

A STUDY ON IMPACT OF POPULATION GROWTH IN PURI TOWN OF ODISHA

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Abstract: Puri town is famous for Lord Shree Jagannath and its scenic attraction of Odisha, so here so many tourists are arrive for their ritual work in each and every day. And also many local area rural people, tourists, outsiders of Puri district people etc. are like to live in this town and create a home for their rest life. In this way many poor people are also come this place for income purposes. So here the population growth is increase rapidly and it is the headache for Puri municipality and also local govt. This paper is find out the problems, objectives, impact, and also planning for the control of this population growth basically focuses on develop the quality of education, health planning, public awareness programme etc.

Keywords: Population Growth, Impact, Problems, Pollution, Planning

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1.Introduction

Generally the main characteristics of population obtained through the census in its rural and urban distribution. The difference between rural and urban population is seen in variously in their economy, social life, etc. In the urban sector the occupation is seen mostly on secondary and tertiary activities or non agricultural activities. And the rural population is purely based on primary activities like, agriculture, hunting, gathering, etc. In this way the urban settlement should be distinguished not only on the basis of defined demographic characteristics but also on the basis of infrastructural facilities.

Now a day the urban population growth is increased in an alarming speed. So it is the major headache for all over world. Today 54% of world population are lived in urban area. The urban population of the world has grown rapidly from 746 million in 1950 to 3.9 billion in 2014. So in this way India's proportion of urban population was in 1981 is 23.3 but it increased in an explosive way is presented in 2011 is 31.16.

2. Population of Puri Town

Puri being a coastal town of Odisha is famous for its historic antiquities, religious monuments, architectural grandeur, seascape beauty, gorgeous sea beach and moderate climate. The town needs no introduction being the abode of Lord Vishnu, most popularly known as Lord Jagannath. This town derives its name from the heritage city of Puri, one of the four pilgrimage centres of India (Dham). For smooth administration and for developmental works, Government of Odisha divided Puri district into three districts viz. Puri, Khordha and Nayagarh on 02.10.1992. The present Puri district came into existence on 02.10.1992 is part of the earlier Puri district. So here population rate should be interpreted as to 1991 census to 2011 respectively.

Generally population of Puri town but here first see the population of Puri district that in the 1991 census the total number of population in Puri district is 1305365, in this way the rate of population is increased in every year that in 2001 census 1498604. In this way in 2011 census the rate of population is 1698730. Here also I see that the male and female population are seen in table 1 that the total number of male population are heavy than female population in every decadal year. In 1991 the total number of male population are 662764 and female are 642601. So

in this way in 2001 census the number of male is 761397 and female number is 737207. In 2011 census the male persons are 865380 and female number is 833350 respectively. So in this point of view in every decadal year there are seen the high rate of increased male population than in female population respectively.

Table. 1: Population of Puri District

Census Year	No. of Males	No. of Females	Total No. of Population
1991	662764	642601	1305365
2001	761397	737207	1498604
2011	865380	833350	1698730

Table. 2: Population Growth in Puri District

Census Year	Total No. of Population	Growth Rate of Population
1991	1305365	-
2001	1498604	1.48
2011	1698730	1.33

Source: DISTRICT CENSUS HANDBOOK PURI

In population growth sector of Puri district that elaborate in 2001 and 2011 decadal year, but in 1991 census the Puri district was consists with Khordha, Nayagarh region. But in 1992 those region are get divided from Puri district and created as two named Nayagarh and Khodha district. So here not presented the growth rate of population of Puri district in 1991 census. Generally the growth rate of population in Puri district in 2001 is 1.48 and in 2011 is 1.33. Here the growth rate population is getting lowered because of good education, and better health care etc. facilities respectively.

Table. 3: Population Growth in Puri Town

Census Year	Total No. of Population in Puri Town	Growth Rate of Population in Puri Town
1991	125,199	-
2001	157,837	2.60

2011	200,564	2.70
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Source: DISTRICT CENSUS HANDBOOK PURI

Generally in the population sector of Puri town seen that the total number of population in Puri town in 1991 census is 125199 and in 2001 census that is 157837. In this way in 2011 census that is 200564 persons respectively. According to table 3 shown that the number of population was increased in each decadal year because of better facilities of town like, transport, hospitality, education, scenic beauty, tourism, electricity, sanitation, communication etc. And in another way the population growth rate should be increased in Puri town than Puri district. The growth rate of population in 2001 census is 2.60 and in 2011 that is 2.70 respectively.

3. Problem Statement

Generally the population growth was create the problem in urban sectors are different factors like, Physical factors, Economic factors, Social factors. These are presented below.

3.1 Physical Factors

Mostly in this factor are seen various types of things like, in heavy growth rate of population in urban centre create maximum pollution, water, air, solid waste etc. Generally Puri city is the holy city so population rate are increased day by day, in this point of view the drinking water consumed in ground water level are get lowered, the sacred river like Indradyumna, Narendra, Swetaganga, Markanda are polluted because people are used these water for their bath, washing the dresses etc. in this way so many tourist are arrive Puri are to reside in various lodge & Hotels, in this case the hotels waste water are get connected to sea and create the pollution violently. Due to growth of population the air pollution was origin because in every households have minimum one to two or above motor cycles and also many have car, many slum areas have seen the coal or wood chullas, etc. In solid wastes sector every day tones of plastics used polythins, bags, toys, cooking wastes etc. are throw in road sides and these are occur the solid waste pollution in the city. In the drainage sector the house hold waste water are connected to sea and also many nalas so here sum cases that drainage water are chocked and overflow to the grand road and also major roads basically in rainy season respectively.

3.2 Economic Factors

In this point of view the increasing rate of population in Puri city creates the imbalance in economic sectors. The major problem is that seen in unemployment, that many young person are not found the jobs so they occur crime in city like, thieves, rape, ATM rovers, etc. cases.

3.3 Social Factors

In social factor the population growth problem is locate in a much of way. Basically in slum areas, the population rate is high so they are not found good education facilities and also they have not much money to use in health conditions. Problems of safety and security for tourists are now the major problem in urban tourism sectors. Most important is that there is found lack of tourism infrastructural facilities. Major problem is every day the traffic congestion is found in Puri City respectively.

4. Objectives

- To know the population in respective study area.
- To find the impact of population growth on environment in study area.
- To provide better planning for balanced population growth.

5. Impact of Population Growth in Puri Town

Generally impact of population growth should be based on different sector like water, air, solid waste pollution and also crime, traffic congestion etc. these are discussed below.

5.1 Water Pollution

Water generally fresh water, is one of the most critical natural resources. The population growth generally overuses water resources for hotels, swimming pools, golf courses, and personal use of water by tourists and local people. This can result in water shortages and degradation of water supplies as well as generating a greater volume of waste water. But here in Puri town the 5 sacred water tank were establish in last 1000 year by some of reputed kings. That water tanks role is very important for Hindu religious people for his bathing purposes and also they are get sacrifice to his ancestor's to do Sradha in that sacred pond or tanks. So in this way that tanks are get misused and polluted. By this tourism and also local people's role is get create the pollution

and also to lowest the quality of water in 5 sacred tanks. In this way the quality of water in water tanks is presenting under.

Table.4: Quality of Water in Five Sacred Tanks of Puri town

Name of the Tanks	Frequency of Monitoring	Temp., ^o C	PH	DO,mg/l	BOD, mg/l	CO D,m g/l	Cond, .us/cm	Nitrate - N,mg/l
Narendra Tank	QUARTERLY	33	8.3	11.7	7	49.6	986	1.483
Markanda Tank	QUARTERLY	33	8.4	15	10.5	40	695	5.316
Indradyumna Tank	QUARTERLY	34	8.2	13.8	13.5	49.6	609	1.146
Sweta Ganga	QUARTERLY	34	8.2	13.8	13.5	49.6	609	6.125
Parbati Sagar	QUARTERLY	32	7.6	9.19	8.66	72	1311	1.735
Name of Tanks	NH ₄ -N mg/l	TC.MPN/100ml	FC,MPN/100ml	Nitrate N,mg/l	T.Alk.,mg/l	P.Alk., mg/l		
Narendra Tank	2.128	1700	1100	0.071	284	46		
Markanda Tank	2.352	2000	1300	0.061	202	44		
Indradyumna Tank	1.848	1200	930	0.049	146	16		
Sweta Ganga	2.184	1700	780	3.300	202	20		
Parbati Sagar	2.072	2500	1300	0.006	106	14		

5.2 Air Pollution

Air pollution consists of substances present in the atmosphere in high enough levels to harm humans, other animals, plant or materials. The air quality of Puri town is influenced by the increase in various activities like transportation, tourism, hotel industry, burning of solid wastes

etc. To assess the air quality of Puri Town, the Odisha State Pollution Control Board carries out ambient air quality monitoring for the parameters namely, SO₂, NO_x, SPM and RSPM three times in a year before, during and after RathYatra. The OSPCB has 5 monitoring stations like Baliapanda, Gundicha Temple, Shree Mandir, BankiMuhan, near the Puri Hotel, in all keeping in mind the different types of activities. The major issues regarding air pollution in Puri Town are the high levels of SPM and RSPM. Puri is rapidly developing Town. In future the amount of vehicular traffic and other activities will only increase. The Grand Road is a critical stretch as the two AAQ stations i.e. BadaDanda, Gundicha Temple are located to check the high levels of SPM and RSPM along the Grand Road. Also though the SO₂ and NO_x levels are within the prescribed limits as of now, with the increasing volume of vehicular traffic, the concentration will increase. So measures must also be taken to check these two. The ambient air quality is mostly showing in Puri town is during the period of Rath Yatra. Because in that time the Puri town is get crowded by the Tourists. They are get pollute the major areas of Puri town like, Mausima temple region, Bada Danda region, Sea Shore region, Balia Panda region and also Banki Muhan region in the Puri town. These are showing under the table.

Table.5: Ambient Air Quality in Puri town during Rath Yatra

µg/m	Mausima temple			Bada Danda (Grand Road)			Sea Shore		
	Pre	Due	Post	Pre	Due	Post	Pre	Due	Post
SO₂	32	38.2	7.5	4	7	2	ND	ND	ND
NO_x	42	46.6	11.9	28	33.4	9.71	ND	ND	ND
SPM	202	557	113	167	371	133	95	98	68
µg/m	Balia Panda			Banki Muhan			Standard(residential)24hrs avg		
	Pre	Dur	Post	Pre	Due	Post			
SO₂	12	14.3	ND	7.2	10	ND	80		
NO_x	8	8	ND	8	12	6.72	80		
SPM	100	120	56	120	140.5	64.4	200		

Source: Odisha State Pollution Control Board

5.3 Solid Waste

Solid wastes may arise for different sources and to fall into different categories in Puri town due heavy concentration of Population. In this point of view here under present the sources of solid wastes which are arise from different sectors.

- Domestic refuse: kitchen and food wastes, plastics, papers and rood sweepings.
- Market refuse: generally wastes from vegetables and non-vegetable matters, packing materials such as bamboo baskets, leaves, plastics, cardboard/timber boxes etc.
- Hospital refuse: wastes such as syringes, needles, ampoules, bottles, cottons, plasters and spoiled medicines.
- Road refuse: wastes such as leaves, animal droppings, human wastes, litter and dust.
- Garden refuse: wastes such as leaves, branches, plants and broken pots etc.
- Business area refuse: various types of paper, cigarette and beedi butts, match sticks, bus tickets etc.
- Cattle-shed refuse: animal wastes and general litters. Trade refuse: cloth cuttings from tailoring shops and waste from auto repair centres etc.
- Building construction refuse: earth, concrete, bricks and plasters, sand etc.
- Industrial refuse: oil soaked racks, timber scantlings and chemical refuse including toxic matter.
- Tourism refuse: camping equipment, plastics, polythene, papers, old bags, usable bottle, soap, cigarette covers etc.

Table.6: Average Physical Composition and Urban Solid Wastes in Puri town

MSW Characteristics	Volume in Percentage
Paper	2.0
Polythene, Plastics	2.8
Green leaves, Vegetables	15.4
Dry and Grass wood	14.0
Cow dung, Animal excreta	2.5
Green coconut shell	4.0
Ash, silt, sand etc.	44.0
Debris	14.5

Glass	0.3
Leather waste	0.3
Metal scrap	0.2
Total	100

Source: State Pollution Control Board Odisha

5.4 Crime

Crime is an important thing which will happen in each and every day of the Puri town. In this point of view the crime will be face many local people of Puri town and also tourists respectively. Basically the crime will be seen like Murder, Theft. The annually rate of in this type of crime are present below.

Table. 7: Yearly Number of Murder Case of Puri Town

Year	True Case	Arrest (Male)	Arrest (Female)
2012	56	107	17
2013	60	86	15
2014	53	82	5

Source: Puri Police

Mostly the murder cases are arrived due to the lack of education, lack of employment facilities in each area. In Puri Town the number of murder cases are seen in the table 7 that in 2012 the true case is 56 and in 2013 this case was increased in number 60. But in 2014 its number became lowered in 53. Here also we see that the maximum number of male members are involved than females and arrest due to murder case in 2012 the number is 107 but their number was get less year to year that is in 2013, 2014 is 86 and 82. Female murder are get lowered in annual rate like 2012 is 17, in 2013, 2014 is 15 and 5 persons respectively.

Table.8: Yearly Number of Theft Case of Puri Town

Year	True case	Arrest(Male)	Arrest (Female)
2012	452	276	8
2013	439	320	6
2014	439	238	19

Source: Puri Police

In another point of view the theft case are seen from traditional period to till now. Due to the lack of employment facilities and education. The table 8 will provide the data about the theft case of Puri Town in 2012 the true case is 452 and in 2013 and in 2014 is 439 and 439. Here also the male persons are arrest than female like in 2012 is 276 in 2013 the rate increased 320 but it lowered the rate in 2014 is 238. Then the female persons are arrest in theft case are in 2012 is 8 and in 2013, 2014 is 6 and 19 respectively.

5.5 Rate of Accident

Table.9: Yearly Number of M.V. Accident Case of Puri Town

Year	True Case	Arrest
2012	478	455
2013	471	449
2014	458	389

Source: Puri Police

Generally the accident rate will be increased day to day in each region. In Puri Town the vehicular accident rate in 2012 is 478 and in 2013, 2014 is 471 and 458. The arrest rate is in 2012 is 455 and in 2013, 2014 is 449 and 389 respectively. The true case rate also lowered in year to year in Puri Town respectively. The vehicles are like, car, bus, truck, motor bike etc. are get face the accident in each year in Puri Town.

6. Planning for the Control of Population Growth

Plan is most needed for the control of population growth in every region, so in this way there are some plans formulated for control of population in Puri Town is discussed below.

6.1 Developing the Quality of Education

Due to this education every people are get found knowledge about the population policy of our country and also world. Make school education up to age 14 free and compulsory and reduce dropouts at primary and secondary school levels to below 20 percent for both boys and girls. This plan should give consciousness to grass root level in each unconscious people, that which have not knowledge about the population growth.

6.2 Health Planning

Health is the most important factor for the control of population in Puri town. The people are getting showing their health condition in hospitals and to remove their diseases. In this factor of better providing of medical facilities to people and their child are live better and they are not getting interest to give another child respectively. To provide better health planning in the surrounding region that many couple are not known the use of condom, so they do the relation without condom, so in uncertainly they give birth a child and improve the population respectively.

6.3 Public Awareness

Provide good awareness programme for the control of population growth of Puri town, by community participation programme and also govt. or NGOs. Give them ideas about delayed marriage for girls, not earlier than age 18 and preferably after 20 years of age. To work about the 100 percent registration of births, deaths, marriages and pregnancies etc. To aware each and every category of people that they must create their family planning in a systematic way for lives in society. So in this point of view the awareness programme will create in each oldest Sahis or colonies of Puri town. Puri is a traditional town here many people are desire having a son, so to aim for a son they born many girl child. So here the population will grow in a rapid way. So here to do the awareness campaign about “Beti Bachhao and Beti Padhao” slogan of our country by govt. awareness programme and also by NGO’s respectively.

6.4 Legal action

Not much result can be achieved from these if family planning and use of contraception remains optional instead of mandatory. Strict legal steps are required for child marriage, education, abolition of child labour and beggary and family planning to create significant benefits from it. Proper formulation of laws related to child labour, slavery and beggary will ensure that parents do not sell their children or send them out to work thus forcing them to raise lesser number of kids.

6.5 Eradication of Poverty

Poverty has a direct relation to the population growth. In developing states of India and also developing districts in Odisha, slave trading and human trafficking is highly prevalent. For example African countries still have maximum reporting of slave trading though trading of humans is legally banned everywhere in the world. People give birth to kids and sell them to rich people who in turn employ these kids in various laborious and unethical tasks. If not sell, these parents force their kids to beg or work at a very tender so as to extra money for the family. These people believe that more kids mean more hands for begging and work and thus more money. Without concrete measures for growth and poverty eradication, other methods of population control may prove to be ineffective.

7. Conclusion

The Puri town is located almost at the geographic centre of district on the coast of Bay of Bengal 19degree 18 min North and 85degree 51min East It is also a coast old town in Odisha. Mostly in this factor are seen various types of things like, in heavy growth rate of population in urban centre create maximum pollution, water, air, solid waste etc. So here provide good awareness programme for the control of population growth of Puri town by community participation programme and also by govt. or NGOs. Give them ideas about delayed marriage for girls, not earlier than age 18 and preferably after 20 years of age. Aware the work about 100 percent registration of birth, deaths, marriages and pregnancies etc. Then Puri town will be fulfils some of control the population growth, environment pollution, crime etc. respectively.

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