

## A NEXUS BETWEEN POVERTY AND RESOURCE DEPENDENCY

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**ABSTRACT:** *Natural resources are essential for economic growth of a region by providing ecosystem services to the rich and poor equally. Natural resources are limited in nature which raise a question on their sustainability. The paper explicit that rich and poor both are dependent on resources but their purpose is different, rich people who are already financially strong even then they consume more resources in order to get more profits while due to the large size of family, poor directly depend on ecosystem services just for the sake of survival of livelihood. Finally, Paper concluded that the deteriorating relation of poverty and resource dependency reached out at imbalanced stage and became an inexplicable question of natural resource management. Some recommendation offered regrading nexus between poverty and resource dependency and asserts that a greater involvement of formal institutions can play an important role in bridging the gap between poverty and resources.*

**KEYWORDS:** poverty, ecosystem, natural resources, sustainability, resource dependency, formal institutions

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## INTRODUCTION

The developing countries are contributing more in the emission of green-house gases causes threat to the environment and deteriorates entire conditions and bring changes in the form of climate change, global warming, sea level rising etc. The major impact can be seen more on developing countries such as India where extreme pressure has been laid on limited resources. Resource use refers to the amount of resources consumed or collected by households for survival while dependence refers to the contribution of resources to overall household income. Populations are comprised of people who live together in the form of community and each person has some interaction with the surrounding environment in the form of air, food, raw material etc. The healthy interaction always leads toward balance stage between the two i.e population and environment. Due to the imbalance development between rural and urban areas, population increases take place in the urban areas resulting intensive pressure on land, water and other resources. Population growth considered as one of the important reasons behind increasing dependency of resources. There is a conflict in the argument that environmental degradation is related with population growth. It is visualized that the relation between the family size and poverty is positive but the link between family size and environment has not been analyzed yet. Similarly, source of income has a direct relationship with dependency on the resource base. The off-farm

jobs create more economic opportunity for the poor and significant reduction has been observed in the dependency of poor on resources. Natural Resources to provide a cushion to poor people during times when monetary income or agricultural produce is unavailable (Shyamsundar 2002).

The excessive use of resources leads to exploitation and put a question mark on sustainability of resources in a region. The way communities are consuming natural resources and dependent on them leads to a serious threat for achieving the balanced regional development. The reason behind the emergence of such a condition is the mis management of resources.

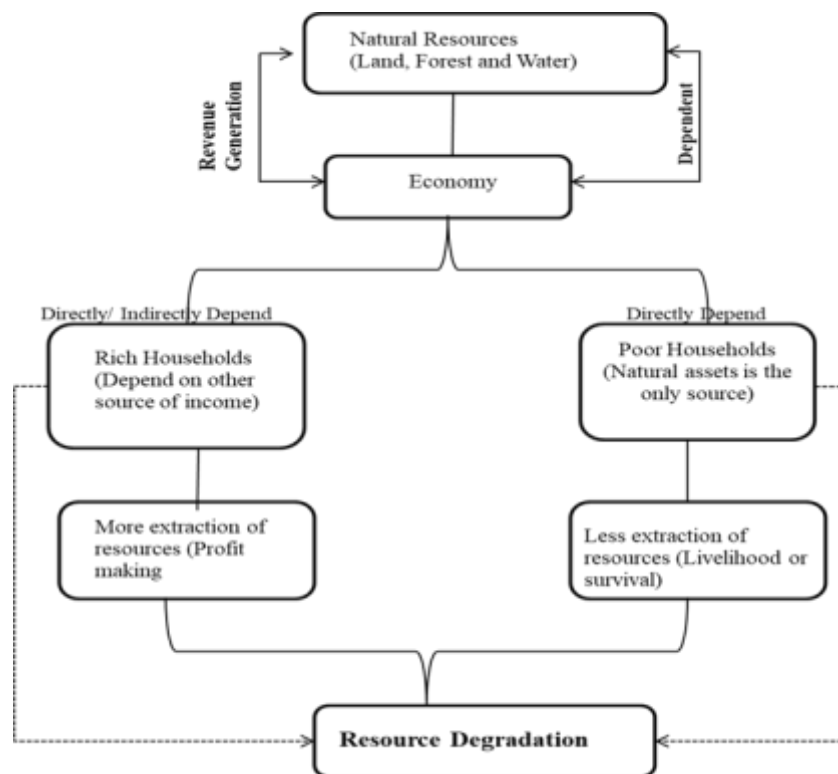
## **LITERATURE REVIEW**

The importance of environment and population is also replicated in Millennium Development Goals, the international development goals established by United Nation in the year 2000. The seventh Millennium Development Goal (MDGs) pertains to environment and appeal to eradicate poverty, hunger and develop livelihood strategies in regard of food security of the poor. This goal also encourages gender equality and achieve universal primary education especially for girls. Because women and girls spent most of their time in collecting fuel wood from forest and water from wells.

The Eleventh Five Year Plan document has raised the issue of environment degradation and its severe consequences contributing to weakening the link between natural resources and livelihood of natural resources. In the Eleventh schedule of 73<sup>rd</sup> Amendment Act, linked with natural resource areas listed are agricultural land, important watershed development, animal husbandry, fisheries, social forestry, fuel and fodder, nonconventional energy sources, health and sanitation etc. More than 70 percent people in India are living below poverty line and are dependent on natural resource for meeting basic requirement. The consent of rural poor is of prime importance in the decision-making process. The intruding forces are more active in those areas where accessibility is better. Indian government had made provisions to conserve wasteland and forest areas with the help of schemes and programmes yet. For example, A joint programme named social forestry initiated by Government in 1970s which later turned into Joint Forest Management (JFM) in 1990s. The main aim of the programme is to conserve forest and livelihood improvements of the people residing in the nearby community. In India, Joint Forest Management Committee (JFMC) protecting around 22 million ha forest land across 28 state and Union Territories. JFM has been seen as means of poverty alleviation in India as a part of integrated land use in which agriculture, pasture, plantation and Nontimber Forest Product (NTFP) all can be fitted into. The implementation of JFM remained unsuccessful because of number of reasons such as lack of clear understanding of the sociological perspective, weak institutional management and design, lacking consultation and participation of dependent communities on common natural resources, conflict between village panchayat and forest department etc. The 73 Constitutional Amendment Act (CAA) ensured the protection of natural environment through various measures and provides Panchayat Raj Institutions (PRIs) necessary power and authority to implement the environment related programmes and schemes. Poverty and environment nexus issue has not been integrated in the decision of development planning and resource allocation processes at

national level plan and budgets. Similarly, at the local level Panchayat Raj Institutions are not empowered enough to implement the decision at grass root level due to lack of financial assistance, lack of participation etc. There is a need to assess conservation policies, law and administration with the inclusion of participatory approach and integrate the relevant community knowledge, customary law and local institutional structure in the decision-making process.

There is a positive correlation between poor and resource use. In 1970s, the Brundtland commission report highlighted the links between increasing poverty and environment degradation. The report stated that poor people are forced to go over use environment resources to survive. The dependency of people on environment resources and excessive use lead further degradation. This is mainly because poor are not in a condition to make rational use of natural resources.



Source: Author derived from Barbier, Aggrey et al, 2010

Figure 1: Relationship between Natural resources, Economy and Household Income

Natural resources are being exploited due to the continuous human intervention in the ecological systems and transform the resources into products and services. Poor are the sufferer of environmental shock as they are less capable of coping with the negative impacts.

## **METHODOLOGY**

The paper adopts a reviewing literature analysis of theoretical and empirical studies mainly drawn from journal articles and book that are relevant to poverty and resources dependency analysis. The research initially began with analyzes the relationship between natural resource, economy and household income and various determinants of resource dependency. The paper also incorporates case study-based method in which several case studies related to poverty and resource dependency were reviewed and find out that exploitation of resources has not only destroyed the natural capital but also rejected the role of rural poor in the decision-making process without thinking about their welfare. High population growth and density has been considered as one of the responsible factors for degrading the environment. The search process involved the question on how long and under what conditions natural resources can continue to support economic and social development. At the end of the process, a list of abstracts has been prepared for detailed analysis. Various articles, research papers and other relevant literature were further added.

## **RESULTS**

Natural Resources are productive source of income not just for the poor but also for the rich. A study was conducted by Chopra and Singh in 2007 on Jhabua district is comprised of hills and falls in the state of Madhya Pradesh. The study drew out that 47 percent of the population is living below the poverty line and dependent upon natural resources for their survival such as fuel wood, dung, fodder, construction wood, seeds, tendu leaves etc. According to the study there are nine measures to understand the extent of dependency and some of these were income based such as ratio of income from common resources to total income from all other sources. The second measure is based on the rate of participation by households in natural resource collection activities. The share of natural resources income in a household to the total income is used widely across literature. The study on Jhabua district adopted share of resource income to the total income and observed that poorest and richest household depend more on resources than households with middle incomes. In order to comprehend the relationship between poverty and resource consumption, the study derived U shaped relationship between dependency and income. The study concluded with the help of survey data collected from 550 households in 60 villages of Jhabua district that poor households use fewer than do rich households as it is against the findings established by previous studies that resource use increases with income.

The time allocation decisions (time spent in collecting resources as a share of total work time) made by the household is also an important measure to understand the relation between poor and resource dependency. Gender roles play critical role in managing the environment. Women understood as a good manager of resources because she depends more on resources for day to day basis. Rigid gender roles can contribute to inefficiencies in natural resource management and equity between women and men in gaining access to natural resources is essential for livelihood (World Bank, 2001). In this regard, Shyamsundar carried out a research in ten villages of Nagpur district through participatory approach on safe drinking water. The study was basically

concerned with monitoring time spent by women and children on collecting potable drinking water. Women and children fetched water from farm wells situated 2-3 km away. Each time in a morning and evening a woman could fetch 5-8 litres of water each time. The average family required 250-300 liters of water per day. Thus, female and children walked 30-40 times in a day to fetch the water. In the end, the study shown stress on women and children who are more vulnerable and had serious water problems with the burden of collecting water falling entirely on women and girl children.

According to Shyamsundar (2002) poor always affected by environment in two ways i.e environmental condition that impact health of the poor and natural resources affect livelihood of the poor. Apart from livelihood and health, the third environmental dimension affect poor in the form of vulnerability because poor people live in ecologically vulnerable areas such as dry lands, steep slope areas etc. These people are highly insecure due to environmental shocks such as floods, droughts and other natural calamities. Poverty generally associated with vulnerability and a vulnerability depicted by the position of individual in the society rather than dependency on the physical nature resources. (Ellis, 2000)

There are several indicators on poverty and environment composed from different case studies.

Sr. No.	Author	Year	Categories	Indicators	Methods Applied
1.	Twesigye C.	2007	Poverty-livelihood,	Percentage of household using fuel wood as a source of energy and access to water	Scatter Plot Analysis, Regression and map analysis
			Poverty-health	Prevalence of diarrhea and malaria and access to adequate sanitation facilities	
			Poverty-vulnerability	Percentage of population who are exposed to the risk of floods, landslides or drought and incidence of illness or death due to floods, landslides or drought.	
2	Aggrey	2010	Poverty	Headcount Poverty Index	Scatter Plot Analysis, correlation between map of distribution of pollutants and number of deaths suffer from outdoor air pollution
			Environmental Degradation	Deforestation	
				Water pollution	
				Indoor air pollution	
			Wetland conversion		
3	Barbier	2010	Climatic Factors	Vegetation and average Rainfall	Coefficient of correlation, Statistical diagram etc.
			Demographic Factors	Rural population growth rate and rural population density	

			Rural income distribution	Rural per capita consumption expenditure, initial rural poverty, rural Gini-coefficient	
			Land use pattern	Proportion of area under agriculture	
			Social indicators	Rural literacy rate, Rural sex ratio and Rural female work force participation rate	
			Poverty Gap Index	Rural and Urban Consumption expenditure	

Source: Twesigye, 2007 & Aggrey, Barbier et al. (2010)

Table 1: Indicators and Methods used by different scholars to analyse Poverty and Environment Nexus

The above indicators established the nexus between poverty and environment through overlapping map of percentage of land under steep slope and map of total poverty population to observe that few poor populations live in steeply sloped areas.

There are several viewpoints regarding poverty and environment degradation in various studies. A few studies stated that poor people extract more resources which lead toward resource degradation. It has been admitted that poor people are more attached to the common resources and pay their effort to conserve them to developed sustainable development strategies. In contrary to this, it is argued that poor people depend on resources but they are not in the position to use them sustainably. But this process of resource exploitation weakens the poor people more than rich in terms of survival. It is also noted that rural households are aware about the sustainable resource management practices. These people have the knowledge to live in the harsh environment situation. There has been a direct link between resource management and traditional societies with the continuous interaction and dependency of communities on natural resources (Mehta, 2017). Thus, it is understood that there is a close relation between traditional communities and resource management.

## DISCUSSION

The issue of poverty has always been an important matter of concern for policy makers and academic researchers. At present, around 28 percent of population lives below the poverty line. The criteria for defining poor differs in urban and rural areas. A person is falling below poverty line in urban area whose daily income is less than 33 rupees a day while the person is earning less than 27 rupees a day in rural areas is poor. According to Poverty Development Goals Report (2011) that Poor people include tribal people, Dalits, farm workers, laboratory class etc. are very poor and make the poorest class in India. There are few factors which contributes in increasing poor household income from resources. Poor people residing in villages are dependent on resource base for earning from agriculture, cattle rearing. The poor are unable to afford electricity, LPG, Fodder etc and largely dependent on available natural resources for their survival.

Due to the large family size the earning from the farm activities are too less and unable to feed all family members.

There are various determinants of resource dependency as follows:

**Size of Household:** Size of household refers to the number of household members. The size of household has a direct link with forest because the collection of firewood required more labor force. According to Dasgupta (2004) population growth, poverty and local natural resources are interrelated because households that depend on local resources may have more children to help them collect the wood from other resources. Thus, the larger household would have more dependency as compared to smaller household.

**Income of a household:** Increases in wealth also improve education and awareness and increase the opportunity cost of time which may reduce the collection of natural resources. Similarly, economic growth also brings exit opportunities for labor (migration) which consequent reduction in resource dependence.

**Location of Household:** Those household which are closer to the forest or other resources likely to more dependent. Similarly, villages far away from market are also likely to be dependent on common resources because of lack of another alternative source of livelihood.

It is observed that poor are more linked with environment as their dependency more on resources and are less able to escape from environmental destruction. According to United Nation Development Programme, environmental damage almost always hits those living in poverty. It is widely known that natural resource base degrades in both situation like if the income is low then there is a possibility to increase the resource use in order to survive but higher income also affects the resource base to draw out the benefits. For instance, poor people have limited number of animals as they can't afford large herd size while in this case higher income will create greater stress on environment because of large herd size.

Natural resources are sometimes the only asset to which the poor people have access (Shyamsundar, 2002). Access to resources is one of the important criteria which assure the sustainable rural livelihoods. Access to resources determines whether poor men and women will be able to make the most of the opportunities they have to enhance their livelihoods (Amartya Sen, 1981). Access also affected by social and political factors in the form of distribution of power in communities like gender, conflict etc. Apart from this there are market forces and environmental forces like distribution of wealth and influence of human activities which affects access to resources.

Access is also determined by formal and informal rules and institutions that govern who can use natural assets when, where, how and for what purpose. The role of formal institutions plays an important role in the conservation of resources and building capacities among the local communities. The main reasons behind the failure of institutions are breakdown of communication norms, insecure property rights, increasing population, ineffective public policies etc.

## **IMPLICATION TO RESEARCH AND PRACTICE**

Natural resources management have been strongly influenced by economic interest leads to exploitation of resources at a cost of environment. In practice it has been observed that the decentralization of environment governance is very weak at grass root level. The poor, marginalised group and civil society are not enough empowered to influence the decision-making process at all levels. The deco centration of authority must be accompanied by strict law enforcement in order to reduce the risk of fraud at local government level. The issue of resource exploitation may be resolved with the identification of traditional rights of poor and other marginalized groups on forest and land and implementation of proper model of community-based management of resources.

## **CONCLUSION**

Although, there are several questions raised regarding relation between poverty and environment degradation such as why do poor people degrade assets that are the source of their own present and future incomes? Poor people always thought about their present needs rather than achieving future security in resources. They are more dependent on natural resources to fulfil their short-term needs but lacks in other type of asset and skill. While the rich people embraced already loaded with wealth require resources just for the sake of economic benefits and income generation. It is generally observed that high population growth and high population density put increasing pressure on the natural base and cause environmental degradation. Similarly, poor families are large in number and put their increasing demand on ecosystem services. Thus, the worsening relation of poverty and resource dependency became undesirable challenge for natural resource management. In this direction, there is a need to adopt an integrated approach which reinforce the issue of poverty-resource dependency into the mainstream planning process involving national development plans, review and reevaluate already formulated poverty reduction strategies for smooth implementation at all levels. The gender role in environment management is also very important and gender inequality issue must be addressed in policies at local level where women and girls play a crucial role in food production and natural resource management activities. Similarly, the role of institutions is effective only when there is a devolution of power at local level. Not even this, the management of resources become sustainable only when the power is distributed equitably among all relevant social actors. As a result, all local actors are able to make informed decisions that defines the future of poor people for the sustainable management of natural resources.

## **FUTURE RESEARCH**

Here, some topics have been suggested for future work on Poverty and resource dependency link.

Research area I: Sustainable Resource management

Although, various studies have been already carried out in this regard but their parameters to achieve sustainability always remains weak. At present, it always been



discussed that there should be a balance between economic, social and environmental aspects in order to achieve the sustainable growth which further lead towards conservation and protection of natural resources. There is no research found till now which pertains to indicators depicts balanced growth with an integration of economic, social and environmental aspects. Thus, there is a need to conduct such type of research which gives a successful example of sustainable forest management, water management and land management and should be applicable on developing country like India.

Research Area II: Exploring Traditional Knowledge of Communities.

Similarly, the issue of poverty and resource dependency can be resolved by the involvement of communities. It is requisite that the incorporation of traditional knowledge, perception and attitude of local people in the research is vital for environment friendly development. The poor need to be seen as a part of the solution rather than part of the problem.

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