



INDUSTRIAL IMPACT ON AGRICULTURE IN RAIGAD – DISTRICTS

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ABSTRACT

In the recent years, a good number of industrial establishment have mushroomed on the agricultural lands in Raigad Districts. This development is necessary to boost economy of the State. But it is done at the cost of farmers livelihood. The industrial impact is so great that they are rendered homeless and jobless. Because their arable lands are appropriated for the industrial purpose. Moreover, this has affected the growth of the produce. As a result, the field products are now scarce and are sold at exorbitant prices. Under the prevailing circumstances, the poor farmers are compelled to seek their livelihood somewhere in the urban areas.

INTRODUCTION

India is badly in needy of strong economy to solve the problems of poverty, unemployment, low productivity etc. But agriculture cannot be ignored. It is sine qua non for livelihood. The agricultural sector is considered the backbone of India economy. It earns about 10 percent foreign exchange by means of exports. The appropriation of cultivable lands for the industrialisation purpose has created a big problem to the farmers in the Raigad districts.

Industrialisation in Raigad

Industrialisation has changed the natural atmosphere in Raigad districts. The establishments of ONGC, JNPT, RCF. Chemical Industry, Iron Industry and many other industries are located at the most fertile areas in Raigad districts. People use polluted water, pesticide, fertilizers to gain the growth of rice, coconut, vegetables, fruits and flowers. The has created serious ecological problems. Atmosphere is polluted due to emission of poisonous and hazardous gas by chemical and fertilizer plants. Surrounding areas of Raigad in Uran, Panvel, Taloja, Kholi, Roha, Nagothane, Managoan and Mahad are affected.

AGRICULTURAL AND RURAL DEVELOPMENT IN INDIA

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For the 70% of the world's poor who live in rural areas, agriculture is the main source of income & employment development of national economy is not successful unless and until there is development of rural sector

In India Agriculture development is critical for meeting the growing demand for food, raw material and for creating more employment opportunities in rural sector.

The development progress of the economy depends upon the performance of agriculture. Today also rural area has not improved significantly over the years. In rural youth seek employment in urban areas. In the absence of regular and gainful employment, rural labour migrates and joins the formal sector in urban areas, where conditions are not better.

RAIGAD INDUSTRIALIZATION:-

The industrialization has changed the nature of Raigad districts. The foundation of ONGC, JNPT, BPCL, MSEB, RCF Chemicals, Steel, Iron Industry, cement industry and many other industries. All these industries are located in most fertile areas of Raigad Districts. People used pollute water, pesticide, fertilizers to cultivate rice, coconut and various vegetables, fruits, flowers etc.

Industrialization is creating serious ecological problems. The real increases environmental problem was dumping yards of wastages in Raigad districts. Release the poisons and hazardous gases to spoil atmosphere. Chemical and fertilizers industries wastages are coming from various industries.

The of projects of people against this project because it has fallen more earned and plant continues to pollute atmosphere to irreparable damage. It affected the surrounding areas of Raigad in Uran, Panvel, Talaja, Khopoli, Nagothane, Roha, Mangaon, and Mahad.

INDIAN AGRICULTURE

Agriculture plays a vital role in Indian economy. Over 58%. of the rural households depend on agriculture as their principal means of livelihood subsidiary to fisheries and forestry, is one of the biggest contributors to the Gross Domestic Product (GDP)

As per estimates by the Central Statistics Office (CSO) the share of agriculture and allied sectors (including agriculture livestock, forestry and fishery) was 15.35% of the Gross Value Added (GVA) during 2015-2016 at 2011-12 prices?

India is the largest producer consumer and exporter of spices and spice products. India fruits production has grown faster than vegetables. It is second largest fruit producer in the world.



India's horticulture output, comprising fruits, vegetables and spices was in 2014-2015 a record high of 283.5 million tones MT) It ranks third, in farm and agriculture outputs. Agriculture export constitutes 10% of the country's exports and is the fourth-largest export of principle commodity. The agriculture sector in India is divided into several sub segments such as dairy, frozen food , fisheries, meat, poultry and food grains.

In India expansion food processing product as will as increase in agricultural exports. Rising private participation in Indian agriculture growing organic farming and use of information technology are some of the key trends in the agriculture sector.

An annual output of 146.3 MT India is the largest producer of milk accounting of 18.5% of the total world production the second largest producer of sugar accounts for 14% of the global output. It is the six largest exporter of sugar accounting for 2.76% of global export.

Role of Agriculture in Indian Economy

1) **Contribution to GDP** – Contribution of agriculture to GDP in India. It has declined from 55.1% of GDP to less than 15% in 2011-2012. The Contribution of agriculture to national income has declined to less than 15% in 2011-2012. It is still higher as compared to developed countries such as USA and UK where agriculture is contribution 2-3% to national income. Thus agriculture is a major contribution to national income of India.

2) **Contribution to Employment Generation** - The nature of agricultural activities is such that it can absorb huge amount of unskilled labour which cannot be employed in secondary and tertiary sector. His contribution in direct employment has declined from 69.5% of the working population in 1951 to 58.2% in 2010-2011 yet it is still higher as compared to USA and UK where only 2% of working population is engaged in agriculture.

This declining contribution to employment can be attributed to the fact of growing service sector and urbanization which has led to migration of labour to urban areas. Although employment generation has declined agriculture in India being labour intensive in nature has great employment potential.

3) **Contribution in Supply of labour to Urban Sector**- Growing privatization has created demand for unskilled and semi-skilled hard working labour in unorganized sector in urban areas in India. This sector demands workers who will work for long hours at low wages. Such labour is supplied by rural agriculture sector of India.

4) **Contribution to Industrial Development** – Indian agriculture is of prime importance in the industrial development as it raw materials to agro based industries, many are based industries like textile industries sugar factories now resent growth and diversification of

agriculture production have helped to develop new types of industries agriculture provides market for industrial products. Thus development in agriculture has lead to development in industries in India.

5) **Development of service sector** – Recent growth and diversification in agriculture in India has contributed in development of service sector. Service sector provides helpful services in the industries and agriculture like banking, warehousing cold storage communication, insurance and transport.

6) **Contribution to capital formation** – Agriculture is the primary source of saving and hence capital formation for the economy. Large investment in land development construction of farm house and irrigation facilities and other facilities i.e. agriculture inputs warehouse, cold storages. Now government project of developing rural road connectivity, electrification construction of dams & bridges for increasing productivity.

7) **Contribution to Rural Development** – Modernization and diversification in agriculture in India is expected to bring rural development through building up of infrastructure in rural backward areas. Commercialization of agriculture has increased services such as transport communication, banking etc in rural areas.

8) **Contribution to Export** –No of agricultural products like tea sugar, oilseeds, tobacco, and spices are major export items of India.

India is now the largest procurer of coconut, cashew nut ginger, turmeric, black pepper fruits & vegetables etc. export of commodities. India is exporting new varieties of fruits, vegetables and flowers to other countries.

9) **Helps in achieving Inclusive Growth** – Inclusive growth as an important objective of twelfth five year plan has increased to importance of agriculture.

Table No- 1
Indian Agriculture of GDP at factor cost.

Year	GDP
1950-51	53.1
1960-61	48.7
1970-71	42.3
1980-81	36.1
1990-91	29.6
2000-01	22.3
2010-11	14.54
2011-12	13.9

(Source – Economics Survey 2011-2012.)

The agriculture and allied activities include agriculture forestry, fishing, mining etc the share of agriculture and allied activities has declined from 53.1% in 1950-51 to 13.9% in 2011-2012.

Table No. 2
 Indian Agriculture Growth Rate of GDP
 (Source – RBI Bulletin, March- 2012)

Year	GDP
2005-06	5.1
2006-07	4.2
2007-08	5.8
2008-09	0.1
2009-10	1.0
2010-11	7.00
2011-12	2.5
2012-13	4.4
2013-14	5.0
2014-15	3.7

The growth rate of agricultural has declined since 1951. As per the trends of sectoral growth of gross domestic product in 2005-2006 was 5.1 and the growth rate of agriculture and allied activities was 3.7 % in 2014-2015.

Table – 3
 Changes in the occupational structure in India in Primary sector
 (Agriculture & Allied Activity)

Year	%
1951	72%
1971	72%
1991	62%
2001	59.3%
2012-13	51%

Accordingly to the economics survey 2012-2013 percent of the main workers labour force was employed in agriculture sector and their allied activities

Table – 4
 Production index of Principal Crops (%)

Commodity	1980-81 to 1989-90	1990-91 to 1999-2000	2000-2001 to 2011-2012
Rice	3.62	2.02	1.72
Wheat	3.57	3.57	2.37
Sugarcane	2.70	2.73	1.96
Oil Seeds	5.20	1.63	4.45
Cotton	2.80	2.29	13.53

(Source- Economics Survey (2011-2012))

The growth rate of production has declined for rice wheat & sugarcane in 1990-2000 to 2001-2012.

Table – 5

Agriculture yield per hectare of major crops (kg/hectare)

Commodity	1970-1971	1980-1981	1990-91	2000-2001	2009-2010	2010-2011
Food grain	872	1023	1380	1626	1798	1921
Rice	1123	1336	1740	1901	2125	2240
Wheat	1307	1630	2281	2708	2839	2938
Sugarcane	579	532	771	810	958	1159
Oil Seeds	48	58	65	69	70	69
Cotton	106	152	225	190	403	70

(Source- Economics Survey – 2011-2012)

As observed from the above table there has been a continuous improvement in productivity for hectare of all crops.

An international comparison of agricultural productivity shows a disappointing, picture of Indian agriculture. In spite of increase in agricultural production, caused due to green revolution, the productivity of agriculture still remains low in comparison with other countries.

Industry:-

Industry plays an important role in the growth and development of a country. Industrialization enhances productivity raised per capital income and accelerates the pace of saving and capital formation.

Industrialization in India- Industrialization can help the progress of agriculture, trade transport and all other economic activities. Industrialization is the key of economic

development.

It will make possible use of our human and physical resource. Industrialization is an important for generating employment opportunities utilization of all types of resources, education, training research & Development, improving the productivity of labour and balanced regional development.

Importance of Industrialization –

- 1) National Income – Industrial growth bring a rapid increase in the national income of the country.
- 2) Population Pressure – In order to reduce the continued increasing pressure of exploding population on our developing economy.
- 3) Unlimited scope of Industry-In India land is limited but industrialization has unlimited scope.
- 4) Employment opportunities – To establish the large number of industrial units we can create more employment opportunities and absorb large number of unemployment's.
- 5) Optimum utilization of resources- In India other sectors cannot use all resources, but industrialization is a uses of optimum resources.
- 6) Uses of wastage materials:- In India in agriculture wastages materials used and make different products i.e. Animal foods, paper, winery, Jute bags etc.
- 7) Quality Manpower – Industrial sector create a quality manpower provides education, training for workers, thus it will prove the quality of our manpower.
- 8) Division of work – In India industrial sector properly division of works & workers so we can have division of work and specialization in the industry.

Table – 6 Sectoral Composition of Gross Domestic product of cost in Industries

Year	Industries
1950-51	16.6
1960-61	20.5
1970-71	24.0

1980-81	25.09
1990-91	27.7
2000-01	27.3
2010-11	27.8
2011-12	27.0

(Sources- Economics Survey – 2011-2012)

Industrial sector include manufacturing construction, electricity gas and water supply the share of industry has increased from 167.6% in 1950.51 to 27.0 in 2011-12

Table – 7

Sectoral Growth Rate at Gross Domestic product at factor cost in Industries.

Year	Industries in %
2005-06	8.5
2006-07	12.9
2007-2008	9.2
2008-2009	4.1
2009-10	8.9
2010-11	6.8
2011-12	3.6

(Source – RBI Bulletin March- 2012)

The growth rate of secondary sector Industry shows constant trade since 1991. As per latest trend of the growth rate of gross domestic product at factor cost, the growth rate of secondary, sector decline up to 3.6% in 2011-2012 as compare to 6.5.% per annum in 2005-2006.

Raigad Agriculture –

Konkan region of Maharashtra comprises of five districts viz Sindhudurge, Ratnagiri, Raigad, and Thane & Greater Mumbai.

The district is consisting is Tolukas with the geographical area of Raigad district is about 687000 has of which gross cropped area is 217000 has (31.57%) and net sown area is 1,89,000(27.51%) with total irrigated area of 14000 ha. (7.41%) Double crop area is 23000 has with cropping intensity of 114.81% total geographical area of 8.18 lakh ha. The major crops grown are Rice, Finger Millets, Small millets during kharip season and cow pea, red gram Green gram Horse gram & Dolichus Dean in Rabi Season while in Summer groundnut, and some vegetables are grown by irrigated farmers further, in district horticultural crops such as mango, cashew, coconut, Areca nut are grown. Dairy, Poultry Goat Reining and



Fishery are the main pillars of secondary agriculture in the district.

The district Raigad is a part of a west coast of Arabian Sea. It has approximately 240 KM coast in the West. The District is rich in natural resources.

The district is geographically subdivided in to three parts as (1) Sea Coast (2) Central belt (3) Hilly areas of Sahyadri range.

The industrial development of Raigad district has really catalyzed when in 1970 the industrial establishment has been banned in Mumbai Metropolitan. The MIDC has developed the full facilities industrial estates at Patalganga, Roha, Mahad, Taloja etc. Mainly Chemical industries established in these industrial estates.

The Raigad district is having various prominent industrial areas which includes MIDC areas and co-operative industrial estates and scattered industrial development.

Water Management –

The Four revisers namely Patalganga, Kundlika, Amba and Savitri are of the great importance for water supply to the industries as well as for drinking water proposes.

The River Patalganga: - The River Patalganga originates from the hilly range of Sahyadri near Khopoli and flows to the west side through Khopoli City, Khalpur taluka and ultimately joins to Dharamtra creek near Kharpapda village. Many industries have been established in the vicinity of the said river. The river becomes not only main source of water supply to these industries but also the drinking water supply to nearby villages.

Reasons for Probable pollution of River – The reasons are as follows

- 1) The domestic waste water of Khopoli city is a main and substantial source of pollution.
- 2) The accidental discharges of effluents directly or indirectly from the industries.
- 3) The use of explosives or other poisonous chemical for fishing at many places.
- 4) Unauthentic disposal of solid waste at the bank of river & vicinity which may find way in the river in rainy season.
- 5) The washing of chemical takers in the river at many places may cause pollution of river water.



The River Kudalika - The River Kundlika originates from the mountain range of Sahyadri flow from city, Roha and ultimately merges in the creek. The MIDC has established an industrial eastate at Dhatav on the bank of this river. The Kundlika is a prime source of water for these industries and also for the nearby villages and Roha city however the intake of water supply is at the upstream of the industrial estate.

Causes of Pollution of River –

- 1) The domestic waste form Roha city is directly discharged in to the river without any treatment and become a regular and substantial source of pollution.
- 2) Accidental discharges of effluents directly or indirectly in to the river through Ganga Nalla & other nalla from Industrial areas.
- 3) Unauthorized disposal of Hazardas waste on the bank & Vicinity of river which may find its way into the river in rainy seasons.
- 4) The washing of chemical tankers in to the river at many at many places.

The River Savitri – The river savitri originates from the mountains at mahabaleshwar And flows towards Poladpur and Meet to creek. The water is supplied form this river to navenagare of Mahad. The industrial eastate and to some nearby villages.

Causes:-

- 1) The discharge of domestic waste form Mahad is the regular and substantial source of river pollution.
- 2) Accidental discharges form industries into Temghar Nalla which meets to river.
- 3) Unauthorized disposal of Hazardous waste one the bank of river and vicinity which may find its way in to the river in rainy seasons.
- 4) Washing of chemical tankers in the river at many places.

The River Amba: - The River Amba originates from the mountains range of Sahyadri flows through sudhagad taluka and ultimately meets to Dharamtar Creek at Nagothane. Though any industrial estate in established. Some scattered industries are established on the bank of this river. The river is a Source of water supply for these industries. RCF and Alibag City.

Statement of the research problem – Industrialization is a process of economic development. Rapid industrialization is the result in the development of urban areas. Maharashtra is a one of the industries states in India. Urban areas are growing rapidly due to rapid industrialization. Growth of Urban areas has a great impact on agriculture Raigad is a one of the most industrialized districts of Maharashtra process of industrialization resulted in changes in crop pattern from traditional crops to commercial crops. Supply of the agriculture labour due to rural urban migration, conversion of rural land into urban areas and industrial land; reducing the availability of land for agriculture. These changes changed agriculture crop pattern.

Review of Literature –

1) J. J. Dethier, A. Effenberger- Economics systems, 2012- Elsevier said that Industrialization according to which because of production and consumption linkages, country's development strategy. Should be agriculture, driven rather than export driven and increased agricultural productivity would be the initiator of Industrialization

2) Preetham Sheety K. and Dr. Sureshramana Mayya – A study on Impact of Industrialization on Agriculture, Published in SUMEDHA Journal of Management Vol. 4 No.

4 Oct- December-2015. On their concluded that India is primarily and agricultural country due to concentration must be paid to the agricultural development. It would be difficult to produce enough food for country people. If the industries start utilize the agricultural land to construct their plants. The country only be developed if industries act in favor of agricultural and being complementary to each other.

Object of Study –

- 1) To study the effects of Industrialization on agriculture.
- 2) To study effects of industrialization on productivity and production of foods and fruits.
- 3) To examine the effects of industrialization on agriculture land.
- 4) To examine the effects of industrial wastage on agriculture area.

Findings –

- 1) Research data information are collected in the rural area of the Raigad District
- 2) Industrial name dominated Agricultural land in Raigad districts.
- 3) Due to increase in the number of industries and urbanization farmers are migrating from their rural land.
- 4) Profuse use of water by industries has caused irrigation problem.

- 5) The fertility agricultural land has reduced.
- 6) Industrialization and urbanization has converted the food crops in commercial crops in rural areas.
- 7) In Raigad districts popular crops of rice has reduced.
- 8) Industrial polluted water has affected on the agricultural land by reducing its producing capacity.
- 9) Due to support by govt. of industries agriculture is moving towards disturbance.

Suggestions –

- 1) Industrial wastage has to be recycled in an appropriate way.
- 2) SEZ, Thermal Power, Chemical industrial plan for such a large industrial area agricultural land should not be used.
- 3) To stop the farmers from migrating small scale business must be nurtured in rural areas.
- 4) Farmers should be encouraged to use modern technology.
- 5) Industrial plant should be established at wastage and non- agricultural land.
- 6) Farmers should be encouraged to produce more rice fruits and vegetables.
- 7) Farmers should be provided with financial facilities.
- 8) Farmers should be provided with irrigation facilities.
- 9) In Raigad districts govt. should not establish SEZ on agricultural land.
- 10) Farmers should get productive HYV seeds fertilizers and pesticides from the Government.
- 11) In Raigad districts Govt. should provide educational facility, training, co- operative farming, corporate farming etc.
- 12) In Raigad districts agriculture sector should establish agro processing industries.
- 13) In Raigad districts Govt. should be provided necessary land reforms.
- 14) Govt. should fan chemical industries in Raigad District.

Conclusion –

Agriculture sector plays an important role to accommodate maximum number of population. It still remains' the pre dominant economic activities. Any changes in agriculture may have serious affects an whole of the economy. But now a days the importance of this sector is declined due to lack of concentration by government, planners and policy makers.

Agriculture sector is a need to significantly step up both private and public investments to ensure sustained growth and development. If industries start to utilize the agriculture land for construction then the popular rice cultivation may disappear from the land of Raigad districts in Maharashtra. So the government try to industrial development in wastage land and central commercialization agriculture land.



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