



Jatropha as a Crop of Wastelands in Rajasthan

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Commonly known as Jangli Arandi in the State of Rajasthan, *Jatropha (Jatropha curcas L.)* has very promising scope for cultivation on wastelands because of its various benefits like wasteland reclamation and reforestation, soil improvement, income generation from unusable areas and providing opportunities for sustainable and renewable land resources management etc. Rajasthan is the leading state in *Jatropha* cultivation covering 90% of total area in the country. Rajasthan government is promoting its production on waste lands through various central government schemes.

Introduction

The plant *Jatropha*, also known as Ratanjot, Ho-ho-ba, Jojoba, etc. is most commonly known as Jangli Arandi in the State of Rajasthan. *Jatropha* plant which belongs to family Euphorbiaceae, bearing botanical name as *Jatropha curcas L.* is a native plant of South America (the Sonora desert of Arizona, California and New Mexico). *Jatropha* is naturally a dioecious desert plant. Due to its great ability to withstand hot weather with water scarce low fertile soil, it has very promising scope for cultivation on wastelands even in hot deserts. It also has an ability to withstand high salt concentration in soil. The tribal belt of Kumbalgarh (Udaipur) and Banswara are the leading *Jatropha*

growing area because of the most suitable climate for its commercial plantation in these areas.

Status of *Jatropha* Farming in Rajasthan

Rajasthan is the leading state in *Jatropha* cultivation. *Jatropha* in the country is now being grown in about 4, 97, 881 hectares of area with the production potential around 25 million tonne per year. About 90 per cent of the *Jatropha* cultivation is in Rajasthan. Rajasthan government is promoting its production on waste lands. Recently Rajasthan government has allotted 110 hectare of wastelands including 70 hectares at Fatehpur area (Sikar) and 40 hectares at Dhand area (Jaipur) for *Jatropha* plantation.

Jatropha plant starts yielding 3rd year after planting and yield increases over the year. 'Society for Rural Initiatives for Promotion of Herbals' is the major society for promoting Jatropha cultivation.

Schemes for Promoting Jatropha Cultivation in Rajasthan

Initially Jojoba plantation project was formulated by Rajasthan government (with the help of central government) in 1995 for a period of five years but later it was extended for few years. Jatropha planting in India has various support mechanisms under the National Employment Guarantee Schemes which includes Comprehensive Land Development Program (CLDP); Drought Prone Area Program (DPAP); Watershed Development Fund (WDF), and National Food for Work Programme (NFWP) etc.



Jatropha plantation in Udaipur district of Rajasthan

(Source: <http://www.nri.org/projects/jatropha/>)

Benefit(s) of Jatropha Farming

Most of the state governments in the country promoting Jatropha cultivation because it has great potential to integrate the rural poor into the bio-fuel value chain while rehabilitating waste lands. Jatropha is a promising crop for Rajasthan as it has various benefits like wasteland reclamation and reforestation, soil preparation, income generation from previously unusable areas, reducing increased demand for employment by providing opportunities for livelihood and sustainable & renewable land resources management. Various industries like bio-fuel industry, cosmetic industries, pharmaceutical industries, food industries, lubricants industries, etc could use Jatropha.

Scale of Jatropha Cultivation in India

A study was conducted by the Global Exchange for Social Investment (GEXSI) during 2008 which is known as "Global Market Study on Jatropha". In this study it was assumed that India has great cultivation potential and an estimate was drawn which is shown in Table 1. According to the GEXSI results, 60% of the projects on cultivation of Jatropha are partially or totally on waste lands which are not suitable for agricultural production and 92% of the projects include out-grower schemes.

Table: 1. Estimated Area (for 2010 and 2015) under Jatropha Cultivation

Year	Expert estimate (ha)
2008 (actual area)	497881
2010	1179760
2015	5479765

The government pursues a policy of guaranteed prices for seed. The seeds under the considered projects were sold at higher prices and seeds were sold mostly to research projects or nurseries.

Constraints in Jatropha Cultivation Perceived by Farmers

Meena and Sharma (2007) identified various constraints faced by the farmers in the Udaipur district of Rajasthan are as follows

- i. Lack of technical guidance and information
- ii. Inadequate training facilities for acquiring skills about its cultivation technology
- iii. Lack of suitable plantation schedule
- iv. Long gestation period of Jatropha
- v. Adverse climatic and edaphic factors for the survival of plants
- vi. Lack of knowledge about scientific cultivation of Jatropha
- vii. Lack of awareness of economic value of Jatropha seeds

According to this study, lack of technical guidance and information, non-availability of improved varieties of Jatropha plants and lack of marketing facility for sale of produce were perceived as major constraints by tribal and non-tribal

Jatropha growers. Furthermore, tribal respondents perceived more constraints than non-tribal farmers in cultivation of Jatropha plants.

Conclusion

Jatropha has multi-dimensional impacts not only on livelihood of farmers but also on environment. On one hand it protects wastelands through reforestation while on the other it provides a source of income to the family. A policy by government which includes introduction of high-yielding varieties, input(s) at subsidized prices, and promotion of Jatropha based industries can lead to the success of Jatropha promoting projects.

References

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