



Key Points for Development of Seed Production Area of Economically Important Tree Species of Rajasthan

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Rajasthan, being a desert state in India, faces significant challenges in terms of tree growth and seed production. However, various initiatives have been undertaken to develop seed production areas for trees in Rajasthan. The development of seed production areas for economically important trees in Rajasthan is crucial for promoting afforestation, sustainable forest management, and supporting rural livelihoods. Rajasthan, being a predominantly arid state, faces several challenges in tree cultivation and seed production. However, various initiatives have been undertaken to overcome these challenges and enhance seed production in the region. There are several economically important trees that thrive in this region. Here are some of them:

1. Khejri (*Prosopis cineraria*): Khejri is the state tree of Rajasthan and holds great ecological and economic significance. It is a hardy, drought-resistant tree that can withstand extreme temperatures and arid conditions. Khejri provides multiple benefits, such as fodder for livestock, fuelwood, gum, and timber.
2. Neem (*Azadirachta indica*): Neem is a versatile tree with immense economic importance. Its leaves, seeds, bark, and oil have various applications. Neem oil is widely used in pharmaceuticals, cosmetics, and agriculture. The tree's wood is used for making furniture, while the leaves serve as fodder for livestock.
3. Babul (*Acacia nilotica*): Babul is a thorny tree that grows well in arid regions. It has multiple economic uses, including as a source of timber, fuelwood, and fodder for livestock. Babul also produces gum, which is used in various industries such as food, pharmaceuticals, and textiles.
4. Rohida (*Tecomella undulata*): Rohida is a medium-sized deciduous tree found in Rajasthan. It has sturdy wood, which is valued for making furniture, agricultural implements, and construction material. The tree also provides shade and its leaves serve as fodder.
5. Jujube (*Ziziphus mauritiana*): Jujube, commonly known as ber, is a small to medium-sized tree. It bears edible fruits that are consumed fresh or used in the preparation of various food products. Jujube trees also have multiple uses in traditional medicine.
6. Amla (*Phyllanthus emblica*): Amla, also known as Indian gooseberry, is a small to medium-sized tree. It produces highly nutritious fruits that have high vitamin C content. Amla fruits are used in the preparation of juices, jams, pickles, and other food products. The tree also has medicinal properties.
7. Kair (*Capparis decidua*): Kair is a thorny shrub or small tree found in arid regions of Rajasthan. Its fruits, known as kairi, are used for making pickles, chutneys, and sauces. The tree's bark and roots have medicinal properties and are used in traditional medicine.

Here are some key points related to the development of seed production areas in the state

1. Identify economically important tree species: Determine the tree species that are of significant economic value in Rajasthan. These could include species like neem (*Azadirachta indica*), khejri (*Prosopis cineraria*), babul (*Acacia nilotica*), etc. Consider their demand, market value, and ecological suitability.
2. Agroforestry and Afforestation Programs: Rajasthan has implemented several agroforestry and afforestation programs to increase tree cover and promote seed production. These initiatives involve planting suitable tree species in specific areas to enhance their adaptability to the local environment.
3. Tree Species Selection: The selection of tree species plays a crucial role in seed production. In Rajasthan, efforts are made to identify and promote tree species that are well-suited to the region's arid and semi-arid climate. Some common tree species used for seed production in Rajasthan include *Prosopis cineraria* (Khejri), *Acacia senegal* (Kumatha), *Azadirachta indica* (Neem), *Zizaphus Moratiana*(Ber), *Salvadora* sp. (Khari Jhal, Meethi Jhal) and *Tecomella undulata* (Rohida).
4. Seed Orchards: Seed orchards are established to produce high-quality seeds of selected tree species. These orchards consist of genetically superior trees that have desirable traits such as high seed yield, good germination rates, and adaptability to local conditions. The seeds harvested from these orchards are used for afforestation and agroforestry projects.
5. Research and Development: Research institutions, such as the Forest Research Institute in Jodhpur, are actively involved in studying and developing techniques for seed production and improving the quality of seeds. They conduct research on seed collection, storage, processing, and germination techniques to enhance the success of seed production efforts.
6. Capacity Building and Training: The state government, along with various organizations and NGOs, conducts training programs and workshops to educate farmers, local communities, and stakeholders about seed production techniques. These capacity-building initiatives aim to create awareness and build the skills necessary for successful seed production.
7. Community Participation: Community participation is vital for the sustainable development of seed production areas. Local communities are encouraged to participate in seed collection, storage, and propagation activities. This involvement not only generates employment opportunities but also fosters a sense of ownership and conservation among the local population.
8. Government Support: The Rajasthan government provides financial assistance, subsidies, and technical guidance to individuals, communities, and organizations involved in seed production activities. These initiatives aim to incentivize and support the development of seed production areas in the state.
9. Conduct a feasibility study: Assess the feasibility of establishing seed production areas for the selected tree species. Evaluate factors such as climate, soil conditions, water availability, and market demand. Consult with experts, local agricultural departments, and forestry organizations for guidance.
10. Select suitable locations: Identify areas within Rajasthan that have suitable conditions for the growth and development of the selected tree species. Consider factors like temperature, rainfall, soil type, and proximity to transportation facilities for efficient seed distribution.
11. Collect quality seeds: Collect high-quality seeds from mature, healthy trees of the selected species. Develop protocols for seed collection, handling, and storage to maintain their viability and genetic integrity.

12. Maintain genetic diversity: Emphasize the conservation of genetic diversity within the seed production areas. Avoid over-reliance on a single genetic stock by periodically collecting seeds from different locations and populations.
13. Implement appropriate management practices: Implement regular maintenance and management practices in the seed production areas. This includes weed control, irrigation, pest and disease management, and pruning when necessary. Adequate monitoring of the seed orchards is essential to ensure healthy tree growth and seed production.
14. Seed storage and distribution: Establish proper seed storage facilities to maintain seed viability and quality over time. Develop a seed distribution plan to make the seeds available to farmers, nurseries, or other stakeholders who can use them for reforestation, agroforestry, or other purposes.

Conclusion

While these efforts are being made to develop seed production areas for trees in Rajasthan, it is important to note that the arid climate and water scarcity pose significant challenges. The development of seed production areas for economically important trees in Rajasthan is crucial for promoting afforestation, sustainable forest management, and supporting rural livelihoods. Rajasthan, being a predominantly arid state, faces several challenges in tree cultivation and seed production. Sustainable water management practices, soil conservation, and adaptive agricultural techniques are crucial for the success of seed production initiatives in the region.