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Management

A Critical Analysis of Economic Reforms In Rice Production In Uttar Pradesh

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ABSTRACT

This Study Focuses On "Impact Of Economic Reforms In Rice Production In Uttar Pradesh". The general objective of this study is to identify and measure the relative magnitude of effect of the economic factors affecting Thai rice producer planting decisions using an econometric model of the area planted to rice in Uttar Pradesh, is the fourth largest state in country. State covers an area of about 246413 km2 and possesses varied topographic features. State has 19.95 crores, population in 2011 census its 16.49% of the country population with 225 lakhs farm families. Agriculture is the most important in the state because about 80% of its population resides in rural areas and 75% of the total workers are involved directly or indirectly in cultivation/farming which accounts for 27% of state's GDP. India is one of the world's largest producers of white rice and brown rice, accounting for 20% of all world rice production. Despite the focus on industrialization, agriculture remains a dominant sector of the Indian economy both in terms of contribution to gross domestic product (GDP) as well as a source of employment to millions across the country. Agricultural Sector is the mainstay of the rural Indian economy around which socio-economic privileges and deprivations revolve and any change in its structure is likely to have a corresponding impact on the existing pattern of Social equity. "Agriculture is the backbone of the Indian Economy"- said Mahatma Gandhi five decades ago. Even today, as we enter the new millennium, the situation is still the same, with almost the entire economy being sustained by agriculture, which is the mainstay of the villages. Not only the economy, but also every one of us looks up to agriculture for our sustenance too. Studies also show that the economic liberalization and reforms process have impacted on rice production and rural sectors very much.

KEYWORDS :

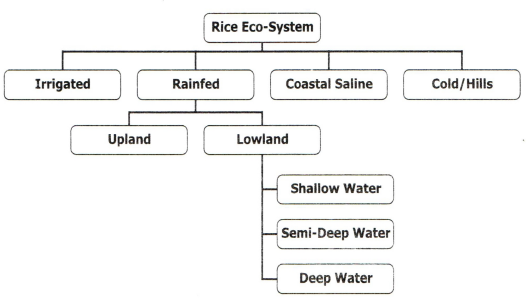
Introduction:

Agriculture plays a vital role in the Indian economy. Over 70 per cent of the rural households depend on agriculture as their principal means of livelihood. Agriculture, along with fisheries and forestry, accounts for one-third of the nation's GDP and is its single largest contributor.

Rice is the major crop in Uttar Pradesh and is grown in about 5.90 mha which comprises of 13.5% of total rice in India. Uttar Pradesh has favourable and suitable climate, vast areas of fertile soils, sunshine and adequate water resources.

Indian Agricultural Sector

The Indian Agricultural sector provides employment to about 65% of the labour force, accounts for 27% of GDP, contributes 21% of total exports, and raw materials to several industries. The Livestock sector contributes an estimated 8.4 % to the country GDP and 35.85 % of the agricultural output. India is the seventh largest producer of fish in the world and ranks second in the production of inland fish. Fish production has increased from 0.75 million tons in 1950-51 to 5.14 million tons in 1996-97, a cumulative growth rate of 4.2% per annum, which has been the fastest of any item in the food sector, except potatoes, eggs and poultry meat. The future growth in agriculture must come from,



- new technologies which are not only "cost effective" but also "in conformity" with natural climatic regime of the country;
- technologies relevant to rain-fed areas specifically;
- continued genetic improvements for better seeds and yields;
- data improvements for better research, better results, and sustainable planning;
- bridging the gap between knowledge and practice; and
- judicious land use resource surveys, efficient management practices and sustainable use of natural resources.

Economic Reforms Process:

Since July, 1991 the country has taken a series of measures to structure the economy and improve the balance of payments position. The New Economic Policy (1991) introduced changes in the areas of trade policies, monetary & financial policies, fiscal & budgetary policies, and pricing & institutional reforms. The salient features of NEP-1991 are (i) liberalization (internal and external), (ii) extending privatization, (iii) redirecting scarce Public Sector Resources to Areas where the private sector is unlikely to enter, (iv) globalization of economy, and (v) market friendly state. Research reports reveal that this macro-economic adjustment programme is remarkable for its relatively painless transition compared with similar programmes elsewhere and a large part of the credit for absorption of these shocks is due to the steady increase in agricultural production. The GATT Agreement signed in 1995 will fundamentally change the global trade picture in agricultural sector.

Impact of Economic Reforms Process on Rice Production:

Rice Production is the mainstay of the rural Indian economy around which socio-economic privileges and deprivations revolve, and any change in its structure is likely to have a corresponding impact on the existing pattern of social equality. No strategy of economic reform can succeed without sustained and broad based agricultural development, which is critical for

- raising living standards,
- alleviating poverty,
- assuring food security,
- generating buoyant market for expansion of industry and

services, and

- making substantial contribution to the national economic growth.

Studies also show that the economic liberalization and reforms process have impacted on agricultural and rural sectors very much. According to Bhalla (1997), of the thr $E_p = R_f + (E_m - R_f)\beta_p$omy in India, the tertiary sector has diversified the fastest, the secondary sector the second fastest, while the primary sector, taken as whole, has scarcely diversified at all. Since agriculture continues to be a tradable sector, this economic liberalization and reform policy has far reaching effects on :

(i) exports and imports,
(ii) investment in new technologies and on rural infrastructure
(iii) patterns of production growth,
(iv) income and employment,
(v) prices and

Literature Review:

Shivani Gupta(2014), This paper intends to compare Indian economy in pre and post reform period. This paper tries to analyze how the economic reforms of 1991 in India have affected the GDP growth rate and how it has impacted the contribution of several economic and non-economic factors towards GDP growth rate determination. To carry out this comparative analysis some economic factors and some non-economic factors are considered and their effect on Gross Domestic Product (GDP) growth rate (at factor cost) is analyzed during the period of 1970-2011. The economic factors considered are capital formation rate, agriculture sector growth rate, export growth rate, import growth rate and non-economic factors are electric power consumption (Kwh per capita), poverty head count ratio at $2 a day (PPP) (%population). This paper uses ordinary least square methodology to compare pre and post reform Indian economy. This paper examines and explains how these different economic and non-economic factors have influenced the GDP growth rate in India since 1970 and thus tries to explain how different economic policies can be channelized to promote economic growth.

Dr. Asha Agrawal(2013),This paper provides an overview of the issues and policies which are two major conclusions as given Structural reforms on agricultural have positive and negative effects. Agricultural benefited indirectly due to disprotection given to industry in the post reform period. The terms of trade, private investment, opportunities for technology and specialization have increased for agriculture. On the negative side, trader forms might have effected some crepes and increased dependence on global prices which are volatile. Fiscal and financial liberalization also had some adverse impact on investments and credit. It has been concluded by some that the slowdown in agricultural growth is linked directly to structural reforms in the country and globalization including joining of W.T.O Vijay Paul Sharma (2011) During the last two decades Indian agriculture has been facing major challenges like deceleration in growth rate, inter-sectoral and inter-regional equity, declining input efficiency, degradation of natural resources, etc. with consequent adverse effects on food and nutritional security, food inflation and poverty reduction. However, the 11th Plan had some success in reversing the deceleration of agricultural growth witnessed during the 9th and 10th Plan but food inflation still remains a major concern. The growth in agriculture in the 11th Plan is likely to be around 3.2 percent per year, which is higher than 10th Plan growth rate but lower than the target (4.0%) for 11th Plan. The 12th Plan growth target for agriculture sector has been set at 4 percent with foodgrains growth at about 2 percent and non-foodgrains sector (horticulture,livestock and fisheries) growing at about 5-6 percent. However, looking at the growth in agriculture sector in general and high-value agriculture, particularly, horticulture, fisheries, dairy and meat sector during the 11th Plan, there is a need to put additional efforts to achieve 4 percent growth in agriculture.

Ramesh Chand and Shinoj Parappurathu(2011),The historical and spatial growth analysis of Indian agriculture suggests that growth performance of the sector has been highly uneven across time and regions. Overall assessment of the sector's growth suggests that green revolution period has been the golden period for Indian agriculture that witnessed tremendous growth in both agricultural output and input use. The period of wider dissemination of technology can be considered as period during which the spread of green revolution technologies across regions aided in maintaining the growth tempo realized in the previous period Renuka Mahadevan(2003) The Indian agricultural sector has been undergoing economic reforms since the early 1990s in the move to liberalize the economy to benefit from globalization. This paper traces this process, analyses its effects on agricultural productivity and growth and discusses the problems and prospects for globalization to draw policy implications for the future of Indian agriculture.

Alan V. Deardorff And Robert M. Stern(1997)The process of major economic reforms undertaken in the Indian economy has now completed six years of implementation. The unilateral reform measures in the industrial and trade policies of India along with reforms in the tax regime represent a significant departure from the policy framework of the preceding decades. Our paper evaluates the comparative static effects of selected trade and domestic policy reforms on trade, output, domestic prices, economic welfare, and the intersectoral allocation of resources using a computable general equilibrium model of the Indian economy.

Research Objectives

The main aim of this study is to analyze impact Of Economic Reforms In Rice Production In Uttar Pradesh. This research is an endeavor towards to analyze agriculture contributes only 21% of India's GDP, its importance in the country's economic, social, and political fabric goes well beyond this indicator. The rural areas are still home to some 72 percent of the India's 1.1 billion people, a large number of whom are poor. Most of the rural poor depend on rain-fed agriculture and fragile forests for their livelihoods.

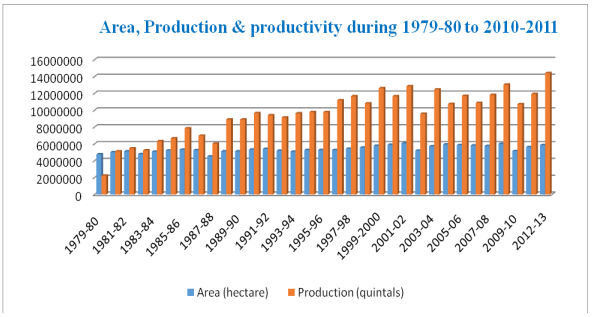
Statistical Analysis/Interpretation:

Area, Production & productivity during 1979-80 to 2010-2011

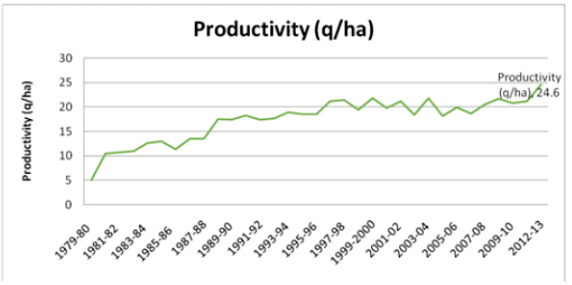
Year Productivity (q/ha)	Area (hectare)	Production (quintals)	Productivity (q/ha)
1979-80	4771140	2230233	5.06
1980-81	5014679	5126677	▲ 10.53
1981-82	5120175	5478354	▼ 10.7
1982-83	4787674	5233134	▲ 10.93
1983-84	5082167	6320258	▲ 12.66
1984-85	5225206	6662587	▲ 13
1985-86	5319654	7857601	▼ 11.32
1986-87 5	261487	6982115	▲ 13.55
1987-88	4518012	6040970	▼ 13.54
1988-89	5112221	8896593	▲ 17.52
1989-90	5120932	8895225	▼ 17.47
1990-91	5327047	9668710	▲ 18.27
1991-92	5409704	9404255	▼ 17.38
1992-93	5193060	9143421	▲ 17.61
1993-94	5080778	9635570	▲ 18.96
1994-95	5280502	9778369	▼ 18.52
1995-96	5278812	9783559	▲ 18.53
1996-97	5276843	11191321	▲ 21.21
1997-98	5438809	11670220	▲ 21.46
1998-99	5573067	10821093	▼ 19.42
1999-2000	5778812	12625566	▲ 21.85
2000-01	5904128	11672250	▼ 19.77
2001-02	6068496	12849116	▲ 21.17
2002-03	5209137	9586935	▼ 18.4
2003-04	5719933	12476923	▲ 21.81
2004-05	5954405	10749989	▼ 18.11

2005-06	5868870	11707282	▲ 19.95
2006-07	5820022	10876390	▼ 18.69
2007-08	5756233	11829177	▲ 20.55
2008-09	6011761	13051365	▲ 21.71
2009-10	5148046	10714990	▼ 20.81
2010-11	5631949	11938078	▲ 21.2
2012-13	5861000	1441600	▲ 24.6

Source- Department of Agriculture & Cooperation, Ministry of Agriculture, GOI



Source- Department of Agriculture & Cooperation, Ministry of Agriculture, GOI

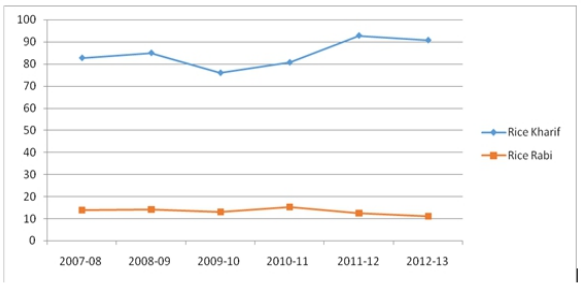


Source- Department of Agriculture & Cooperation, Ministry of Agriculture, GOI

The overall production and productivity of the Uttar Pradesh is influenced by rainfall and its distribution during crop growth period. The aridity year affects the production and productivity by reducing the area and yield. Area, production and productivity of rice of the state as influenced by rainfall. It is observed that high production was achieved in the years where adequate rainfall was received. During 2003-04 and 2008-09 high rice production was achieved due to normal rainfall and its proper distribution. During drought years 2002-03 and 2009-10, drastic area in reduction in the area as well as yield was realized. In the year 2009-10 alone there was reduction in the area to the tune of ten lakhs and production has gone down by 1.07 million metric ton. Climatic Requirements. The normal annual rainfall of the Uttar Pradesh is 947.4 mm and it ranges from 710 mm to 1750 mm during 40 years. The tarai foot hill receives heavy rainfall while in south part rainfall decreases. The large percentage of the annual rainfall over the state is received during June to September.

Rice Production In India In Mt.-

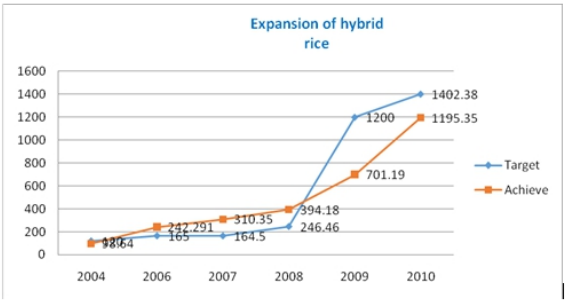
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Rice	Kharif	82.66	84.91	75.92	80.65	92.75	90.69
Rice	Rabi	14.03	14.27	13.18	15.33	12.56	11.11



Source- Department of Agriculture & Cooperation, Ministry of Agriculture, GOI

In India rice is grown under widely varying conditions of altitude and climate. Rice cultivation in India extends from 8 to35°N latitude and from sea level to as high as 3000 meters. Rice crop needs a hot and humid climate. It is best suited to regions which have high humidity, prolonged sunshine and an assured supply of water. The average temperature required throughout the life period of the crop ranges from 21 to 37° C. Maximum temp which the crop can tolerate 40 C to 42 C.

Year	Target	Achieve
2004	120	98.64
2006	165	242.291
2007	164.5	310.35
2008	246.46	394.18
2009	1200	701.19
2010	1402.38	1195.35



X axis-Year Y axis-Area in Thousand/h

In eastern part of Uttar Pradesh covering 15 districts which constitutes about 30% area of total rice cultivated in the state. As regards the favorable irrigated area it is more than 50% while upland and very deep water and flood prone areas are restricted to 10% and 4% only. The rice areas where salts are problem is estimated to be ≤ 2%. Inland salinity areas are mainly concentrated in Raibarelly, Azamgarh, Sultanpur, Faizabad, Lucknow, Unnao and Pratapgarh districts. In western and central part of the states majority of the rice cultivated in favourable irrigated condition, because of lowest rainfall coupled with low average of rice is reported in Jhansi and Chitrakoot where water scarcity leads to cultivate some varieties only.

The use of quality seeds in cultivation of rice is an important factor to get better crop yield. Therefore, proper care has to be taken in selecting seeds of the best quality. Much of the success in raising the healthy seedlings depends on the quality of seed. Seeds intended for sowing should satisfy the following requirements

- Proper variety, which is proposed to be grown.
- clean and free from obvious mixtures of other seeds.
- Mature, well developed and plump in size.
- Obvious signs of age or bad storage.

The crop of rice is grown with the following methods :-
(i) Dry or Semi-dry upland cultivation
(a) Broadcasting the seed
(b) Sowing the seed behind the plough or drilling.
(ii) Wet or lowland cultivation
(a) Transplanting in puddled fields.
(b) Broadcasting sprouted seeds in puddled fields.
Selection of Seeds
i. The use of quality seeds in cultivation of rice is an important factor to get better crop yield. Therefore,

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iii. Seedlings depends on the quality of seed. Seeds intended for sowing should satisfy the following requirements :-

a) The seed should belong to the proper variety, which is proposed to be grown.
b) The seed should be clean and free from obvious mixtures of other seeds.
c) The seed should be mature, well developed and plump in size.
d) The seed should be free from obvious signs of age or bad storage
e) The seed should have a high germinating capacity.

State government is targeting to increase 1.5 lakhs hectare area every year under hybrid rice varieties.

Finding:

Uttar Pradesh record of progress in agriculture over the past five decades has been quite impressive. Climate change is now days a new problems for the sustainability of rice production not only in Uttar Pradesh but globally. Efforts will be made to improve germplasm adaptation to cope up with the prevailing unfavorable rice environments. The contribution of increased land area under agricultural production has declined over time and increases in production in the past three decades have been almost entirely due to increased productivity. Contribution of agricultural growth to overall progress has been widespread. Increased productivity has helped to feed the poor, enhanced farm income and provided opportunities for both direct and indirect employment.

Irrigation development was the cornerstone of the strategy. Undivided India was amongst the largest irrigated areas in the world. With partition nearly one-third of the irrigated area went to Pakistan. Fertilizers have constituted yet another key input in addition to expanded irrigation and spread of HYVs in achieving goals of high production and productivity. India currently occupies third position in the world, after China and USA, in terms of fertilizer production and consumption. Increasing population and economic growth are changing patterns of land use making potentially unsustainable demands on the state's natural resources.

Technologies are needed to push the yield frontiers further, utilize inputs more efficiently and diversify to more sustainable and higher value cropping patterns. These are all knowledge intensive technologies that require both a strong research and extension system and skilled farmers but also a reinvigorated interface where the emphasis is on mutual exchange of information bringing advantages to all. At the same time potential of less favoured areas must be better exploited to meet the targets of growth and poverty alleviation.

Another important implication of increasing globalization relates to the need for greater attention to the quality of produce and products both for the domestic and the foreign markets.

These are some steps should be taken for improve rice production:-

1. Seed subsidy should increase.
2. Central intervention in Promoting Farm Machinery Manufacturing Units.
3. Allocation of Central schemes not been communicated early, which impedes advance planning.
4. Timely & regular supply of fertilizers.
5. Irrigation

Management of storage insects

1. The management of stored grain pests should be done in a sequential and integrated manner.
2. An effective pest control system involves
3. Harvesting, drying and storage of clean dry grain
4. Disinfecting the storage system and
5. Controlling or preventing pest infestation during the storage period.

Conclusion:

Rice is one of the most important food crops of India in term of both area, production and Consumer preference. India is the second largest producer and consumer of rice in the world.

Rice production in India crossed the mark of 100 MT in 2011-12 accounting for 22.81% of global production in that year. This region comprises of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Eastern Uttar Pradesh and West Bengal. In this region rice is grown in the basins of Ganga and Mahanadi rivers and has the highest intensity of rice cultivation in the country. This region receives heavy rainfall and rice is grown mainly under rain fed conditions. Rice is one of the most important food crop of India. Major share of rice is cultivated during Kharif season. Indian rice production largely depends on monsoon rains and only 59 per cent rice area has assured irrigation. Some important districts of Uttar Pradesh are Saharanpur, MuzaffarNagar, Piliphit, Bareilly, Bijnour, Moradabad, Jyotibaphule Nagar, Rampur, Raibareily, Sitapur. Safe storage of rice for longer periods is possible if three conditions are met:

- Grain is maintained at moisture levels of 14% or less and seed is stored at 12% or less
- Grain is protected from insects, rodents and birds
- Grain is protected from re-wetting by rain or imbibing moisture from the surrounding air.

Hybrid rice cultivation is thus likely to generate additional employment opportunities for workers in general and specially for female labour, the government needs to improve the quality of knowledge dissemination and also provide sufficient credit.

The agricultural technology needs to move from production oriented to profit oriented sustainable farming. The conditions for development of sustainable agriculture are becoming more and more favorable. Contribution of agricultural sector towards GDP growth rate has been quite significant. Therefore, this paper concludes that agriculture growth rate has been an important contributor and determinant of GDP growth rate for period 1970-2013.

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