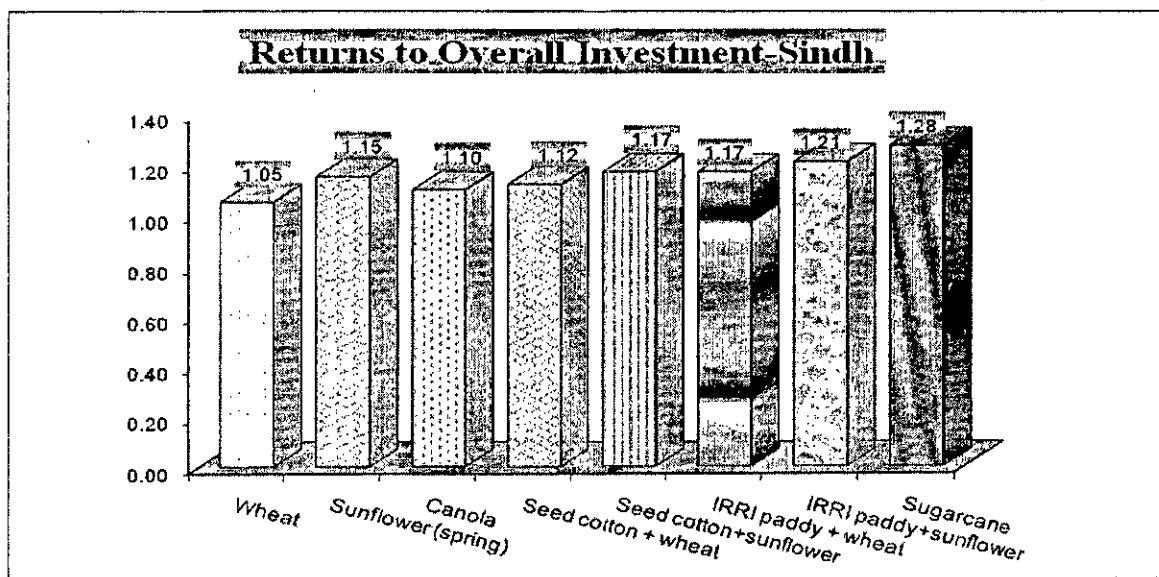


Fig-9 : Returns to Overall Investment in Sindh

60. 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 IRR1 combinations in terms of revenue per acre-inch of water used. All the crop combinations, paid returns to grower much higher against the sugarcane in terms of crop duration.

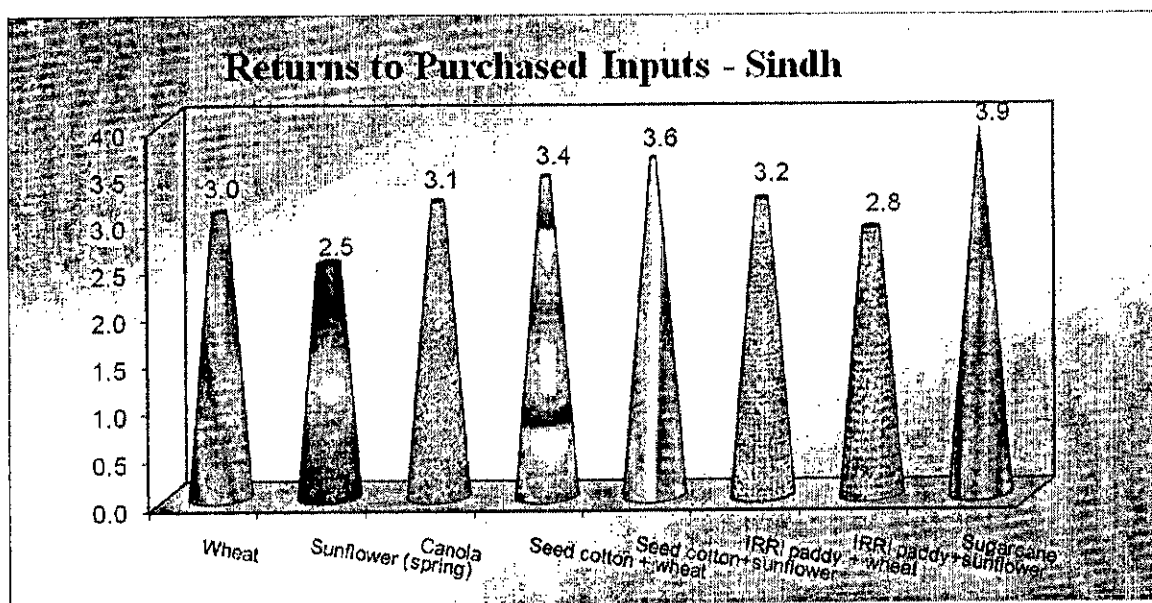


Fig-10 : Returns to Purchased Inputs in Sindh

4.7 Nominal and Real Prices of Wheat

61. 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 2014-15 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

62. The analysis in terms of nominal and real support prices for the period 2007-08 to 2014-15 is presented in the Table-16:

Table-16: Nominal and Real Support Prices of Wheat: 2007-08 to 2014-15

Year	Consumer Price Index (CPI)	Support Prices	
		Nominal	Real
	2007-08=100	Rs/40 Kgs	
1	2	3	4=(3/2)x100
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
2014-15	198.69	1300	654.28

Sources: Pakistan Economic Survey: 2014-15.

63. The nominal support price of wheat was Rs 625 per 40 kgs in 2007-08. An increased price of wheat in nominal terms i.e. Rs 950 remained constant consecutively in the following three years 2008-09 to 2010-11. In 2011-12, nominal price increased to Rs 1050 per 40 kgs while for following two years it stagnated at Rs 1200 per 40 kgs, which however, increased to Rs

1300 in 2014-15. Change in CPI during this period was evidenced quite high i.e. 14 per cent in 2010-11, 11 % in 2011-12 and 10 per cent in 2012-13 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 2014-15 crop estimated at Rs 654.28 per 40 kgs. in terms of 2007-08 price, shows a small increase of around 4.68 per cent over the base year real prices of Rs 625 per 40 kgs.

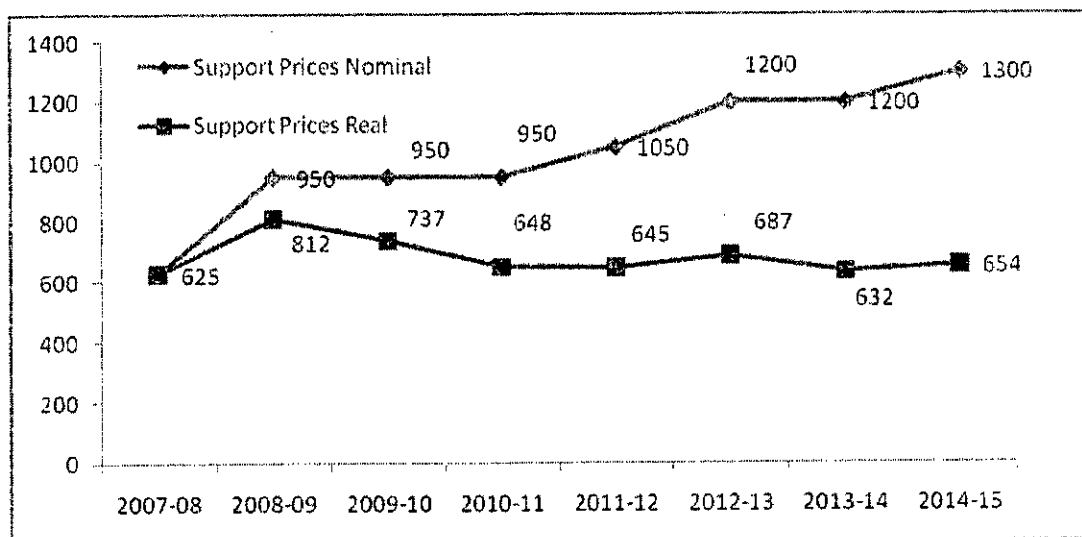


Fig-11: Nominal and real support price of wheat.

64. It is illustrated in Fig-11, that real worth of the wheat crop is on continuous decline since 2007-08. The irony is that this deterioration is worsening day by day which is alarming for future food security of the country.

4.7.2 Market Prices of Wheat

65. The analysis in terms of real and nominal average market prices for the period 2007-08 to 2014-15 is set out in the Table-17.

66. 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 except

2007-08. After 2008-09, the market price could not gain an identical value as of support price and remained below at Rs .894 per 40 kgs in 2009-10. However, the nominal price took an upward move with gradual increase during next four years. In 2014-15, the nominal and real value of wheat once again declined. The average nominal market price of wheat has evidenced 76% increase against the base year during the period under review. On the other hand, the real value has receded by 11.4 per cent mainly for the rise in CPI by 98.69 % during this period.

Table-17: Nominal and Real Market Prices of Wheat: 2007-08 to 2014-15

Crop year	Consumer Price Index (CPI)	Market Prices	
		Nominal	Real
	2007-08=100	Rs/ per 40 Kgs	
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	189.58	1250	658.94
2014-15	198.69	1181	594.39

Sources: i) For CPI, Economic Survey of Pakistan: 2014-15. CPI has been worked out to 12 months on the basis of last year.
ii) For Market prices, Directorates of Agriculture, Government of the Punjab and Sindh (Average of major producing markets) (weightage average).

67. The real market value of wheat remained below the nominal value during the entire period under study. 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 with context to the real purchasing power of the biggest commodity of the economy.

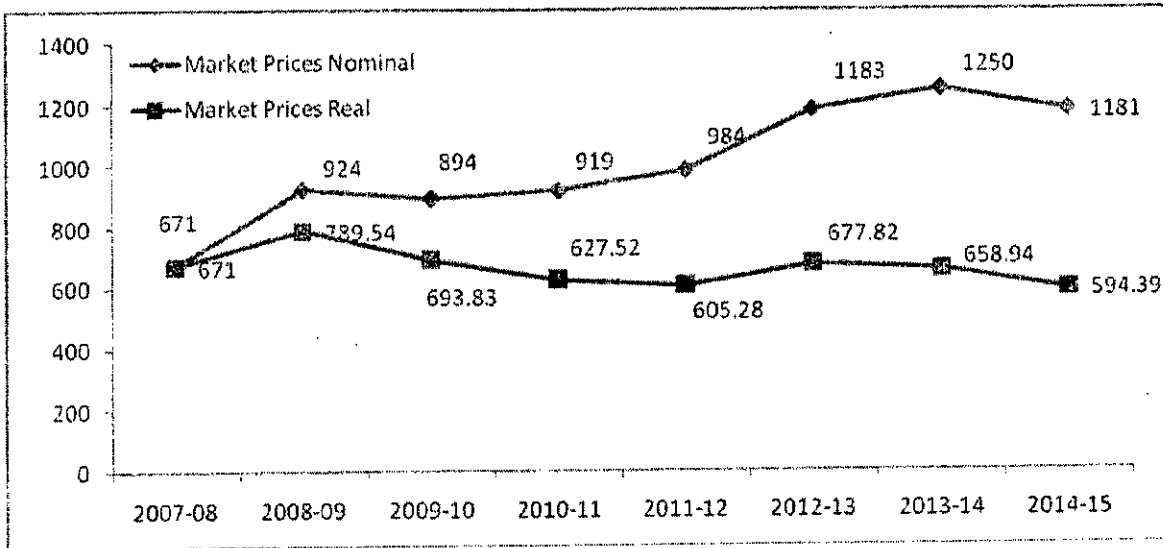


Fig. 12: Nominal and real market prices of wheat

68. If the market prices had averaged at Rs 1309 per 40 kgs, the farmers would have retained the real purchasing power equivalent to 2013-14 level.

4.8 Economic Efficiency of Wheat Production in Pakistan

69. 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 maximum of the cropped area of the country.

70. 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 while non-traded inputs comprise family labour, management charges, land rent and interest on capital. 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 are described in detail in the following paragraphs.

4.8.1 Nominal Protection Coefficient (NPC)

71. 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 ignoring 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 implies implicit taxation to growers rather than protection through the produce pricing policy. Implicit taxation to a crop means outflow of resources from that crop.

72. Nominal Protection Coefficients for wheat under import scenario are produced in Table-1. It is evident from the data in the referred table that NPC values for Punjab province remained less than one throughout the period under analysis. It ranged between 0.66 and 0.89 which implies implicit taxation to wheat growers of Pakistan.

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

Year	NPC	EPC	NPC	EPC
	Punjab		Sindh	
2009-10	0.89	0.80	0.89	0.79
2010-11	0.66	0.52	0.63	0.46
2011-12	0.69	0.54	0.61	0.42
2012-13	0.67	0.57	0.64	0.51
2013-14	0.76	0.69	0.77	0.67
2014-15	0.88	0.85	0.85	0.71

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

Year	NPC	EPC	NPC	EPC
	Punjab		Sindh	
2009-10	1.52	2.11	1.52	2.14
2010-11	0.98	0.94	0.94	0.85
2011-12	1.04	1.10	0.93	0.90
2012-13	0.97	1.02	0.93	0.90
2013-14	1.13	1.37	1.15	1.31
2014-15	1.33	2.06	1.26	1.66

73. Similarly the NPC numerics for Sindh province remained less than one - ranged between 0.61 and 0.89. Fluctuations in NPC values may be attributed to volatile prices of wheat in Pakistan.

74. NPC values under export scenario have been closer to one or greater than one which indicates that for export purposes wheat production will incur heavy implicit taxation to the wheat growers in Pakistan.

4.8.2 Effective Protection Coefficient (EPC)

75. 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 than that 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.

76. Table-1 and Table-19 present EPC estimates for wheat. Under import scenario EPC coefficients remained less than one for Punjab (which may be due to relatively less increase in input prices as compared with the price of wheat).

77. It is visible from the data in the referred tables that NPC and EPC estimates significantly increased during 2014-15 over 2013-14. Its main reason is sharp decline in international price of wheat during 2014-15. International market price of wheat in 2013-14 was US\$ 318/ tonne which decreased to US\$ 286/ Tonne in 2014-15. As social prices of wheat and production inputs are based on import and export price of wheat which are derived from the international price, NPC and EPC estimates change accordingly.

4.8.3 Domestic Resource Cost Coefficient (DRC)

78. 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 farmer and import prices of wheat, DRC for Punjab and Sindh are estimated and produced in Table-20. Detailed data on private and social profitability for the study period are produced in Annexes-XI to XII.

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	0.59	0.58	1.55	1.58
2010-11	0.41	0.41	0.75	0.76
2011-12	0.55	0.56	1.13	1.19
2012-13	0.43	0.41	0.78	1.73
2013-14	0.58	0.51	1.13	1.00
2014-15	0.86	0.78	2.08	1.82

79. It is visible from data in the Table-20 that under import scenario Domestic Resource Cost Coefficients are substantially less than 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. There-fore, it would be an economic proposition to invest in wheat production at home rather to import.

80. On the other hand under export situation DRC coefficients do not indicate comparative advantage as most of the time these have happened to be greater than one. It implies that Pakistan should not promote wheat production for export.

4.9 Producer Prices of Wheat in Selected Countries

81. 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.

82. The data on the minimum guaranteed producer prices of wheat for 2012-13 to 2014-15 crops in major wheat producing countries are presented in Table-21.

83. 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

84. The producer price of wheat in China was higher than support price of wheat in Pakistan during 2014-15. In Australia, premium white wheat Net Pool Return of Rs 1152 equivalent was lower by 11 per cent. While the minimum support price of wheat in India Rs 939 equivalent was less than support price of wheat in Pakistan by over 27.8 %. The Average Farm Price of US HRW wheat was also less by 30 per cent then the minimum support price in Pakistan.

**Table-21: Minimum Guaranteed Producer Prices of Wheat in Selected Countries:
2012-13 to 2014-15 Crops**

Country	2012-13		2013-14		2014-15		Remarks
	US \$/ Tonne	Pak Rs/ 40 kgs	US \$/ Tonne	Pak Rs/ 40 kgs	US \$/ Tonne	Pak Rs/ 40 kgs	
Australia	331.00	1281	295.00	1232	269.53	1152	Australian premium white (PW) wheat net Pool Return
Brazil	245.50	950	N.A	N.A	226.44	932	Minimum support price
China	356.00	1378	385.43	1610	385.43	1586	Minimum support price for white wheat
India	246.57	954	220.08	919	228.24	939	Minimum support price
USA	288.80	1118	252.43	1054	220.09	906	Average Farm Price of US Hard Red Winter Wheat
Pakistan	310.08	1200	291.49	1200	315.78	1300	Support price

Note: Exchange rates are one US\$ to Rs. 96.75 for 2012-13 and 104.417 for 2013-14 and 102.92 for 2014-15.

N.A: Not available.

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

85. Expenditure on wheat has a fairly large share 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

86. 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 1300 per 40 kgs in 2014-15. 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 -----			
1300*			
1325	0.0004	75	476
1350	0.0068	150	952
1375	0.0131	225	1429
1400	0.0195	300	1905
1425	0.0258	375	2381
1450	0.0322	450	2857

Sources: 1. Pakistan Bureau of Statistics (PBS), Islamabad.
2. Annex-XIII.
* Existing price for 2014-15 wheat crop.
** HH size 6.35.

87. 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 0.0004 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 0.0068, 0.0131 and 0.0258 per cent, respectively.

88. 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

89. According to the Household Integrated Economic Survey (HIES) 2013-14 by the PBS, the average household in Pakistan consists of 6.35 members. Taking the annual per capita consumption of wheat at 120 kgs and average household size of 6.35 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.

90. According to the above analysis, every increase of Rs 25 in the support price of wheat over the existing level of Rs 1300 per 40 kgs in 2014-15 would increase the annual expenditure by Rs 75 per person and Rs 476 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 39.69 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 1905 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

91. Annual meeting of the API's Committee on wheat was held on 20th August 2015 at Islamabad. The meeting, chaired by the Federal Minister for NFS&R, 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.

92. The Minister NFS&R expressed his concerns about the current issues in the crop sector particularly depressed prices of agricultural produce, high cost of production and increase in losses to the farmers. He suggested that the situation could improve significantly if remedial

measures like timely growing, seed bed preparation judicious application of weedicides/pesticides and fertilizers and replicating of best agricultural practices are adopted which may help getting 40 maund yield per acre. The Secretary NFS&R, emphasized on farmers for allocation of land and water resources to other high value crops which posses economic advantage over the wheat and to reduce over-dependence on wheat. The DG of API briefly explained aspects of the crop including, change in Area, Yield and Production and marketing issues of wheat.

93. The growers' 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, which was issued only to influential growers, middlemen and to those who offered some extra amount to grease the palms. The growers demanded that the number of 8 bags per acre as assigned Bardana are not sufficient which may be increased to 12 bags per acre. The committee members emphasized on the direct subsidy on fertilizers instead of subsidizing the fertilizer companies. 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 issues of low yield. The representative NFDC stated that unbalanced application of fertilizers is the main factor and late sowing and sowing of unapproved varieties were major reasons for lower yield. The committee members emphasized on the need for development of suitable technology package for sustainable production of wheat. There was a consensus in the meeting for having a program 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

94. The parity ratio indicates the quantity of wheat required to buy one nutrient unit of fertilizer. Higher the ratio means 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 fertilizers 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 fertilizers.

95. In order to study the overtime changes in the purchasing power of wheat in terms of nitrogenous and phosphatic fertilizers, the parity ratios between fertilizer nutrients and wheat have been calculated for the period of 2005-06 to 2014-15 (Table-23).

Table-23: Parity between Market Prices of Fertilizers and Wheat: 2005-06 to 2014-15

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 ----	
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
2014-15	82043	147104	29525	2.77	4.98

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.

96. The parity ratios between market prices of fertilizers 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 three years as compared with the previous year and 2.77 units of wheat were required to buy one unit of N fertilizer during 2014-15.

97. 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. 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 in 2014-15 deteriorated for wheat growers and 4.98 units of wheat were required to buy one unit of P fertilizer, a jump by 13.4 per cent from 4.39 units of wheat to buy 1 unit of phosphatic fertilizer.

7. MAJOR WHEAT VARIETIES AND THEIR YIELD POTENTIAL

98. 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 and key to agriculture progress. Crop status largely depends on the seed materials used for sowing.

99. 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 area under quality seed production. In this regard, over 50 wheat varieties have been evolved over the time by the wheat research institutions at country level.

100. During the last decade, among 20 high-yield varieties, 15 have been developed for irrigated areas and 5 for rain fed areas in the Punjab, while 6 varieties of wheat are released in Sindh.

101. The high yielding varieties of wheat released by Research Institutes in the Punjab for commercial cultivation in specified areas are presented in Table-24.

Table-24: 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

102. 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.

103. High yielding wheat varieties evolved by Research Institutes in Sindh along with their yield potential and other characteristics are presented in Table-25.

Table-25: Commercial wheat varieties and their yield potential in Sindh

S. No	Variety	Year of Release	Sowing Time		Maturity	Yield Potential	Average Farmer Yield	Protein
			Southern Sindh	Northern Sindh	Days	----- kgs/hectare-----	Per cent	
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.

104. 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.

8. ISSUE PRICE OF WHEAT AND CONSUMER SUBSIDY

105. For the year of 2014-15, the provincial governments of the Punjab, Sindh and Khyber Pakhtunkhwa fixed the issue price of wheat supplied to flour mills at Rs 1280, 1300 and 1300 per 40 kgs, respectively over the corresponding support price of Rs 1300 per 40 kgs. However, the Balochistan province did not share data regarding the issue price. PASSCO issued wheat @ Rs 1492 per 40 kgs at full cost except to Utility Stores Corporation (USC). All the four provinces released 2.855 million tonnes of wheat to flour mills during May 2014 to April 2015. Details of wheat releases are given in Table-26.

Table-26: Release of Wheat to Flour Mills and Issue Price during 2014-15

Provinces	Release (Million tonnes)	Issue Price (Rs/40 kgs)
Punjab	1.929	1280
Sindh	0.408	1300*
KPK	0.185	1300
Balochistan	0.004	Nil
PASSCO	0.329	1492
Total	2.855	

* Including price of bag

106. 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 2014-15, the Provincial Governments subsidized wheat consumers over 5.13 billion as given in Table-27.

Table-27: Subsidy on Wheat 2014-15

Federal/Provinces	Subsidy (Rs in billion)
Punjab	1.525
Sindh	3.605
KPK	Nil
Balochistan	Nil
Total	5.13

Source: Provincial Food Departments.

107. According to the above data, total releases of wheat to the flour mills by the Provincial Food Departments and PASSCO come to 2.855 million tonnes. As per the information shared by the Provincial Food Departments, the consumer subsidy through releases to flour mills amount to Rs 5.13 billion for 2014-15, Sindh bearing the heaviest bill amounting Rs.3.605 billion.

9. WHEAT YIELD AMONG COMPETING COUNTRIES

108. Wheat, the most popular cereal crop of the world covers the acreage that no other cereal crop can ever claimed. Global wheat during 2014 occupied an area of around 224.049 million hectares with a total production of 729 million tonnes. The world top 31 producing countries contribute 88.5 per cent of total area and 89.2 per cent of total production as narrated in Table- 28.

**Table-28: Wheat Area in Major Wheat Producing Countries Of the World:
2014 CROP**

S.No.	Country	Area in million Hectares	per cent share in world area
1	India	31.1880	13.92
2	China, mainland	25.0000	11.16
3	Russian Federation	23.9078	10.67
4	United States of America	18.8180	8.40
5	Australia	12.6130	5.63
6	Kazakhstan	11.9230	5.32
7	Canada	9.4619	4.22
8	Pakistan	9.1990	4.11
9	Turkey	7.8208	3.49
10	Ukraine	6.0106	2.68
11	Iran (Islamic Republic of)	5.9200	2.64
12	France	5.2967	2.36
13	Argentina	4.9573	2.21
14	Germany	3.2197	1.44
15	Morocco	2.9862	1.33
16	Brazil	2.8349	1.27
17	Afghanistan	2.6537	1.18
18	Angola	2.4362	1.09
19	Poland	2.3388	1.04
20	Spain	2.1712	0.97
21	Romania	2.1078	0.94
22	United Kingdom	1.9360	0.86
23	Italy	1.8742	0.84
24	Ethiopia	1.6638	0.74
25	Iraq	1.6550	0.74
26	Algeria	1.6513	0.74
27	Uzbekistan	1.4546	0.65
28	Egypt	1.4251	0.64
29	Syrian Arab Republic	1.2879	0.57
30	Bulgaria	1.2679	0.57
31	Hungary	1.1127	0.50
Total		198.34	88.52
Total World Area		224.049	100.00

Source: FAO Production Year Book 2014

109. In terms of wheat area India is on the top with 31.188 million hectares followed by China mainland with 25.000 million hectares and Russian Federation with 23.908 million hectares Pakistan lies at 8th number in this regard with 4 per cent global share.

110. FAO reported wheat production during 2014 at 728.97 million tonnes. In terms of wheat production, China, mainland is on the top with 126.208 million tonnes followed by India with 94.483, Russian Federation 59.711 million tonnes and USA with 55.395 million tonnes. However, Pakistan stands at 8th in wheat production of the world. (Table-29).

111. In terms of yield per hectare, Ireland lies at the top with 10014 kgs per hectare followed by Belgium 9413 and Netherland with 9170 kgs per hectare. It is an alarming situation that Pakistan ranks at 64th in terms of yield at 2824 kgs per hectare while India lies at 55th position with 3029 kgs per hectare. However, the world average yield of wheat is 3254 kgs per hectare (Annex-XIII)

Table-29:Wheat Production in Major Wheat Producing Countries Of the World: 2014 CROP

S.No.	Country	Production in million tonnes	per cent share in world Production
1	China, mainland	126.2084	17.31
2	India	94.4830	12.96
3	Russian Federation	59.7114	8.19
4	United States of America	55.3954	7.60
5	France	38.9666	5.35
6	Canada	29.2808	4.02
7	Germany	27.7847	3.81
8	Pakistan	25.9790	3.56
9	Australia	25.3030	3.47
10	Ukraine	24.1140	3.31
11	Turkey	19.0000	2.61
12	United Kingdom	16.6210	2.28
13	Argentina	13.9301	1.91
14	Kazakhstan	12.9969	1.78
15	Poland	11.6287	1.60
16	Egypt	9.2798	1.27
17	Iran (Islamic Republic of)	8.6520	1.19
18	Romania	7.5848	1.04
19	Italy	7.1419	0.98
20	Uzbekistan	6.9560	0.95
21	Spain	6.4714	0.89
22	Brazil	6.2619	0.86
23	Czech Republic	5.4423	0.75
24	Afghanistan	5.3703	0.74
25	Bulgaria	5.3471	0.73
26	Hungary	5.2619	0.72
27	Morocco	5.1159	0.70
28	Denmark	4.9400	0.68
29	Ethiopia	4.2316	0.58
30	Iraq	3.8000	0.52
31	Mexico	3.6698	0.50
Total		649.91	89.15
Total World Production		728.97	100.00

Source: FAO Production Year Book 2014

10. WHEAT PROCUREMENT TARGETS AND ACHIEVEMENTS

112. The Federal Government fixed the wheat procurement target at 6.60 million tonnes for 2014-15 crop. PASSCO and Provincial Food Departments have been designated as the procurement agencies. Agency-wise targets with their achievements in provinces are shown in Table-30.

Table-30: Procurement Targets and Achievements: 2014-15 Wheat Crop

Province/agency	Target	Achievement	Achievement as per cent of target
	----- Million tonnes -----		Per cent
Pakistan	6.600	5.146	77.98
- Provincial Food Departments	5.800	4.347	74.95
- PASSCO	0.800	0.800	100.00
Punjab	5.202	3.936	75.66
- Food Department	4.500	3.234	71.87
- PASSCO	0.702	0.702	100.00
Sindh	0.980	0.957	97.65
- Food Department	0.900	0.877	97.44
- PASSCO	0.080	0.080	100.00
K.P.K	0.300	0.236	78.67
- Food Department	0.300	0.236	78.76
- PASSCO	-	-	-
Balochistan	0.118	0.018	15.25
- Food Department	0.100	0.00	0.00
- PASSCO	0.018	0.018	100.00

Source: PASSCO and respective provincial Food Departments.

113. Procurement agencies have achieved around 78 percent of the targets. The Food Departments achieved 75 percent of target while the PASSCO achieved 100 percent of the procurement target.

114. The share of procurement in total wheat production and comparison of support price with the market price for the years of 2007-08 to 2014-15 are presented in Table -31. During the period under review, wheat production has ranged between 21.70 to 25.98 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 18.06 to 38.86 per cent of the respective production. The support price ranged between Rs 625 to 1300 per 40kgs, while the average market prices ranged between Rs 659 to Rs 1250 per 40 kgs during this period.

Table-31: Production, Procurement, Market and Support Prices of Wheat: 2007-08 to 2014-15

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----	
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**	25.98	6.13	23.60	1225	1250
2014-15***	25.49	5.15	20.20	1300	1181

* Average of Punjab and Sindh

** For support price during 2014-15, average of Punjab and Sindh.

*** For production 2nd estimate

Source: PASSCO and Provincial Food Departments.

11. ACKNOWLEDGEMENT

115. The efforts of the following staff members are highly appreciated in completion of Wheat Policy Analysis Report for 2015-16 Crop:

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| 2. | Mr. Sardar Ali Khan | Deputy Chief |
| 3. | Mr. Abdul Karim (Coordinator) | Deputy Chief |
| 4. | Mr. Muhammad Ejaz Ahmed | Deputy Chief |
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Director General, API

AREA, YIELD AND PRODUCTION OF WHEAT : 2004-05 TO 2014-15

Year	Punjab	Sindh	KPK	Balochistan	Pakistan
AREA ----- Thousand hectares -----					
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	6901.4	1121.6	776.8	399.5	9199.3
2014-15	6979.5	1106.9	732.5	385.0	9203.9
YIELD ----- kgs per hectare -----					
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	2860	3568	1755	2191	2824
2014-15	2763	3318	1720	2265	2726
PRODUCTION ----- Thousand tonnes -----					
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	19738.9	4002.1	1363.1	875.3	25979.4
2014-15	19281.9	3672.2	1259.9	872.0	25086.0

Sources:

1. For 2004-05 to 2013-14: Agricultural Statistics of Pakistan, 2013-14 NFS&R, Islamabad.
2. For 2014-15: Final estimate provided by concerned Provincial Agriculture Departments.

AREA, YIELD AND PRODUCTION OF WHEAT : 2004-05 TO 2014-15

Year	Punjab	Sindh	KPK	Balochistan	Pakistan
AREA					
----- Thousand acres -----					
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	17054.0	2771.6	1919.6	987.2	22732.4
2014-15	17247.0	2735.3	1810.1	951.4	22743.8
YIELD					
----- kgs per acre -----					
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	694	856	1131
2013-14	1157	1444	710	887	1143
2014-15	1118	1343	696	917	1103
PRODUCTION					
----- Thousand tonnes -----					
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	19738.9	4002.1	1363.1	875.3	25979.4
2014-15	19281.9	3672.2	1259.9	872.0	25086.0

Sources:

1. For 2004-05 to 2013-14: Agricultural Statistics of Pakistan, 2013-14 NFS&R, Islamabad.
2. For 2014-15: Final estimate provided by concerned Provincial Agriculture Departments.

**AREA, YIELD AND PRODUCTION OF WHEAT BY PROVINCE AND BY IRRIGATION:
2013-14 AND 2014-15**

Country/ Province	Area			Yield per hectare			Production		
	2013-14	2014-15	Change Per cent	2013-14	2014-15	Change Per cent	2013-14	2014-15	Change Per cent
	000 ha			Kgs			000 tonnes		
IRRIGATED									
PAKISTAN	8009.6	8036.2	0.33	3052	2914	-4.54	24448.7	23415.9	-4.22
PUNJAB	6221.9	6277.0	0.89	3033	2908	-4.15	18874.1	18251.9	-3.30
SINDH	1071.0	1064.1	-0.64	3698	3403	-7.97	3960.2	3621.2	-8.56
KPK	352.4	322.5	-8.48	2212	2123	-4.02	779.4	684.6	-12.16
BALUCHISTAN	364.3	372.6	2.28	2292	2303	0.49	835.0	858.2	2.78
UNIRRIGATED									
PAKISTAN	1189.7	1167.7	-1.85	1287	1430	11.16	1530.7	1670.1	9.11
PUNJAB	679.5	702.5	3.38	1273	1466	15.20	864.8	1030.0	19.10
SINDH	50.6	42.8	-15.42	828	1192	43.90	41.9	51.0	21.72
KPK	424.4	410.0	-3.39	1375	1403	2.02	583.7	575.3	-1.44
BALUCHISTAN	35.2	12.4	-64.77	1145	1113	-2.79	40.3	13.8	-65.76
TOTAL									
PAKISTAN	9199.3	9203.9	0.05	2824	2726	-3.49	25979.4	25086.0	-3.44
PUNJAB	6901.4	6979.5	1.13	2860	2763	-3.41	19738.9	19281.9	-2.32
SINDH	1121.6	1106.9	-1.31	3568	3318	-7.02	4002.1	3672.2	-8.24
KPK	776.8	732.5	-5.70	1755	1720	-1.98	1363.1	1259.9	-7.57
BALUCHISTAN	399.5	385.0	-3.63	2191	2265	3.38	875.3	872.0	-0.38

Sources: 1. For 2004-05 to 2013-14: Agricultural Statistics of Pakistan, 2013-14 NFS&R, Islamabad.
2. For 2014-15: Final estimate provided by concerned Provincial Agriculture Departments.

**DISTRICT- WISE AREA, YIELD AND PRODUCTION OF WHEAT
AVERAGE OF 2012-13 TO 2014-15**

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	354.63	1084.27	4.32	3057.45	1	Swat	61.99	109.79	0.44	1771.14
2	R.Y.Khan	299.19	981.37	3.91	3280.09	2	Mansehra	37.66	92.32	0.37	2451.19
3	Faisalabad	294.74	930.80	3.71	3158.03	3	Mardan	42.74	86.01	0.34	2012.74
4	Vehari	263.85	868.26	3.46	3290.69	4	D.I.Khan	45.68	85.11	0.34	1863.32
5	Jhang	285.29	865.61	3.45	3034.12	5	Swabi	42.67	84.59	0.34	1982.59
6	Bahawalpur	284.62	860.86	3.43	3024.55	6	Peshawar	36.51	80.58	0.32	2206.93
7	Muzaffargarh	305.67	856.76	3.41	2802.92	7	Charsadda	30.08	76.96	0.31	2558.21
8	Okara	215.56	763.81	3.04	3543.43	8	Bunir	49.53	74.41	0.30	1502.38
9	Gujranwala	234.72	708.52	2.82	3018.63	9	Haripur	37.48	68.63	0.27	1831.07
10	Sheikhupura	222.57	691.64	2.76	3107.49	10	Kohat	37.32	58.94	0.23	1579.46
11	Khanewal	207.20	651.28	2.60	3143.31	11	Nowshera	23.66	54.69	0.22	2311.20
12	Lodhran	201.39	642.51	2.56	3190.34	12	Dir Lower	27.15	50.55	0.20	1861.75
13	Layyah	213.53	559.57	2.23	2620.53	13	Dir Uper	22.17	42.29	0.17	1907.99
14	T.T.Singh	164.30	542.57	2.16	3302.33	14	Shanlpar	24.24	33.34	0.13	1375.51
15	Multan	182.91	541.81	2.16	2962.17	15	Malakand	26.67	32.47	0.13	1217.51
16	Pakpattan	154.59	536.47	2.14	3470.33	16	Bajour AG.	34.33	28.19	0.11	821.04
17	Sialkot	208.14	534.63	2.13	2568.61	17	Lakki Marwat	21.90	25.08	0.10	1145.15
18	Sargodha	217.71	533.43	2.13	2450.16	18	Abbottabad	14.47	23.45	0.09	1620.48
19	Kasur	176.17	532.88	2.12	3024.88	19	Tank	11.34	22.89	0.09	2019.41
20	D.G.Khan	176.44	515.08	2.05	2919.26	20	Bannu	10.56	20.38	0.08	1930.13
21	Hafizabad	158.77	486.23	1.94	3062.48	21	Khyber AG.	13.62	20.10	0.08	1475.72
22	Rajanpur	172.66	462.17	1.84	2676.74	22	Chitral	8.21	17.40	0.07	2119.81
23	Sahiwal	143.93	449.36	1.79	3122.02	23	Kurram AG.	10.62	16.51	0.07	1555.01
24	Bhakkar	175.36	419.06	1.67	2389.65	24	Battagram	7.73	15.24	0.06	1970.98
25	Mianwali	177.79	401.14	1.60	2256.20	25	Hangu	11.43	15.04	0.06	1316.23
26	Nankana Sahib	123.16	391.75	1.56	3180.91	26	Mohmand AG.	7.69	10.15	0.04	1320.28
27	M.B.Din	141.77	371.92	1.48	2623.40	27	Karak	19.70	8.85	0.04	449.23
28	Narowal	163.49	363.37	1.45	2222.56	28	S.Waziristan	7.41	7.74	0.03	1044.42
29	Chiniot	111.83	341.18	1.36	3050.88	29	F.R.Peshawar	4.10	6.03	0.02	1471.87
30	Gujrat	154.58	269.98	1.08	1746.52	30	Orakzai AG	4.08	5.55	0.02	1362.22
31	Attock	162.82	227.91	0.91	1399.82	31	F.R.D.I.Khan	4.23	4.32	0.02	1021.90
32	Rawalpindi	114.66	184.96	0.74	1613.09	32	N.Waziristan	3.08	4.00	0.02	1296.18
33	Chakwal	119.11	182.27	0.73	1530.29	33	F.R.Bannu	2.57	3.62	0.01	1406.12
34	Lahore	58.95	171.77	0.68	2913.83	34	Kohistan	1.39	2.64	0.01	1893.22
35	Khushab	89.97	162.55	0.65	1806.65	35	F.R.Kohat	1.55	2.06	0.01	1326.61
36	Jhelum	52.34	94.51	0.38	1805.74						
37	Islamabad	12.95	20.34	0.08	1570.40						
Sub Total		6797.38	19202.61	76.54	2828.00	Sub Total		745.55	1289.82	5.14	1730.16
SINDH						BOLUCHISTAN					
1	Sanghar	106.11	388.60	1.55	3662.24	1	Nasirabad	66.92	169.97	0.68	2540.00
2	N.Feroze	105.33	382.95	1.53	3635.54	2	Jaffarabad	59.06	149.75	0.60	2535.55
3	Khairpur	102.31	373.03	1.49	3646.18	3	Jhal Magsi	54.40	125.25	0.50	2320.76
4	Ghotki	100.87	356.19	1.42	3531.30	4	Khuzdar	39.59	80.92	0.32	2043.80
5	Sh. Benzirabad	84.70	336.06	1.34	3957.66	5	Dera Bugthi	18.47	33.33	0.13	1804.61
6	Dadu	70.62	241.26	0.96	3416.29	6	Sibi	12.36	26.19	0.10	2119.83
7	Mirpurkhas	63.81	221.75	0.88	3475.16	7	Killa Saifullah	13.89	25.11	0.10	1807.46
8	Sukkur	48.00	166.55	0.66	3469.36	8	Barkhan	11.92	23.97	0.10	2010.62
9	Matiari	37.79	144.43	0.58	3822.00	9	Lasbela	12.13	23.74	0.09	1957.52
10	Shadadkot	45.93	139.71	0.56	3042.00	10	Awaran	13.45	23.69	0.09	1760.92
11	Jamshoro	39.11	131.86	0.53	3371.05	11	Loralai	10.26	22.86	0.09	2227.10
12	Larkana	45.77	131.63	0.52	2876.14	12	Kachhi	8.34	19.21	0.08	2304.03
13	Tando Allahyar	32.13	122.41	0.49	3809.39	13	Turbat	5.46	11.15	0.04	2043.25
14	Umerkot	35.81	111.30	0.44	3108.43	14	Noushki	5.37	10.77	0.04	2007.83
15	Badin	35.96	107.59	0.43	2991.85	15	Kalat	5.25	10.75	0.04	2047.32
16	Shikarpur	36.12	101.86	0.41	2820.16	16	Pishin	6.22	10.68	0.04	1715.39
17	Kashmore	33.41	91.94	0.37	2751.58	17	Kharan	5.29	9.76	0.04	1843.51
18	Jacobabad	23.27	57.94	0.23	2489.84	18	Mastung	4.95	9.65	0.04	1948.86
19	Hyderabad	14.75	53.86	0.21	3652.25	19	K.Abdullah	4.25	7.27	0.03	1709.86
20	Thatta	17.33	48.01	0.19	2770.29	20	Panjoor	3.21	6.58	0.03	2051.13
21	Tando Muhammad	12.66	38.43	0.15	3035.06	21	Quetta	3.10	6.10	0.02	1970.18
22	Tharparkar	2.18	5.92	0.02	2721.76	22	Zhob	3.14	4.90	0.02	1559.93
23	Karachi	1.67	4.40	0.02	2632.61	23	Washuk	2.57	4.65	0.02	1810.25
						24	Chaghi	2.60	4.59	0.02	1761.72
						25	Sherani	3.32	4.48	0.02	1348.22
						26	Kohlu	2.31	3.83	0.02	1660.69
						27	Musa Khel	2.39	3.76	0.01	1570.63
						28	Harnai	1.75	3.66	0.01	2096.11
						29	Ziarat	0.55	0.89	0.00	1615.43
Sub Total		1095.64	3757.68	14.98	3429.67	Sub Total		382.53	838.46	3.34	2191.91
						Pak Total		9021.09	26088.68	100.00	2781.11

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

PER CAPITA AVAILABILITY OF WHEAT:2012-13 to 2014-15 (MAY-APRIL)

S.No	Description	Production year	2011-12	2012-13	2013-14
		Consumption year	2012-13	2013-14	2014-15
1	Total Population (a)		191.31	195.43	199.12
			-----000 tonnes-----		
2	Opening stocks as on 1st May		3109	1618	1177
3	Production of Pakistan		23473	24211	25979
4	Production of AJ&K and GB (b)		235	242	260
5	Imports		21	377	687
6	Exports (wheat and wheat preparation)		228	43	10
7	Closing stocks as on 30th April		1618	1177	4119
8	Total availability		24992	25228	23974
9	Deduction for seed,feed and wastage @ 10 per cent of production		2371	2445	2624
10	Available for human consumption (item 8 minus item 9)		22621	22783	21350
			-----Kgs/ annum-----		
11	Per capita availability (item 10 divided by item 1)		118	117	107
12	Average per capita availability during 2012-13 to 2014-15			114 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 KA&GB and States and Frontier Regions, Government of Pakistan, Islamabad.

INTERNATIONAL PRICES (FOB GULF) OF US NO-2 HARD RED WINTER WHEAT
2006-07 TO 2015-16

Year (July - June)	Month	US\$ per tonne
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		266
2015-16		216
	Jul-15	251
	August	216
	September	215
	October	215
	November	213
	December	212
	Jan-16	213
	February	204
	March	207

Source:

- 1 International Grains Council, London.
- 2 www.sagis.org.za

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

S. No	Item	2015-16 Jul-Sep	2014-15	2012-13 to 2014-15
		-----US \$ per tonne-----		
1	Average Fob(Gulf) price			
2	Freight charges from Gulf port to Karachi	227.00	266.00	310.00
		38.00	38.00	38.00
3	Average c&f (Karachi) price in US \$	265.00	304.00	348.00
		-----Rs per tonne-----		
4	Exchange rate	104.31	104.31	104.31
5	Average c&f (Karachi) price in Pak Rupees	27542	31710	36300
6	Marine insurance charges @0.23% of c & F cost	64	73	83
7	Lc opening charges @0.4% of c&f cost.	111	127	145
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	553	634	726
10	Bank markup @ 15.5 % per annum for 30 days	357	410	469
11	Landed cost (Item 3 to 8) at Karachi	29377	33605	38374
12	Transport cost from Karachi to Multan	2000	2000	2000
13	Expences from procurement center to Multan	200	200	200
14	Import parity price at procurement center level	31177	35405	40174
15	Import parity prices of wheat	-----Rs per 40 kgs-----		
	i) If consumed at Multan	1247	1416	1607
	ii) If consumed at Karachi	1175	1344	1535

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.

Annex-VII

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

S.No	Item	2015-16 Jul-Sep	2014-15	2012-13 to 2014-15
		-----US \$ Per Tonne -----		
1	Fob(Gulf) price assuming Fob (Karachi) price	227.00	266.00	310.00
2	Exchange rate	104.31	104.31	104.31
3	Fob(Gulf) price assuming Fob (Karachi) price in Pak Rupees	23678	27746	32336
4	Incidental charges: (items i to xi)	4101	4218	4350
	i) Expenses from procurement centre to Multan	200	200	200
	ii) Transport cost from Multan to Karachi	1200	1200	1200
	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	296	347	404
	viii) Insurance charges at port 1 % for one month	20	23	27
	ix) Bank commission & charges 0.25 %	59	69	81
	x) Mark up @ 15.5% per annum for one month	306	358	418
	xi) Miscellaneous charges (Ghati, Wastage, Godown rent)	250	250	250
5	Export parity price of wheat at procurement centre level(item 1- items 2)	19578	23529	27986
		-----Rs per 40kgs-----		
6	Export parity price at procurement center level	783	941	1119

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: 2014-15 AND 2016-16 CROPS**

S. No.	Operations / Inputs	Average No. of optrs/unlts/acre	2014-15 crop		2015-16 crop		Change in 2015-16 over 2014-15
			Cost per unit	Cost per acre	Cost per unit	Cost per acre	
1	2	3	6	7 = 3 * 6	6	7 = 3 * 6	8 = 7-5
1	Land preparation:						
	1.1 Rotavator/disc plough	0.598	1400.00	837.20	1500.00	897.00	59.80
	1.2 Ploughing	2.137	700.00	1495.90	750.00	1602.75	106.85
	1.3 Ploughing & planking	0.714	800.00	571.20	850.00	606.90	35.70
	1.4 Planking	0.649	350.00	227.15	375.00	243.38	16.23
	1.5 Levelling (hrs)	0.498	800.00	398.40	800.00	398.40	0.00
2	Seed and sowing operations:						
	2.1 Seed used (kgs)	52.577	42.00	2208.23	42.00	2208.23	0.00
	2.2 Tractor drilling	0.166	700.00	116.20	750.00	124.50	8.30
	2.3 Labour for seed broadcasting (m.hrs)	0.858	44.00	37.75	44.00	37.75	0.00
	2.4 Ploughing in case of broadcasting	1.390	700.00	973.00	750.00	1042.50	69.50
	2.5 Planking in case of broadcasting	0.321	350.00	112.35	375.00	120.38	8.03
3	Bund making:						
	3.1 Manual (m.hrs)	1.033	44.00	45.45	44.00	45.45	0.00
	3.2 tractor (hrs)	0.203	800.00	162.40	850.00	172.55	10.15
4	Weedicides	0.787	800.00	629.60	900.00	708.30	78.70
5	Irrigation: * (Nos)						
	5.1 Canal	0.507	-	50.00	-	50.00	0.00
	5.2 Private tubewell	3.002	900.00	2701.80	900.00	2701.80	0.00
	5.3 Mixed	0.230	600.00	138.00	550.00	126.50	-11.50
6	Labour for Irrigation and water course cleaning (m.days)						
	6.1 For irrigation	1.225	350.00	428.75	350.00	428.75	0.00
	6.2 For water course cleaning	0.329	350.00	115.15	350.00	115.15	0.00
7	Farm Yard Manure (50 %)	-	-	500.00	-	600.00	100.00
8	Fertilizers: (bags)						
	8.1 DAP	1.090	3578.00	3900.02	3677.00	4007.93	107.91
	8.2 Urea	1.747	1896.00	3312.31	1883.00	3289.60	-22.71
	8.3 SSP	0.132	972.00	128.30	1012.00	133.58	5.28
	8.4 NP	0.079	3090.00	244.11	2584.00	204.14	-39.97
	8.5 CAN	0.039	1613.00	62.91	1606.00	62.63	-0.27
	8.6 SOP	0.024	4767.00	114.41	4904.00	117.70	3.29
	8.7 Gypsum	0.024	300.00	7.20	300.00	7.20	0.00
	8.8 Transport and application	3.135	55.00	172.43	55.00	172.43	0.00
9	Mark up on investment on item 1 to 8 excluding item 5(1) @ 15 % per annum for 6 months	-	-	1473.02	-	1507.42	34.41
10	Harvesting charges (40 kgs/acre)	2.997	1206.00	3614.38	1216.00	3644.35	29.97
11	Threshing:						
	11.1 Threshing @ 3.23 kgs/40 kgs (40 kgs)	2.237	1206.00	2697.82	1216.00	2720.19	22.37
	11.2 M.days	1.810	350.00	633.50	350.00	633.50	0.00
12	Land rent for 6 months	-	20000.00	10000.00	17000.00	8500.00	-1500.00
13	Average weighted land tax @ Rs 132/acre/annum for 8 months	-	132.00	66.00	132.00	66.00	0.00
14	Management charges for 6 months	-	-	1090.00	-	1199.00	109.00
15	Total cost per acre			39264.94		38495.96	-768.98
16	Value of wheat biomass			5500.00		5500.00	0.00
17	Net cultivation cost (item 15-16)			33764.94		32995.96	-768.98
18	Yield per acre (kgs)			1108.00		1108.00	0.00
19	Cost of production at farm level: (Rs/40 kgs)			1218.95		1191.19	-27.76
20	Marketing cost (Rs/40 kgs)			30.00		35.00	5.00
21	Cost of production at market/procurement centre (Rs/40 kgs)						
	21.1 Including land rent			1248.95		1226.19	-22.76
	21.2 Excluding land rent			887.94		919.33	31.39

Note: In view of changes in mark-up rates by different agriculture credit disbursing agencies, mark-

**AVERAGE FARMERS' COST OF PRODUCTION ESTIMATES OF WHEAT
IN SINDH: 2014-15 AND 2015-16 CROPS**

S. No.	Operations / Inputs	Average No. of oprs/units/acre	2014-15 crop		2015-16 crop		Change in 2015-16 over 2014-15
			Cost per unit	Cost per acre	Cost per unit	Cost per acre	
1	2	3	6	7 = 3 * 6	6	7 = 3 * 6	8 = 7-5
1	Land preparation:						
	1.1 Rotavator/disc plough	0.349	1700.00	593.30	1700.00	593.30	0.00
	1.2 Ploughing	3.034	1100.00	3337.40	1050.00	3185.70	-151.70
	1.3 Ploughing & planking	0.070	1100.00	77.00	1050.00	73.50	-3.50
	1.4 Planking	0.081	550.00	44.55	525.00	42.53	-2.03
	1.5 Levelling (hrs)	1.010	1100.00	1111.00	1050.00	1060.50	-50.50
2	Seed and sowing operations:						
	2.1 Seed used (kgs)	55.817	42.00	2344.31	45.00	2511.77	167.45
	2.2 Tractor drilling	0.037	1100.00	40.70	1050.00	38.85	-1.85
	2.3 Labour for seed broadcasting (m.hrs)	1.127	44.00	49.59	44.00	49.59	0.00
	2.4 Ploughing in case of broadcasting	0.275	1100.00	302.50	1050.00	288.75	-13.75
	2.5 Planking in case of broadcasting	0.162	550.00	89.10	525.00	85.05	-4.05
3	Bund making:						
	3.1 Manual (m.hrs)	1.611	44.00	70.88	44.00	70.88	0.00
	3.2 tractor (hrs)	0.091	1100.00	100.10	1050.00	95.55	-4.55
4	Interculture/weeding						
	4.1 Interculture	0.037	1100.00	40.70	1050.00	38.85	-1.85
	4.2 Weedicides	0.529	800.00	423.20	900.00	476.10	52.90
5	Irrigation: * (Nos)						
	5.1 Canal	1.763	-	53.30	-	53.30	0.00
	5.2 Lift pump	0.551	800.00	440.80	800.00	440.80	0.00
	5.3 Private tubewell	1.046	900.00	941.40	900.00	941.40	0.00
	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	350.00	357.70	350.00	357.70	0.00
	6.2 For water course cleaning	0.349	350.00	122.15	350.00	122.15	0.00
7	Farm Yard Manure (50 %)	-	-	600.00	-	700.00	100.00
8	Fertilizers: (bags)						
	8.1 DAP	1.013	3483.00	3528.28	3650.00	3697.45	169.17
	8.2 Urea	1.950	1878.00	3662.10	1850.00	3607.50	-54.60
	8.3 NP	0.186	2950.00	548.70	2570.00	478.02	-70.68
	8.4 CAN	0.020	1573.00	31.46	1600.00	32.00	0.54
	8.5 Transport and application	3.169	55.00	174.30	50.00	158.45	-15.85
9	Mark up on investment on item 1to 8 excluding item 5(1) @15 % per annum for 6 months	-	-	1447.55	-	1456.18	8.64
10	Harvesting charges (40 kgs/acre)	2.876	1224.00	3520.22	1150.00	3307.40	-212.82
11	Threshing:						
	11.1 Threshing @ 2.95 kgs/40 kgs (40 kgs)	2.052	1224.00	2511.65	1150.00	2359.80	-151.85
	11.2 M.days	1.415	350.00	495.25	350.00	495.25	0.00
12	Land rent for 6 months	-	18000.00	9000.00	15000.00	7500.00	-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	-	-	1090.00	-	1199.00	109.00
16	Total cost per acre	-	-	37342.59	-	35910.72	-1631.87
17	Value of wheat bhoosa	-	-	4000.00	-	4000.00	0.00
18	Net cultivation cost (item 15-16)	-	-	33542.59	-	31910.72	-1631.87
19	Yield per acre (kgs)	-	-	1113.00	-	1113.00	0.00
20	Cost of production at farm level: (Rs/40 kgs)	-	-	1205.48	-	1146.84	-58.65
21	Marketing cost (Rs/40 kgs)	-	-	30.00	-	35.00	5.00
22	Cost of production at market/procurement centre (Rs/40 kgs)	-	-	1235.48	-	1181.84	-53.65
	22.1 Including land rent	-	-	912.03	-	912.29	0.26
	22.2 Excluding land rent	-	-	1235.48	-	1181.84	-53.65

Note: In view of changes in mark-up rates by different agriculture credit disbursing agencies,

Notes for Annex-VIII and IX

1. The input-output parameters for estimating cost of production of wheat 2015-16 crop have been adopted from the Wheat Policy Analysis Report for wheat 2014-15 Crop, API's Series No 252.
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 August 20, 2015 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, 2015.
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 19983 per month for a Field Assistant at the 15th stage in BPS-6 as per revised scale of July 2015, including the Adhoc Reliefs uptill 2015.
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 1194 per 40 kgs in the Punjab and Rs 1120 in Sindh. Marketing charges of Rs 35 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 July 2015 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: 2014-15 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		
										Rupee of purchased inputs	Crop day	Acre inch of water used
		Days	Acre inchesRupees per acre.....			RatioRupees.....				
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	41510	24922	2686	1.07	2.8	231	3459
2	Seed Cotton	240	22	55529	18683	57240	38557	1711	1.03	3.1	239	2602
3	Basmati paddy	180	58	46621	20985	40828	19843	-5793	0.88	1.9	227	704
4	IRRI paddy	180	62	41128	17999	33039	15040	-8089	0.80	1.8	184	533
5	Sunflower (spring)	180	22	38414	16272	40400	24129	1986	1.05	2.4	224	1836
6	Canola	180	13	23046	8258	25875	17617	2829	1.12	3.1	144	1990
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	2.8	232	2219
9	Basmati paddy+wheat	360	70	78545	33730	103656	69926	25110	1.32	3.1	288	1176
10	Basmati paddy+sunflower	360	80	81128	36405	105537	69132	24409	1.30	2.9	226	1015
11	IRRI paddy + wheat	360	74	73954	31281	74549	44125	1452	1.02	2.4	209	1019
12	IRRI paddy+sunflower	360	84	76536	33956	77287	43331	751	1.01	2.3	215	874
13	Sugarcane	394	48	74550	23533	93250	69717	18700	1.25	4.0	237	1943
Sindh												
1	Wheat	180	12	33867	12710	40173	22955	1798	1.05	3.0	223	3348
2	Seed cotton	240	18	44854	14793	59978	43823	7906	1.18	3.7	250	3332
3	IRRI paddy	180	56	35725	13433	44530	30917	6402	1.17	3.3	247	795
4	Sunflower (spring)	180	22	38955	16006	40400	28895	5945	1.15	2.5	224	1836
5	Canola	180	13	23548	8246	25875	17629	2327	1.10	3.1	144	1990
6	Seed cotton + wheat	420	30	78721	27502	100151	61046	9828	1.12	3.4	238	3338
7	Seed cotton+sunflower	420	40	83809	27502	100378	70282	13975	1.17	3.6	239	2509
8	IRRI paddy + wheat	360	68	69592	26143	84702	55344	11894	1.17	3.2	235	1246
9	IRRI paddy+sunflower	360	78	74680	29438	84930	61283	16041	1.21	2.8	236	1089
10	Sugarcane	488	71	88853	29138	113355	84217	19094	1.28	3.9	232	1597

Notes for Annex - X:

1. The economic analysis presented in the above exercise is based on the input-output prices applicable for 2014-15 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, 2014-15 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 2014-15 crops. To incorporate the escalations in input prices, particularly fertilizers, which occurred during the growing period, some marginal revisions, have been made as per the prices prevailed at the time of application for the respective crops in 2014-15 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 1300 per 40 kgs, as maintained by the government for 2014-15 crop, has been adopted for the current analysis.
 - 4.2 The wholesale market prices of basmati paddy and IRRI paddy during the post-harvest period in major producer area markets have averaged at Rs 1330 and Rs 801 per 40 kgs, respectively. While, the average price of IRRI paddy in Sindh is reported at Rs 844 per 40 kgs.
 - 4.3 The wholesale market prices of seed cotton during the post-harvest months of Aug - Feb 2014-15 in the main producer area markets have averaged at Rs 3000 per 40 kgs in the Punjab and Sindh.
 - 4.4 The price of sunflower 2014-15 crop has been reported hovering around Rs 2050/40 kgs and Rs 2100 for canola.
 - 4.5 The market prices of sugarcane at mill-gate in the major cane producing areas are reported to hover around Rs 180 per 40 kgs in the Punjab and Rs 182 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 15 per 40 kgs in Punjab and Rs 14.32 in Sindh for sugarcane, Rs 40 for seed cotton in Punjab and Sindh, Rs 45 for rice paddy in Punjab and Rs 40 in Sindh, and Rs 30 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.

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN PUNJAB & SINDH

POLICY ANALYSIS MATRIX (PAM)

Based on import parity prices

Description	Revenues	Traded cost	Domest Factor cost	Profits
PUNJAB				
-----Rupees per acre-----				
2009-10				
Private Prices	27185	12141	10748	4296
Social Prices	29310	10535	11045	7731
Transfers	-2125	1606	-296	-3434
2010-11				
Private Prices	28178	13563	11390	3225
Social Prices	40085	11730	11672	16684
Transfers	-11908	1834	-282	-13459
2011-12				
Private Prices	31783	17382	14516	-115
Social Prices	41692	14937	14770	11985
Transfers	-9909	2445	-253	-12100
2012-13				
Private Prices	38018	18034	15084	4900
Social Prices	50778	15485	15351	19941
Transfers	-12759	2549	-267	-15041
2013-14				
Private Prices	39876	19217	16853	3806
Social Prices	46318	16479	17169	12671
Transfers	-6442	2738	-316	-8865
2014-15				
Private Prices	39183	19958	19307	-82
Social Prices	39642	17127	19344	3171
Transfers	-459	2830	-36	-3253
SINDH				
2009-10				
Private Prices	23824	11030	9242	3552
Social Prices	25760	9622	9429	6709
Transfers	-1936	1408	-187	-3156
2010-11				
Private Prices	23614	12406	9881	1328
Social Prices	35123	10778	10063	14282
Transfers	-11509	1628	-182	-12955
2011-12				
Private Prices	25679	16097	12469	-2888
Social Prices	36575	13879	12654	10042
Transfers	-10896	2218	-185	-12930
2012-13				
Private Prices	35665	17404	14717	3543
Social Prices	51001	14977	14919	21105
Transfers	-15336	2427	-202	-17562
2013-14				
Private Prices	39032	18706	15348	4977
Social Prices	46521	16071	15583	14868
Transfers	-7490	2636	-235	-9891
2014-15				
Private Prices	35887	19583	17959	-1655
Social Prices	39815	16777	17923	5115
Transfers	-3928	2807	36	-6771

ECONOMIC EFFICIENCY OF RESOURCE USE IN WHEAT PRODUCTION IN PUNJAB

POLICY ANALYSIS MATRIX (PAM)

Based on export parity prices

Description	Revenues	Traded cost	Domest Factor cost	Profits
PUNJAB				
-----Rupees per acre-----				
2009-10				
Private Prices	27185	12141	10748	4296
Social Prices	17676	10535	11045	-3903
Transfers	9509	1606	-296	8200
2010-11				
Private Prices	28178	13563	11390	3225
Social Prices	27343	11730	11672	3942
Transfers	835	1834	-282	-717
2011-12				
Private Prices	31783	17382	14516	-115
Social Prices	28036	14937	14770	-1671
Transfers	3747	2445	-253	1556
2012-13				
Private Prices	38018	18034	15084	4900
Social Prices	35155	15485	15351	4318
Transfers	2864	2549	-267	582
2013-14				
Private Prices	39876	19217	16853	3806
Social Prices	31609	16479	17169	-2038
Transfers	8267	2738	-316	5844
2014-15				
Private Prices	39183	19958	19307	-82
Social Prices	26485	17169	19346	-10030
Transfers	12699	2789	-39	9948
SINDH				
2009-10				
Private Prices	23824	11030	9242	3552
Social Prices	15598	9622	9429	-3453
Transfers	8226	1408	-187	7006
2010-11				
Private Prices	23614	12406	9881	1328
Social Prices	23994	10778	10063	3152
Transfers	-379	1628	-182	-1825
2011-12				
Private Prices	25679	16097	12469	-2888
Social Prices	24526	13879	12654	-2007
Transfers	1153	2218	-185	-881
2012-13				
Private Prices	35665	17404	14717	3543
Social Prices	35308	14977	14919	5412
Transfers	357	2427	-202	-1869
2013-14				
Private Prices	39032	18706	15348	4977
Social Prices	31607	16071	15583	-47
Transfers	7425	2636	-235	5023
2014-15				
Private Prices	35887	19583	17959	-1655
Social Prices	26599	16777	17923	-8101
Transfers	9289	2807	36	6446

**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.....			
*1300	3900	24765	-	-
1325	3975	25241	75	476
1350	4050	25717	150	952
1375	4125	26194	225	1429
1400	4200	26670	300	1905
1425	4275	27146	375	2381
1450	4350	27622	450	2857

Note: Average size of Household comprises of 6.35 members.

* Existing price for 2014-15 wheat crop.

** Planning Commission of Pakistan.

Source: PSLM, Household Integrated Survey (HIES) 2013-14, Pakistan Bureau of Statistics (PBS), Islamabad.

**YIELD PER HECTARE OF MAJOR WHEAT PRODUCING COUNTRIES IN THE WORLD:
2014 CROP**

S.No.	Country	Yield per Hactare in Kgs	S.No.	Country	Yield per Hactare in in Kgs
1	Ireland	10014	33	Finland	4070
2	Belgium	9413	34	Ukraine	4012
3	Netherlands	9170	35	Japan	4009
4	Germany	8630	36	Albania	4000
5	New Zealand	8627	37	Kuwait	4000
6	United Kingdom	8585	38	Estonia	3986
7	United Arab Emirates	7500	39	Serbia	3947
8	Denmark	7461	40	Belarus	3941
9	France	7357	41	Italy	3811
10	Zambia	7156	42	Lebanon	3804
11	Sweden	6806	43	The former Yugoslav Republic of Macedonia	3755
12	Namibia	6667	44	Latvia	3747
13	Egypt	6512	45	South Africa	3619
14	Czech Republic	6510	46	Romania	3598
15	Switzerland	6235	47	Turkmenistan	3333
16	Luxembourg	6154	48	Oman	3288
17	Austria	5922	49	Republic of Korea	3260
18	Slovakia	5464	50	Armenia	3226
19	Malta	5392	51	Bangladesh	3176
20	Chile	5329	52	Republic of Moldova	3170
21	Slovenia	5230	53	Canada	3095
22	Mexico	5194	54	Greece	3076
23	China, mainland	5048	55	India	3029
24	Poland	4972	56	Qatar	3000
25	Norway	4795	57	Venezuela (Bolivarian Republic of)	2981
26	Uzbekistan	4782	58	Spain	2981
27	Hungary	4729	59	Tajikistan	2968
28	Lithuania	4563	60	United States of America	2944
29	Mali	4442	61	Montenegro	2922
30	Saudi Arabia	4348	62	Niger	2869
31	Bulgaria	4217	63	Bosnia and Herzegovina	2864
32	Croatia	4156	64	Pakistan	2824
				World Average	3254

Source: FAO Production Year Book 2014