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Afforestation and Rural development: A Socio-economic Impact and Environmental Implication

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Abstract

Modernization a product of modernity has been responsible for today's world development characterised by industrialization, advancement in information technology and urbanization. This process of development is contributing to global warming and climate change, phenomena every society on the surface of the earth now wrestles with. It is a challenge prompted by human indulgence with the natural environment in the bid of creating a modern society. Deforestation and desertification are integral of these challenging problem. This paper will dissect the exigency of these problems particularly in the rural area which according to the functional school of thought is the peripheral of the urban core. It aimed at creating orientation and campaign for afforestation and against deforestation, one of the major causes of desertification of the rural area.Thus, the paper will equally expound imperative necessity on how to contribute to rural development through the creation of 'mini jungle' inclusive of recreational spots and creation of a buffer green zone. Such spots are either inadequate or not available in rural area, which thus indicates the negligence of these areas by the government. This paper will therefore draw public attention for the demand of such spots and the extent to which its deficiency hampers psychological and physical recreation. This paper believes that revenue from such recreational spots can in fact be instrumental in the tree plantation process geared at combating the menace of deforestation and desertification and ultimately playing a role in reducing the heat in our atmosphere.

Introduction

Pakistan is an integral of the world facing the menace of global warming and climate change, which evidently is having consequential effects on both human and the environment. It will be misleading to assert that the Pakistani society is less informed about the necessity of afforestation as part of the measures to reducing soil erosion, transpiration, increasing fresh air and beautification. The question however is where this process of afforestation does takes place in the Pakistani context. The answer should not be far fetch; the government has always been creating the orientation of afforestation in the urban metropolis as part of the project of build a green urban society. Hence, such

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orientation leaves behind the rural area taken simply as peripheral of the city core.[1] The availability of land, perhaps the unused land can effectively be transformed and employed for greater utility. This paper sees the necessity of creating a mini-jungle in the vacant unused rural land, it will for most of its part be a contribution to the confronting menace of global warming. By creating forest in the area it would be adding to the environmental conservation of the area, reducing soil erosion, balancing the water cycle and greenhouse gas and other environmental hazards. In addition, the mini-jungle will equally be geared at promoting recreational spots and increased tourism for the area, thus altogether contributing to rural development in terms of its socio-economic and environmental corollaries.

Problem Identification

The term development is somewhat synonymous with the process of urbanization, characterised by the provision of social amenities geared at creating conducive lifestyle in the urban centres. The industrial revolution is classically associated with the change that affected traditional society, whereby new city emerged from the traditional rural settlement. The modernization process taking place in the urban cities was quite responsible for what has long been noted as rural-urban encroachment. The push and pull theory enunciates this phenomenon in detail,[2] this will be true for Pakistan where people move from rural to urban primarily due to lack of employment opportunity, absence of quality education, inadequate health facilities. The fact remains that such encroachment carries with its many socio-political and economic implications. Rural-urban encroachment can in fact be reversed by counterurbanization.[3]

The mini-jungle is planned to be part of that process of counterurbanization that will bring about a change in the socioeconomic conditions in the rural area by increasing local employment, wage levels, and income, reducing poverty, and the creation of recreation spots for stress relief.[4] Pakistan is a resourceful country yet within the bracket of the developing world. Arguably such level of development can be associated with the inability of government to coordinate available resource with the untapped human

[1] Ian Bowler, "Rural Alternatives", in *Human Geography: Issues for the 21st Century*, Peter Daniels, 131 (New Delhi: Pearson Education Limited, 2001)
[2] Everett S. Lee, "A Theory of Migration," *Demography*, Population Association of America, Vol. 3, No. 1 (1966). 47-57.
[3] [3] Ian Bowler, "Rural Alternatives", in *Human Geography: Issues for the 21st Century*, Peter Daniels, 137 (New Delhi: Pearson Education Limited, 2001)
[4] Richard J. Reeder and Dennis M. Brown, "Recreation, Tourism, and Rural Well-Being," *United States Department of Agriculture*, Economic Research Report, Number 7, August 2005

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resources, thus explains one of the reasons why there is gap between the developed world and the developing world.

The failure of top-down model of development created the opportunity for social entrepreneurs to inject the bottom-up model into the rural locale regardless of government participation. By bottom-up model we meant the maximization of locally available resources, including human capital through training programme, creation of self reliant opportunity and local entrepreneurship in the rural areas.

In fact the bottom-up model is supported by Albert O. Hirschmann (1958) that instead of throwing economic incentives to the rural area for socio-political and economic development, government should rather try helping the rural area improve their potentials through self inspired development.[5]

Problem Analysis

The fact that Pakistan is one of the renowned viable agricultural economies does not suggest that Pakistan is forested. According to the data provided by Mongabay, only 2.5% —or about 1,902,000 hectares—of Pakistan is forested, whereas on a safe estimate a country should have 25 % of its area covered through forests. Adding to the problems between 1990 and 2000, Pakistan lost an average of 41,100 hectares of forest per year. The amounts to an average annual deforestation rate of 1.63%. Between 2000 and 2005, the rate of forest change increased by 24.4% to 2.02% per annum. In total, between 1990 and 2005, Pakistan lost 24.7% of its forest cover, or around 625,000 hectares. Measuring the total rate of habitat conversion (defined as change in forest area plus change in woodland area minus net plantation expansion) for the 1990-2005 intervals, Pakistan lost 14.7% of its forest and woodland habitat.[6]

If deforestation is associated to the increasing hot temperature in the city, even though there is certain degree of afforestation orientation within the city, how much less should one imagine the level of scorching temperature in the rural areas, lacking such orientation.[7] Pakistan is characterised as a country having severe cold and heat during the winter and summer respectively. The heat level in the country has been exacerbated by the global warming and climate change; hence there is no need to mince word that life will be unbearable for the people. Hence, it demands no tough logic to understand the imperative necessity for massive orientation and implementation of the process of afforestation across the rural settlements.

[5] Albert O. Hirschmann, *The Strategy of Economic Development*. (New Haven, Conn.: Yale University Press, 1958).

[6] http://rainforests.mongabay.com/deforestation/2000/Pakistan.htm accessed on 25.05.2010

[7] *Daily Times*, "Deforestation increases Capital's Temperature," Sunday, May 16, 2010 http://www.dailytimes.com.pk/default.asp?page=2010\05\16\story_16-5-2010_pg11_4

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If the dearth of optimal utility between available natural and human resources underlines the underdevelopment facing many developing countries, thus, the same will be true for Jhelum district under our radar having an estimate of 858,767 acres out which 541, 957 acres uncultivated.[8] This is clear indication of wasted resource and labour unused thereby explains among other reasons why joblessness continues to haunt the economy.

The process of afforestation as oppose to deforestation is pertinent to the increasing threat of the global climate change, and more than necessary for Pakistan. Pakistan cannot afford or entertain deforestation as harbinger of desertification that could be followed by soil erosion increasing soil infertility, loss of volatile nutrients such as nitrogen, imbalance in the water cycle, and culminating to the discourse of climate change.[9]

Providing Solutions on the Problem

Owing to these problems and the inadequate government attention for rural development in general and rural forestation in particular, this paper deems it necessary to spur rigorous rural development through the creation of mini-jungle. The latter will not only contribute in reducing the climatic problem of heat, but will obviously add to the greenness of the environment. It also believes in facilitating rural socio-economic development through job creation for ruralites who will be involved in planting the mini-jungle and managing a recreation resort which of course will be an added value through the provision of employment opportunities to local residents, quality recreational facility at affordable rates to domestic and international tourists, socio-economic support for the rural area by initiating and constituting change in the physical environment.

Hence, as a practical social entrepreneur exercise, Jhelum district is selected as a target for the experimentation of the first mini-jungle, which we plan replicating in other rural areas of the country.

Reasons for Selection

According to the Population Census Organization Statistics, a division of government of Pakistan, Jhelum an integral of Punjab province has experienced growing population since 1951. The 1998 last census conducted across the country elucidates on the increasing population of Jhelum district. The census of 1998 puts the population at an estimate of 936,957,[10] if the population increases by 43% every ten years, therefore the

[8] 1998 District Census Report of Jhelum, Population Census Organization Statistics Division, Government of Pakistan, July 1999

[9] http://www.blurtit.com/q822504.html accessed on 25.05.2010

[10] 1998 District Census Report of Jhelum, Population Census Organization Statistics Division, Government of Pakistan, July 1999

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un-conducted census of 2008 should put the figure at around. 1,148,654. Meanwhile, the total area is 858,767 acres, only 316,810 acres accounts for cultivated land, while 541, 957 acres remained uncultivated.[11]

By climatic condition, Jhelum often experience very cold winter and summer with limited forestation. Meanwhile, flood in the area can obviously be reduced through this process of massive afforestation. Doing this will evidently help in reducing the damages caused by the flood and it will be a measure against the daunting soil erosion threatening the district's farmland.

Khewera, a part of Jhelum is a renowned historic town which attracts domestic and foreign tourists, study trips of schools, colleges and universities as well as families. This town is selected as case study

Despite being a tourist spot, Khewera lacks recreation facility; having no abundant trees meanwhile the spacious land of Khewera is suitable for domestic plantation. Secondly and most important, Khewera is not arid but having adequate supply of water through the surrounding mountain springs. The springs water make more sense because of the natural gravity, in addition the Khewera town availing water from river Jhelum through pumps which is seven kilometers.

The creation of a mini-jungle will in fact be an added value as an increment in its tourism. The mini-jungle in Khewera is aimed at facilitating counterurbanization, creating employment opportunities for the locals, by being part of the planting and follow-up. This will create a sense of belonging and ownership among the locals. Similarly, the mini-jungle will be landscaped in natural way appealing to tourists. Aside from this jungle, the project includes cave houses, bamboo huts, restaurant, amusement park, open barbecue and camping sites. The revenue generated from this pioneering mini-jungle will be reinvested in the afforestation project of other rural areas.

Data of Visitors at Pakistan Heritage Sites and Archaeological Museums

			2006	2007	2008	2009
Pakistan	National		912,232	928,670	736,471	760,386
	Foreigners		22,626	16,023	7,801	4,642
Punjab	National		723,549	729,270	582,940	635,800
	Foreigners		17,842	12,478	5,954	3,782
Khewara	National		202,921	247,379	227,143	166,504
	Foreigners		2,129	2,160	1,425	1,029

[11] Ibid

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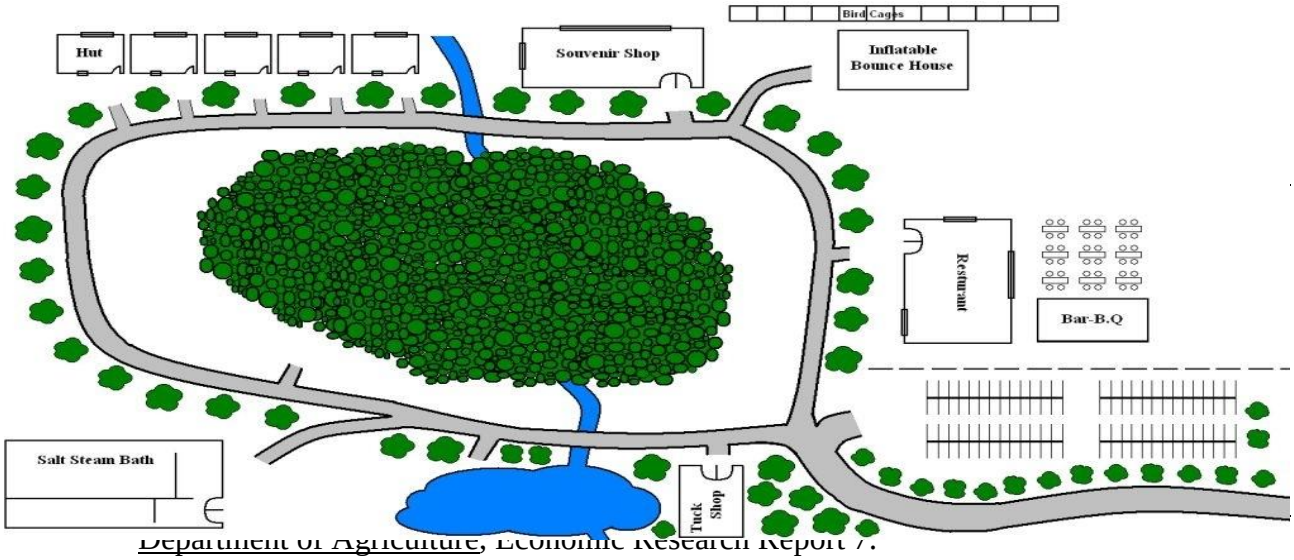
Source: Visitors at Archaeological Museums in Pakistan during January-December, 2009[12]

Proposed Site and Layout of the Mini-jungle



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Visitors at Archaeological Museums in Pakistan During January-December, 2009. Federal Bureau of Statistics. (Online) Retrieved June 1, 2010 from http://www.statpak.gov.pk/.../visitors_to_areas_of%20attraction2006.pdf

1998 District Census Report of Jhelum, (July 1999). Population Census Organization Statistics Division. Government of Pakistan.

Appendix

[12] Federal Bureau of Statistics, Visitors at Archaeological Museums in Pakistan During January-December, 2009 *www.statpak.gov.pk/.../visitors_to_areas_of%20attraction2006.pdf*

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Name	Growth time period	Availability
Trees		
Devils tree (Alstonia)	1 to 1.5 years	Seeds/plant
Cythroxylen spirosun	1 to 1.5 years	Seeds/plant
Legestonia (Gule fanoos)	1 year	Seeds/plant
Populous	1.5 to 2 years	Seeds/plant
Dischophia javinita	2 years	Seeds/plant
Jacaranda	2 years	Seeds/plant
Locat	2 years	Seeds/plant
Neem (Azadirachta indica)	2 to 3 years	Seeds/plant
Cassia fistula- The Golden Shower Tree (Amal Taas)	2 to 3 years	Seeds/plant
Pongamia (Sukhchain)	2 to 3 years	Seeds/plant
Pterosternum accilifolium (Tez dhaar)	3 years	Seeds/plant
Dalbergia sissoo (Sheesham)	4 to 5 years	Seeds/plant
Mango	5 years	Seeds/plant
Shrubs		
Nerium Oleander	1 to 2 years	Plant
Bougainvillea (shrub)	7 to 8 months	Plant
Cassia obtusifolia	9 months	Plant
Lassie obtusifolia	9 months	Plant

Proposed Trees and Shrubs for the Mini-jungle