Indian Farming 66(1): 21–24; April 2016

The Green Desert

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DESERT depicts a waterless empty area of land with scarce vegetation. But "The Green Desert" referred in the present context has plenty of promises and possibilities. These possibilities and promises need to be turned into reality through maintaining a harmony between nature and the human need.

India's desert, also known as the "Great Indian Thar Desert" is among the 17 largest deserts in the world (India and Pakistan). This includes cold deserts as well. Thar Desert is spread in the north-western part of the country and extends further to the eastern boundary of Pakistan. Nearly 85% of the Thar Desert is in India and remaining 15% overlaps into Pakistan. The Indian Thar area is around 3,20,000 km^2. Indian Thars' major area falls in Rajasthan (60%) and rest is shared between Gujarat, Punjab and Haryana.

Thar is still an under developed region and requires social and economic reforms. Its typical desert ecology, natural resources like abundance of sunshine and wind as well heritage rich culture have immense potential to convert Thar region into an ecologically rich economic zone. The paper therefore discusses the role of various ecological factors like climate change, natural resources, agri-livestock based livelihoods, agroforestry and human empowerment, in achieving this transformation.

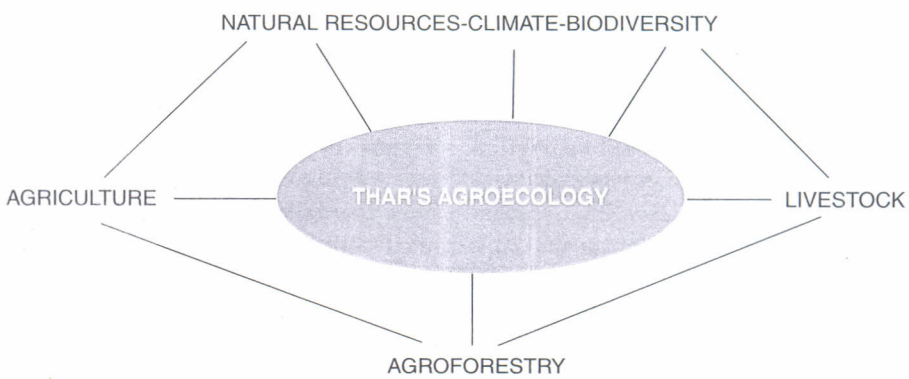
Agroecology of Thar Desert

Thar Desert's agroecology factors and human influenced activities (agri-livestock and others) are depicted in the following figure:

Thar's climate is arid and dry with hot summer (temperature rising to 45^0 to 50^0 C in May and June), and severe winters (temperature dipping to 0^0 C or even below). Northwest Thar Desert soils are sandy with typical sand dune formations that keep moving with strong wind force. Sand dune formations are more pronounced in districts of Jaisalmer, Barmer and Bikaner.

Sandstone and shale's are countered at very shallow depths. These rocks are some times several meter deep and aquifers form these rocks serve as source of irrigation. Aquifers from Jodhpur group of sandstone rocks in the district of Bikaner are saline in reaction.

Water resources as such are meagre in Thar Desert. The mean annual rainfall in districts like Bikaner, Sikar and adjoining areas is around 300 mm (297.7mm) (1971-2005 average). Almost 90% of this rain is received from the southwest monsoon and the rest 10% in winters. Rainfall in the deep desert districts is erratic with drought and flood rotating. But the flood years occurrence in recent years has increased. A flood like situation was witnessed even in end of July and early August months of 2015 in the districts of Jaipur, Sikar and Bikaner. Heavy 2015 monsoon rains created



Inter–relationship between Thar desert's agroecology and its components.

Thar deserts ecology and economy are characterised by dry and arid climate, scarcity of water resources, agri-livestock cum agroforestry based livelihood and heritage based life styles of various gypsy groups. Slight increase in rainfall pattern and possibilities of green energy production in desert have brought new hope. Eco-friendly modern technology along with efficient infrastructure and better linkages can transform Thar into an important economic region with a greener shade. But a comprehensive social empowerment of Thar population including children and women has to precede this development.

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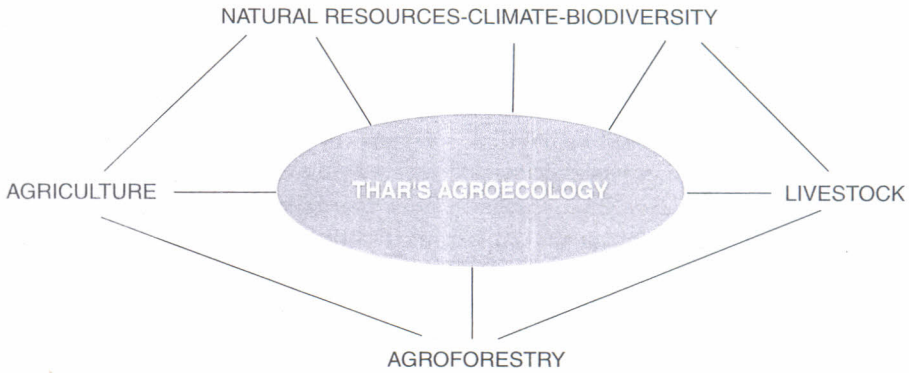

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