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Article

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International Journal of Management, Economics and Social Sciences (IJMESS)

Provided in Cooperation with:

International Journal of Management, Economics and Social Sciences (IJMESS)

Suggested Citation: Gabol, Waris Ali; Ahmed, Aleem; Ghaffar, Abdul; Bux, Hadi; Amanullah, Mahar (2012) : Poverty-environment linkages in Pakistan and deforestation as an indicator: A case study of district Ghotki, Sindh, International Journal of Management, Economics and Social Sciences (IJMESS), ISSN 2304-1366, IJMESS Int'l Publishers, Houston, TX, Vol. 1, Iss. 1, pp. 13-18

This Version is available at:

<http://hdl.handle.net/10419/62012>

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Poverty-Environment Linkages in Pakistan and Deforestation as an Indicator: A case study of District Ghotki, Sindh

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Environment plays a significant role in the life of the people living in poverty. It is a fact that the poor are more vulnerable to environmental disasters and the impacts of climate change. The poverty-environment linkage has been widely recognized in Pakistan over the past few years. There is a great connection of environment with health, livelihoods and education of the poor. The increase in oil prices all around the world has played a major role in increasing the poverty ratio which has in turn lead to deforestation. The paper discusses the poverty-environment linkages in Pakistan and the effect of environment on the lives of the poor. Moreover, the paper discusses the case study of district Ghotki Sindh for the years 1992-2010, to find out the trend of forestation in the district and its effect on the lives of the people residing over there. Deforestation was found to be positively linked with the rich people contributed in environmental degradation over the past many years.

Keywords: Climate Change, Deforestation, Poverty-Environment linkages

The commodity prices are on the rise in the whole world. The global food prices have registered an increase of more than 30% on annual basis. The highest inflation rate was observed in February, 2011. Similarly the cost of energy has increased, with respect to the increasing of the Crude oil price which is being fixed approximately \$ 115 per barrel in early March, 2011, Asian Development Bank (2008a). Although the crude oil prices noticed a price of \$ 145 per barrel in July 2008, but in spite of this the price of non-energy, commodities touched the peak in 2008, which in January 2011 gave support record cost for agricultural commodities, metals, minerals as well as the raw materials. The criteria or the

benchmark developed by Food and Agriculture Organization regarding the prices of the food crossed the records in 2008, and the two main commodities which include the Thai rice (Thai 100% B) mounted to a level of \$474.60 per metric ton in June 2010 and rose to \$554.33 per metric ton in February 2011 which marked an increase of 16.8%; at the same time the international wheat (US Gulf No. 2 hard red winter) prices showed a rise from \$181.4 per metric ton to \$362.00 per metric ton. The reason behind this reasonable raise can be the fact that Thailand and Viet Nam released sufficient supplies from their reserves in order to reduce the pressure, Asian Development Bank (2008).

Asian Development Bank report (2008) indicates that hike observed in the price of foods

during the years of 2007–2008 is mainly because of factors including structural and cyclical. Few other factors have contributed in the price raise during these years, dramatic increase in population, changing diet trends among people, who have moved significantly from staple food crops to high protein foods such as meat. The population increase has resulted in a condition where the supply has not been able to catch up with the demand. Several other factors, which have hindered in meeting the demands include a tough competition among the use of food crops such as corn, canola, rapeseed oil, as these crops are also used for other purposes, mainly that of producing bio-fuel.

supply deficits in a number of commodities such as coffee, rice, wheat, corn, and sugar. Many economies of the world are now on the recovering path after the 2008 economic crises, which also have resulted in an increased demand for food. Other than the factors discussed above, a number of policy decisions have also resulted in the hike of food prices, which include the ban on exports and taxes imposed on exports etc which undoubtedly added pressure on already rising food prices.

Impact of high commodity price on Poverty

It is an un-assailable fact that increase in food prices significantly hampers the purchasing power of the families, and this is more pronounced

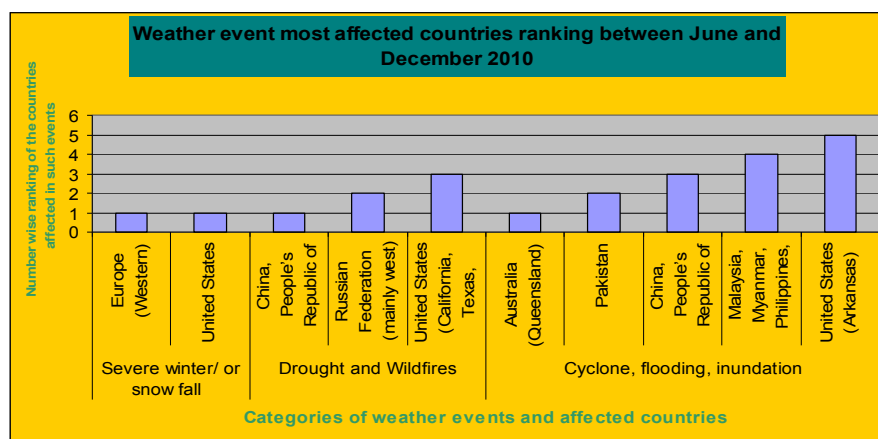


Figure 1: Source: (US National Climatic Data Center)

The result in many countries has been a shortage of food to feed the people. Similarly urbanization has also counted for such situation, as the land which was previously used for crop production, is now perhaps, used for commercial and living purposes. Meanwhile, a number of cyclical factors are also considered to be influencing such situation. Apart from this, it is now widely accepted that extreme weather disturbances and climate change has caused

in the families with low income. The result is that the families, who were already struggling to meet their both ends, are now facing the danger of remaining malnourished and are facing the serious consequences like starvation. Similarly, those who were hovering around the poverty line may be pushed back into the circle of poverty. According to a study conducted to find out that how much do the average families in the developing countries spend on buying the food

item, it was found that about half of the monthly income was spent on food buying expenses, and the poor families were found to be spending about 60% of their total family income to purchase food.

Poverty–Environment Linkages and deforestation as an Indicator in Pakistan

It is stated in the report of Brundtland Commission, Binswanger (1980) and WCED (1987) that global environmental problems are responsible for cause and effect of the Poverty. The poor people are mainly concerned to meet their short term needs and short term survival, and still they are the ones who are most affected by natural resources degradation. The poverty–environment linkages and interactions are at one hand unclear and unexplained over the years and at the other side numerous studies have suggested that environmental damage can have particular significance for the poor.

Participatory Poverty Assessments conducted in Africa went on to show poor people' s opinion that environment is a significant determinant of poor' s, earning, their socio–economic condition and all related factors according to Brockleshy, and Hinsheiwood (2001). Hovering Poverty and environment, both are multifaceted terms. Basically poverty is a relative term with no defined boundaries. A number of people have defined poverty differently. Mainly poverty has been defined with respect to prioritization of needs which are considered as an economic or social wellbeing indicator. A person is said to be poor when his or her income and consumption is below a certain level which many have called as a threshold level (Coudouel and Hentschel, 2000).

However, personal income is variable and can vary greatly from year to year. The tragedy with the neglected segment of the society (Poor) is that most of the poor people depend on their own production and informal sector actions in which the perception of yield is indistinct, rather than on a formal income (Glewwe and Van der Gaag, 1988). In 1960s, it was observed that the poverty indicator changed significantly and was more often judged through the consumption of goods and services and was thought to be a more stable indicator than income. Apart from this, more spending and utilization of food items and less consumption of non–food items were also considered as poverty indicators (Lipton and Ravallion,1993). Despite, consecutive expanding and broadening views on poverty, Baulch (1996) indicated that consumption still continues to be the most extensively and widely used indicator. Moving further, in 1970' s poverty was linked to the idea of meeting fundamental requirements, qualitative indicators expanded to include the satisfaction of those needs. These indicators included characteristic of ill–being, such as poor nutrition, shelter, clothing and access to health services respectively. Simultaneously, Amartya Sen in the late 1970' s had introduced the concept of ' capabilities' which replaced the concept of basic needs, the same was highlighted by Westendorff and Ghai (1993). It was observed that the Sen' s concept changed the definition of poverty that is concerned not only with material well–being, but also with opportunities capabilities and functions such as what people are capable for doing or not capable of doing as reported in NRSP (2000). The United

Nations Development Program (UNDP) introduced a Human Development Index, in which three basic aspects of human deprivation are considered, these include, rate of literacy among the adults, level of access to basic facilities of health including access to safe potable water and percentage of underweight children below five. The vulnerability, risk, voicelessness and powerlessness are included in the concept of poverty in World Development Report 2000/01, by World Bank (2000), which claims to widen the concept of poverty. But according to some experts that poverty and vulnerability are two things different from each other. Chambers (1997) defined vulnerability and those people were said to be vulnerable who are more exposed to risks, distress and various strains; such people have limited capacity to come out of this vulnerable situation. There is no real doubt in the fact that the poor people are more vulnerable in terms of various strains and risks. Of late poverty has also been defined as a gender and location-specific phenomenon, World Bank (2000b). When we speak of the linkages between poverty and environment, we are talking usually of a complex and diverse issue reflecting the diversity of poverty dimensions and experiences. A number of poverty indicators have been defined and their selection mainly depends on the broader aim of the research and its goals, availability of finances, time and other resources.

Environment is believed to have many dimensions in it. The term 'environment' has been used in the context of our climate and issues such as pollution control, effluent treatment, climate change issues, and also

touching the various aspects of safe food, water and sanitation as described by Neefjes (2000). Many researchers refer the environment as a relationship between organisms and their environment. According to few Bucknall and Pillai (2000) the environment refers to a subject that provides natural resources. It is a demanding task to link the environment with the natural resources. With respect to environment, this study focuses on deforestation and the linkage between poverty and degradation of forest resources.

Many developing countries of the world face enormous challenges in getting the economic growth to such level that ultimately reduce the poverty ratio in the country. At present Pakistan is also facing multidirectional problems i.e. economic crisis, population growth, poverty and environmental degradation.

Pakistan is one of those poor countries of the world having many forest resources but also facing serious depletion problems of its forest reserves. Approximately we are losing 39000 hectares of forest each year as mentioned in FAO (2001). If Pakistan keeps on losing forests at the current pace, it will lose most of its forests in the coming decades. Pakistan's forest cover is less than 5% (Pakistan has only 4.2 million ha under forest cover, which accounts for only 4.8% of total land area) and in such a situation it becomes increasingly important to take care of its existing forest resources. It is generally believed that ever increasing population of Pakistan is the main force behind forest degradation. In addition, the people who live close to forestlands use the wood to meet their daily needs. So the policy makers should find

ways to keep people away from this resource, and should strengthen the control of government over it (More than 80% of our forests are under the government control). Other than that, most privately owned forests are also state owned.

Over the past few years, a number of steps and initiatives have been taken in developing the policy on environment and defining regulatory framework. The environmental destruction and degradation is still hampering the lives of the poor both socially and economically.

According to a report by Pakistan's forest sector master plan, the government has control over more than 80% of the forests. Apart from this, many private forests are also under the state control. About 40 percent of total forest area is under NWFP. The rest is shared more or less equally by other provinces.

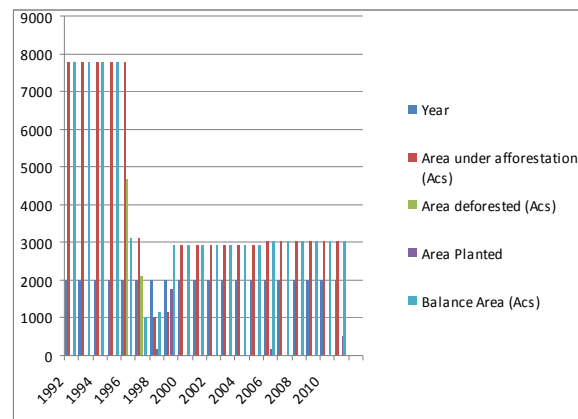
Today we are in a situation that the Forest cover (4.8% in 1992) could hardly be increased despite all efforts. Forestry Sector Master Plan has estimated an annual loss of 2.3 billion rupees as a result of flooding, erosion of fertile soil from upland watersheds and siltation of reservoirs and irrigation system. Desertification has affected 43 million hectares of land, whereas land reclamation programmes, like National Drainage Programme would cover upto 2 million hectares only.

Results and Discussion

A case study of district Ghotki, Sindh has been carried out in perspective of poverty–environment linkages and deforestation as an indicator. According to the findings, it was observed that poverty is linked with deforestation, but the rich

are equally responsible for the damage to the environment in the form of deforestation.

The data was collected for the years 1992–2010. The data was sorted out for area under afforestation, area deforested, area planted and balance area. It was noticed that during 1992 to 1995, district's forest comprised of more than seven thousand hectare of land under afforestation, but the whole scenario changed very quickly and more than four thousand acre of land was engulfed as a result of deforestation. Afterwards, the same situation was observed in 1997 which deforested twenty one thousand acres of land. The biodiversity of the district has been badly affected due to deforestation. The complete details of the district in terms of area under afforestation, deforestation as well as area planted are shown in the following graph.



Graph 1: Data for District Ghotki

Conclusion

This study was aimed to identify the poverty/environment linkages in Pakistan, with deforestation as an indicator. Moreover, analysis focused on relations between poverty levels and environmental problems at the district level. Deforestation has an enormous link with poverty. However, the rich people have also damaged the environment in a great way through deforestation. The feudal of many areas have used forests for their personal interests damaging the bio-diversity of the region in an enormous way. It is concluded that the poor people can greatly benefit from programs that address the issues of poverty and forests degradation simultaneously, since these are highly correlated. By focusing on the small districts such as Ghotki, we can effectively address the poverty–environment linkages.

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