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Urban development and its challenges with reference to Eravur area, Sri Lanka

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ABSTRACT

Urban development is the social, cultural, economic and physical development of cities, as well as the underlying causes of these processes. Urban development are now so fundamental to the world's economy, society, and environment, that making a better urban world and improving urban life really means making a better world for everyone. Nevertheless, it has made up many challenges on environmental, social, physical factors in globe. The Eravur urban has many development procedures occurring through the Local Authority by the population growth. Such as, infrastructure development, resettlement process, industrial and business development plans. However, such processes are becoming many negative impacts for social, human and environmental structure. The research objectives based on find out the causes for urban development, to find out the environmental, social and economic challenges within the area. The study used the methodologies are primary data collection as questionnaire, interview, observation and the secondary data collection. Therefore, this research has concerned about challenges through the urban development and it has identified what are the challenges facing into the urban. Not only it has given advice to create a successful urban toward the future sustainably. I believe, it should evaluate the problems by development process and it will help for a great urban formation in Eravur.

Keywords: Urban development, Eravur urban, Local Authority, Environmental impacts, Social challenges

1. INTRODUCTION

The earliest population were located their settlement in colonial formation surrounded by agricultural land area. Mostly they believed cultivation for their living stand. There from, in the recent period settlements were growing from village into urban, there are reasons growths of technology, innovation and new developments also increasing population growth, industrial and business sectors are arising around the world.

“Urban growth as a concept of arise the amount of urban areas, and urban as being a characteristic of place, rather than of people” (John R. Week 2008). Even, “Existent of a branch of systematic geography” called “The urban must be population and land use. Population had to density of more than about 2500 persons per square mile and if most of the land was used by people for purposes other than agriculture, then the area was viewed as urban”. Even these areas are create and further developed by the process of urbanization.

Sri Lanka also has a long history of special development going back more than 21st centuries, as evident from the recent excavation in Anuradhapura city. Urban population in Sri Lanka was measured at 2943527 (17.2%) in 1990, at 2999014 (15.7%) in 2000 and the last measured at 31186603 (15.1%) in 2010, according to the World Bank Indicators.

Most of the Sri Lankan urban followed urban development in history and today it has been regenerating many urban development projects through the Urban Development Authority of Sri Lanka. In the recent past Sri Lanka has been successful in overcoming many development challenges including moving people out of poverty and taking measures to boost shared prosperity, the World Bank said. Sri Lanka is taking important steps to implement its urban vision, including connectivity improvements, urban renewal and sustainable initiatives in its strategic cities, according to the World Bank official.

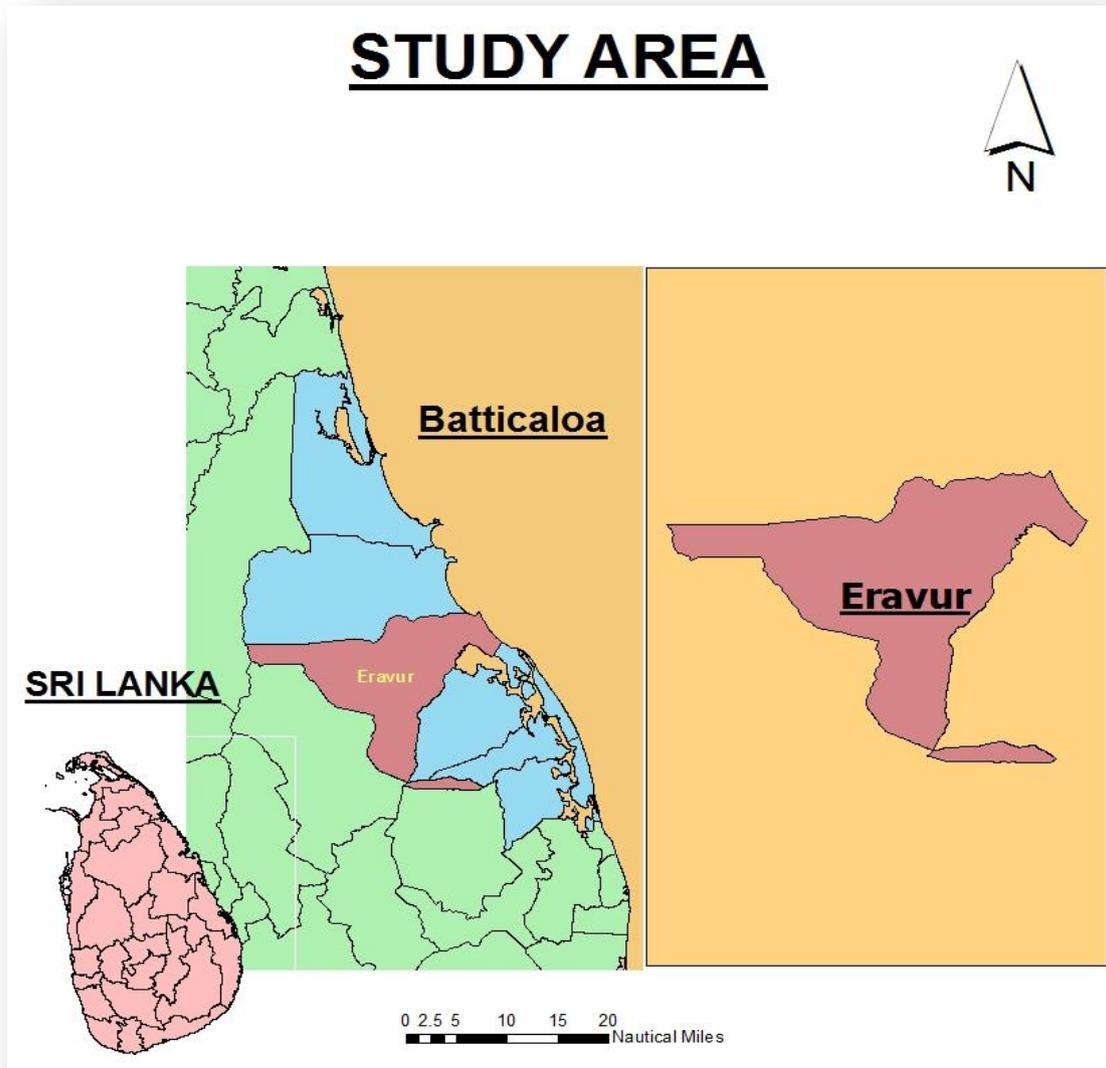
Eastern province consist 7.8% population in total population of Sri Lanka as well as it has 15% land area in total land of Island. Batticaloa district contains approximately 2633.1 sq km land area. The study area is Eravur, which has occupied in Batticaloa district. This land area is highly populated and high density. It has progressed as an urban council in 2011. The study area becoming increasing in population size compare with before 15 years.

It is located about 15 km north-west of Batticaloa. It's governed by an Urban Council. Eravur Urban Council (EUC) is the local authority for the town of Eravur in eastern Sri Lanka. EUC is responsible for providing a variety of local public services including roads, sanitation, drains, housing, libraries, public parks and recreational facilities. It has 9 members elected using the open list proportional representation system. There for, they have to urban development every part of this area, that why it has reforming many developing procedures to raise the state of the urban for recent days.

There have been facing social, economic and environmental challenges through the urban development. As well as, here problems are mostly involving environmental impact by developing processes. Because of, there are many lands and vegetation covers are reduce for develop buildings and road development.

Therefore, this research has concerned about challenges through the urban development and it has identified what are the challenges facing into the urban. Not only it has given advice to create a successful urban toward the future sustainably. I believe, it should evaluate the problems by development process and it will help for a great urban formation in Eravur.

2. STUDY AREA



Source: Geographic Information Systems

My study area has placed in Batticaloa district of Eastern province. Eravur is one of the urban within fourteen DS division of batticaloa. Eravur Town DS Division occupies part of the Batticaloa District. It covers a total area of approximately 09.50 Sq.KM. The Division Accounts for 0.18% of the District total land area. Eravur has situated 14km, in the North Western direction, away from Batticaloa Town of the Eastern Sri Lanka. The National Railway and A15 Highway are connecting Eravur with other parts of the island.

Eravur divided into two parts according to their land area; one is Eravur town including 12 GN division another one is Eravur pattu including 3GN division under the DS division of Eravur. Those names of 3GN Divisions are "Iyankeni", "Michnagar", "Meerakeni".

The land areas of these divisions have occupied under the Eravur pattu, but completely their administrative services are within the Eravur Urban Council. Therefore, it has 16 total GN divisions. Total amount of population are approximately 38,817 in the land area and it have 10559 families. The majority of the population is Muslims and minority of population is Tamil but Sinhalese are being very small in number of population in GN division - 04. The highest population exists at Michnagar GN division and the lowest is at Iyankerni (Tamil) GN division.

It gives the rain in the ways of North East monsoon (October to January), convectional rain (April and August) and tropical cyclone (November and December). Average of annual rainfall get about 864mm between 3081mm. Average of annual temperature from 25c to 27.2c. Not only it seems to a commercial urban but also there have been improving in education, economic and industries. Even agriculture, business and fishing are the main economy of the people in the division.

Major portion of the population is engaged in Agriculture while fishing and carpentry work occupies the second place in the social structure. Other occupations are industrial activities, business and employment in government, corporation and private establishment. We must mention an urban development of Eravur area, because, it help to find out the problems of study area and could help to get knowledge the challenges of environment, social and economic factors of the research area.

3. OBJECTIVE OF RESEARCH

The research has done based on the following objectives;

- ❖ Find out the causes for urban development.
- ❖ To find out the environmental, social and economic challenges within the area
- ❖ Give knowledgeable ideas mitigate the problems in order to create a successful urban towards the sustainably.

4. RESEARCH METHODOLOGY

A successful research depends on evidently collected data; it will help to give truthful conclusion. Data has got primary and secondary data methods. Moreover, it has collected in way of quantity and quality methods.

Primary data

Researcher has gone to the study area directly for direct observation and has taken photos for evidence. Because, there want to be knowing different between past and present changes on environmental factors and define the challenges. There are 16 GN Division in area; data has collected from each GN Division randomly based on, one person has selected from 100 families for questionnaire. Totally 106 persons have been selected and it use for define what are the impact and facing challenges by urban development.

Table 1. Models by GN Divisions

S. No.	GN. No.	GN. Division	Total Families	Amount of person
1	189	Arumugathan Kudiyiruppu	287	3
2	190	Eravur - 01	416	4
3	190A	Eravur - 01A	516	5
4	190B	Eravur - 01B	509	5
5	191	Eravur - 02	543	5
6	191A	Eravur - 02A	521	5
7	191B	Eravur - 02B	302	3
8	191C	Eravur - 02C	711	7
9	192	Eravur - 03	891	9
10	192A	Eravur - 03A	886	9
11	192B	Eravur - 06	376	4
12	192C	Eravur - 06A	478	5
13	192D	Eravur - 06D	403	4
14	193A	Meerakerney	1300	13
15	193B	Michnager	1652	17
16	193D	Iyankerney (Muslim)	768	8
Total			10559	106

Source: Field work, 2016

1. Individual and group interview has taken for knowing the reasons for urban development and people mind from selected informants and people of each division.
2. It has considered E-mail and Telephone conversation.

Secondary data

- National and International articles
- Seek in other research related with urban development.
- Internet and Web page data.
- Urban Council statistical data

- Divisional Secretariat annual reports
- Non-Government Organization reports

5. RESULT AND DISCUSSIONS

They are facing environmental, social and economic challenges in the urban development of this research area. To find out whether the research area people have got knowledge about this, 74% of the people know the challenges of environment, 16% of them got the knowledge of social challenges, 7% of them know about economic challenges also 3% of the people know nothing about these things. In the research area, the challenges were analyzed on the basis of the opinion of the people. They are environmental, social and economic challenges. People opinions were received based on these three things.

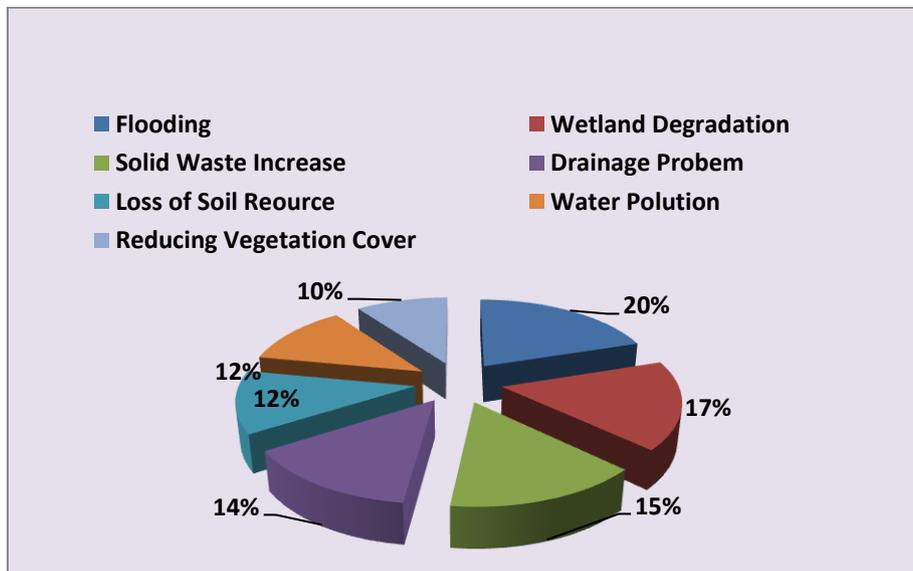


Figure 1. Environmental Challenges by Urban Development

Source: Case study 2015

5. 1. Flooding

One of the greater factors in the urban development of Eravur is the flood. Yearly we have to face problems due to the season and the human behavior activities. Therefore, as the increase of building constructions and the expansion of the concrete roads and other concrete works covers the water and disturbing to transport of the water. Therefore, in rainy seasons, there happens flood. At present, even in a small rainfall, whole land area covers under flood. For this, unplanned urbanization system, and marsh land habitation area the reasons for flood. In addition to, the population density, economic increments, building more and more houses and buildings are the reason for the floods. People put barriers to around water that transfuses in to their land and by this, the flood flows along the road, and the whole area comes under water. Moreover, because of the inequality of human behaviors the water flows along the road

and erosion the road, and hollows in the road and can find pits all over the area. By this reason economic damages happen and the situation in the research area especially in clock tower junction, Kaattupalli Street, Market Street, Hospital Street and Main Street.

The flood which damages a lot of the study area in 2010 and 2012 is very worse than other. The day-to-day activities were affected and the transportation problem was. The increments of mosquitos, hygienic problems were created and have to face water-borne diseases: cholera, dysentery, typhoid, hepatitis A & E dengue, diarrhea and other diseases. There are the challenges of the urban development activities. When analysis these factors with the public 20% of the people said that flood is a challenge in the urban development.

Table 2. Effected roads by flooding (2013/2014)

No	Roads	Pattern of Road	Length (M)
1	Kaatupalli Road	Thaar Road	500
2	Old Market Road	Thaar Road	300
3	Punnakuda Road	Thaar Road	900
4	Rural Court Road	Thaar Road	300
5	Makkamadi Road	Concrete Road	200
6	Library Road	Concrete Road	200

Source: 4 Year Local Authority Participatory Development Plan, Urban Council, Eravur (2013/2016)

5. 2. Wetland Degradation

Another challenge is in the study area through the urban development is the wet land degradation, the wet land of the study area is the river side of the North, Meerakerny and the combining area of Michnagar and the place of cut the cow for meet.

Today the wet land were filled with soil, and cement concrete pillars and the generally rice mills, saw mills, public buildings were built in the wet land and these are threaten for all. This makes disturb to underground water. It is also a challenge for the all-biological system.

Making Children Park and increment of buildings also damages the wet land. There is a lack of absorbing the water by the land and the water flows through unfit damages. The quality of the land goes dawn and economic wise it makes some damages. The owners sold some wet lands to some rich people, and it disturbs the stability and surrounding of the wet land. Most of the wastages were dumped in the banks of the lagoon, so many problems such as bad smelling; unpleasant, hygienic problems were arisen by this dumping. To identify the opinion of the people, 17% of them informed that wet land degradation has happen because of the urban development

5. 3. Solid Waste Increasing

Another important environmental challenge by the urban development is the incensement of solid wastages. In the study area, the urban team increased the development

by the population growth and economic development for this purpose surplus land where filled by soil and developed the buildings, transport and development of playgrounds. There is a lack of planning to remove the solid wastages from the houses, shops, factories and public buildings.

The urban councils, most solid waste removing center is in the Eravur urban council secretariat and included Eravur 6 Grama Niladari Division and bank of the lagoon side. Building construction wastages beef stall wastages, wastages of goat sheds, wastages from markets and food establishment are totally 20,000 KGS of wastages per day are collected as a solid wastages. This is a population density area and a lifelong income for fishermen. Nearly 6,000 of people are affected by this project.

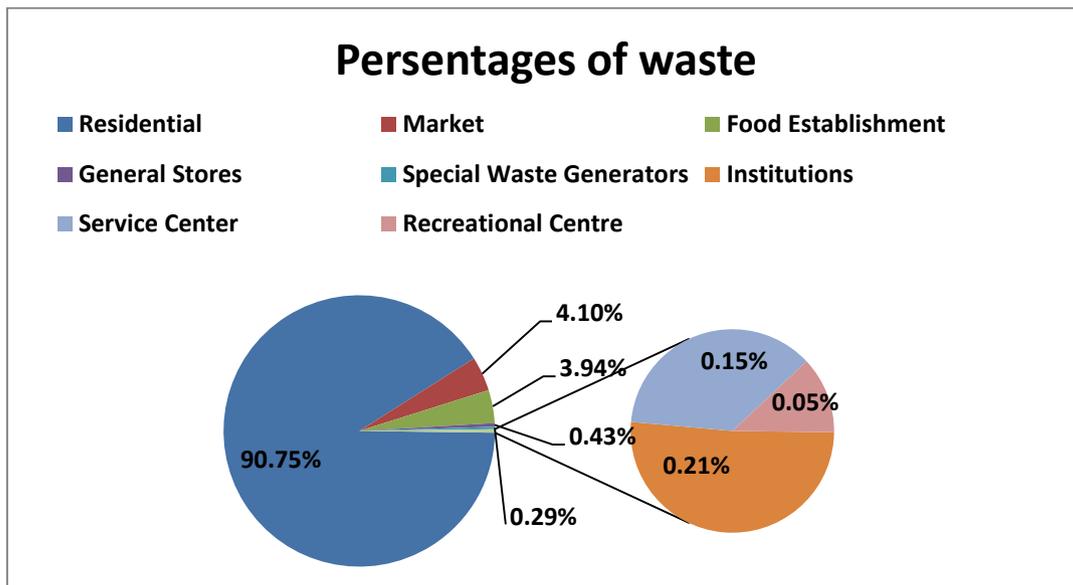


Figure 2. Amount of waste Increasing (2013/2014)
Source: Orientation for Local Authority, Eravur Urban Council, UNOPS

For example, we can mention the following as illegal throwing of solid wastes. The riverside areas, on the way to the seashore where people throw wastages especially we can see this in Eravur 6 D, 6 A and four areas of the GN Division.

In the study area, 61% of the wastages coming from residences are delayed and ruined 39% of the wastages are not able to delay. The Management of solid wastages is a main problem in the local offices. I give below some examples:

- So far it has not been introduced the not using waste Management.
- It is only implemented by the wastage collecting team members, the Recycling of wastage water
- Now the wastages are dumped in the Vaanvelikuda lagoon area

It has been decided to use 6 trollies to remove the wastages but lack of vehicles, lack of working personals time duration are faced by the study area. Because of this very bad smell comes, polluted the environment on rainy days the water detainee and the increment of mosquitoes due to communicable disease, and threaten to living organism also environmental

pollution and social economic problems occurs by this activities. When they analysis this among the people 15% of them gone their opinion that the wastages is a challenge in the urban development.

5. 4. Drainage Problems

Another influential factor in urban development is the drainage problem. Populous, illegal drainage systems are the reason for the drainage problem. The length of the Authority area of urban council is 12.47Km. Even though only some parts have the regular drainages and 31 drainages of the urban council area is fully damaged and not constructed regularly. So the running water blocked and the surrounding area is affected by hygienic problem.

So as the density or closeness of buildings houses are these, where domestic wastages, toilet wastages, garbage and factory wastages are not in a position to remove to a proper place and they were put into the some drainages. The very near and close to the main street the market, stalls and boutiques, wastages from the beef stall wastages from fruit stores are all going into the drainages. By the transportation problem, bad smell, dengue and other diseases by the Mosquitoes hygienic problem and disturbance for the surrounding residential.

“Pankudaveli” lagoon is the best water resource of the study area and 6 drainages are getting flood water to lake although, quick of urbanization the drainage is filled by wastage, flood and yearly flood water continue to be remaining in some places that’s why people are facing this problem yearly.

Not only that where people lived in Iyankerny, Meerakerny, Eravur-6, and Eravur-1A GN Divisions have not constructed regular drainages and this is also a big problem. So drainage problem is a challenge for the rural development system. When analyzed the people 14% of them gave this opinion about this challenge.

5. 5. Loss of soil resource

Another challenge is the urban development of the study area is losing of the soil resource and most of the land contains sand and the land is used for habitation commercial activities and agricultural purposes. The bank of the river is marshland and wetland these contains intact vegetation. The soil losses it’s fertility by natural reason and especially human beings urban development activities. Because of the loosing of vegetation cover, constructing of building, expansion of road, concreting of road are the reason for loss of minerals capturing power and by the soil began infertility also there is a possibility of destroying the wetland and vegetation cover of coastal line of the sea.

Too much of digging of the sand in the coastal area of the research area, after sometime gradually have may happen erosion. This may threaten for the vegetation cover also on rainy season, most of the soil resources are washed away by floodwater and the soil loses the PH quality with research region. The cultivation of the people damages the soil recourses and become of the suns hot the humidity gone down, so this is also a reason for dry season in the study area.

Therefore, in the 1990 the vegetation covering of most of the forests were cleaned up or destroyed and they were put up with large building houses, factories and road. By the reason, the soil resource, which was supported by the roots, were damaged and began to lose the

fertility. When the analysis the public, 12% of the people agreed that the fertility of the soil is damaged by the urban activities.

5. 6. Water Pollution

Water pollution is also another challenge in Eravur regional urban development project. The area people get this water from wells via underground water and from the water supply of the Pradesiya Saba. Not only that, most of the water from the Pankudavelli lagoon is also very important. The people without any disturbances they get their water for drinking and other purposes.

However, by these urban development activities the water resource is affected in various ways. After the Tsunami in 2004, the underground water is affected a lot. There some particular reason in the Eravur region influenced in the pollution.

- Population growth and usage of lavatories
- Wastages and garbage are thrown into rivers and streams.
- Oil mixed water which come from washing vehicles polluted the underground water.
- The increment of habitation scarcity of land reduces the nutrition of weeds and polluted it

In the urban area of Eravur, wells and toilet pits are much closed and these are change water in the wells. They seem yellow color so there is a problem in drinking water also face hygienic problem.

The water is the wells at first Kurichi, Jumma Thaikiya and near to railway station road vehicles washing place are smelled grease go to 50 families from the Eravur-2A GN Division's people go to their neighbor house to get there drinking water. Not only this the rice mill, show mills, grinding mill, vehicle repairing canters, waste water and powders are thrown into rivers, sides of road water is polluted.

Specially, that is environmental polluted spreading diseases, drinking water polluted to the neighborhood people go the pollution of water is a good example and challenge is the study area. When analysis this 12% of people opinion is water pollution also a research for urban development.

5. 7. Reducing Vegetation Cover

The reverses of the vegetation cover is also challenge in a research region of urban development, the following are the vegetation cover of the research area. Mangroves, forest plantation, cultivation crops, dry and moist monsoon forest, bushes and grass land. Specially, cashew, coconut and Palmira are economic wise income earning products.

But 1990^s 70% were covered with vegetation and now the research region is gradually destroyed to 20% according to fixed data. The following are the reasons for the ruinous of the vegetation cover.

- Population growth and development of habitation
- Increment on the demand or needs
- Road expansion
- The peoples attitude of living in urban
- The construction of public buildings

Because of these reasons close upstairs building were constructed in a limited piece of land. They do rare home garden, shadow trees; the environmental delightful vegetation covers were destroyed. Now a day it's very essential to construct buildings for public administration due to increment of the population. The destroyed the vegetation covers to construct schools, hospitals, etc. for the infrastructure development.

With this low land and garden lands were filed and new housing schemes were established by government and NGOs. Especially coastal line and bank of rives of vegetation were destroyed and constructed habitation and children's parks.

Most of the people of the research area are not housing a knowledge of the importance of growing trees and cultivation because these thinking is always depend on the urban life. This also reason.

Because of this, economic wise they face some lost. Although seasonal changes influenced over the temperature, it seems dry, because of the vehicles in crescent and buildings and because of the population density they are unable to breathing. So most of the people are facing hygiene problem and having an uncomfortable life.

While analyzing this among the people 10% of them are given their opinion as the vegetation cover rareness also a challenge for the urban development.

5. 8. Social Challenges

Social challenges are another era of urban development in study area, people's direct and indirect concentration and involvement. About 16% of the people had been expressing their ideas and vision of these social challenges, below given few things for your kind consideration.

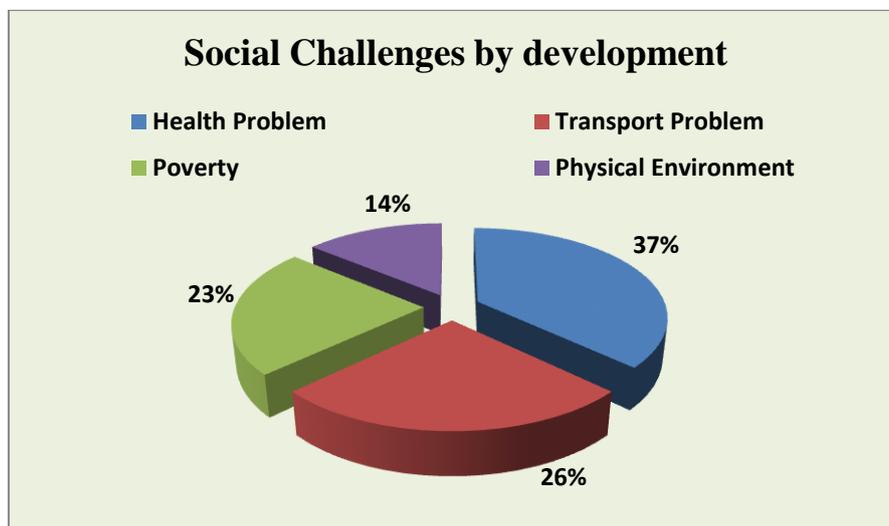


Figure 3. Social Challenge
Source: Case Study 2015

Health problem, poverty, transport and physical environment are the challenge of social activities, because of lack of proper education, awareness of environment pollution, transport facilities, lack of economic growth, and living standard of people is deteriorated.

5. 9. Economic Challenges

It has been much developed due to the fast urban development activities in the research region. Though this activities it face so many challenges. Economic challenges also one of the reason, so when analyzed the opinion of the people, 7% of them gave their opinion as that are challenges in Economically, they identified two challenges as increasing competition and unemployment.

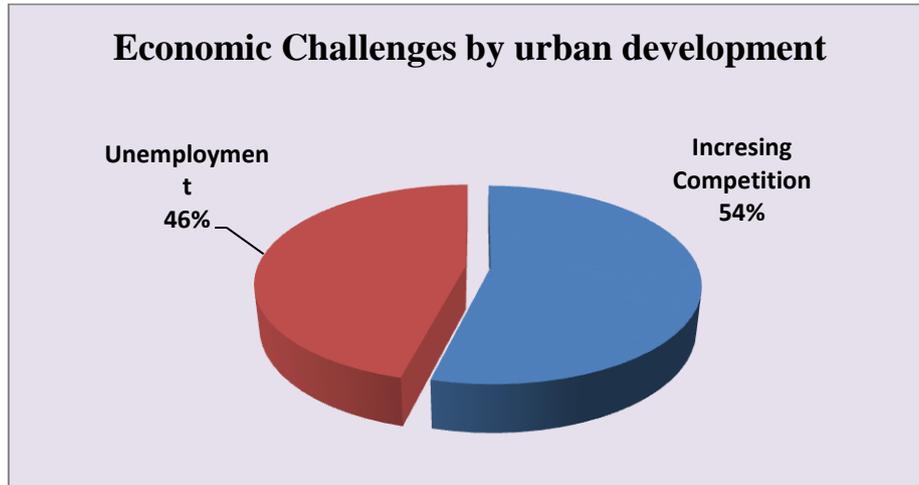


Figure 4. Economic Challenges
Source: Case Study 2015

6. CONCLUSIONS AND RECOMMENDATION

The study area is an upgraded region in environmental, social, economic and cultural factors. Now a day, the increase of population is led to unplanned urban development activities. Therefore, the study area has being facing many challenges in the ways of environmental, social and economic factors. That is why, the area people have been faced huge threats on their smooth living standard. Therefore, we can observe the study area has been pushed more impacts by these reasons. Finally, it should be necessary to provide regular and great management systems for reduce these challenging problems.

6. 1. Conclusions

The research is done on purpose of finding challenges due to urban development in study area.

- ❖ There arise so many challenges on environmental, social and economic factors due to the urban development activities in the study area.
- ❖ The study area face wide rang problems by flooding annually due to the closed buildings, road expansion and unplanned drainage system.
- ❖ Due to the increase of buildings, Creation of Children Park, enhancement of transportation are the main reasons for wetland degradation of the study area.

- ❖ The release of increased wastage from industries, shopping Centre and other sectors are filled in common places, bare land and on the way to beach. Not only, the bank of river in lagoon site of the study area is as a dumping place to filled wastages and there become many types of problems of increased wastage in this area.
- ❖ Due to increase of population, arising of new buildings for houses and other common purposes, air and land pollutions day by day are increasing.
- ❖ The wells have been built close to the toilet pits because of the scarcity of land, population increment and close built houses. In addition, some industrial activities near the wells by the process which is a reason for water pollution in this area.
- ❖ The soil resource is reduced by the soil mining for building constructions, purpose of land filling from the near lagoon site and coastal site due to urban development.
- ❖ In addition to, there were many varieties of vegetation covers also have been threatened by the urban development activities. These conditions caused to destroy the bio diversity.
- ❖ Health problem as a social challenge is increased through the way of land, air and water pollution and because of these, study area faces most of communicable diseases.
- ❖ The transport expansion is the important activity of urban development, due to this, vehicles and transportation facilities are increased, and sometime this may occur accidents.
- ❖ The people who live close to border of study area under the poverty line don't consider valuable of land. Those people have to compete with rich people because of only for the having land and competition of seek economic in this area.
- ❖ The study area people are adapted to urban life through the development. Therefore, people are pushed to search money for luxury house and it causes a reason of competition among the people. Moreover, increase of industrialization is created the unemployment problems.

Finally, according to the identification of the challenges through this research “The environmental, social and economic challenges due to urban development in the study area” this question was justified by this research.

6. 2. Recommendations

The study area has being so many challenges due to varieties of urban development and this area might be faced many problems in future developing processes likely to hurt environmental factors. Therefore, identifying these challenges through the urban development and providing solution to reduce these impacts in future sustainability.

- ❖ The main disaster is flooding in Eravur. People and study area should be protected from this disaster. There are some activities to mitigate this impact. Those are the wanting to safe environment and natural flooding barriers likely to build the great mitigating process to face the climate change. Even Practice the groups for help in immediate time during the flooding and create the strategic group to safe people. Moreover, arrange the organization program for early warning system and design planning projects in before and during the flood time. Also, reconstruct of drainage system before the flooding.

- ❖ The study area consists arisen of close building construction due to urban development and by this factor; there have not enough suitable place to release wastage from houses, industries and market. Therefore this condition causes this problem by wastage which is increased whole area. Therefore, they want to be mitigating this problem through the ways of implement the action to force pay fine money against the people of filled their wastage into the common area, into the drainage, blank land and road sites.
- ❖ In addition, provision the 3R system such as, Reduce, Reuse and Recycle for the sustainable safe environment and establish the project for releasing wastewater in one way through the one huge drainage system for all region of this area. Even, make arrangement individual dustbin and provide the vehicles to collect garbage under the planning project by Local Authority of Eravur.
- ❖ There were reduced vegetation cover because of the increment of population, building construction and road enhancement in this area. There by, to control this problem, want to make awareness programs about the important of rise plantation and impacts by reduce them for the public and in school level. Not only, arrange the program to plant tree every site of area
- ❖ Establish the soil conservation method against soil mining and degradation with help of government conservation Act. Consider the people impact by unprincipled use of land because that is led into soil resource reduce.
- ❖ Majority of the people was shifted to coastal site and lagoon site area that filled the wetland and reduced plantation due to the population increase. Most of them are considered as illegal settlements so make action in law enforcement to remove those people and require paying fine.
- ❖ When the urban development activities in the study area, they can be mitigate the challenging problem on the environment by using the Environmental Impact Assessment (EIA) and this can be helped to assess the affected factors by the development planning. The development process can be occurred negative and positive impacts but EIA for mitigate the negatives and increase the positives. There for, under these causes are defined by the EIA.
 - The details about the environment that is already existed
 - Explanation of developing processes, purpose and their benefits
 - Effects of the development activities
 - The reason for select the particular development activity and the assessment if there is handled changing plan.
 - The measurement of the place before and after the development activity

Therefore, EIA is used for planned urban development in future sustainably and to safe environment from unplanned activities.

- ❖ There are educated and non-educated people in the study area. Almost most of the people have lack of knowledge about the impacts of environmental factors including social and economic by urban development. There by, here should be arrange the program of awareness about important the use of sources likely to safe for the future generations. Even, explanation of impacts near the places of particular development site among the related people to safe without hurt from this process.

- ❖ There have no some implemented laws about environment in the study area. That is why; provide the proper knowledge among the people through the advertisements and clear explanation. Moreover, can be implemented the activities of environmental laws by the local authority to mitigate the impact due to the urban development. Here are some environmental laws can be implemented.

- National Forest Conservation Act
- Flood Conservation Act
- Soil Conservation Act
- National Environmental Act
- Coast Conservation Act

Finally, the study area would be changed as a good planned urban safe from those challenges by these reasons for establish above the ideas when the urban development.

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