Medicinal Herbs In High Demand Help Cure Poverty In Drylands Of India

Rajasthan in India is home to 6.9 million smallholder farmers. They eke out a living in a harsh and dry climate, but cultivate crops that have low yields and limited market value. Research that delivers farmer-friendly solutions, such as intercropping resilient, native plants that respond to a market demand, can help strengthen the incomes and nutrition security of local communities.

Key messages

- Low-yielding crops and frequent droughts trap farmers in poverty
- Market integration and high-value crops create new opportunities
- Medicinal herbs improved farmers’ incomes and attained policy support
Droughts and low-value crops starve dryland farmers

Giana Ram is a 55-year-old farmer who owns four hectares of rain-fed land in Dhirasar village in Barmer, Rajasthan. He grows pearl millet and legumes, but he and his family are poor.

Part of the reason is that this region is notoriously dry, with an annual rainfall of just 280 millimeters. The soil is mostly sandy and partly loamy, and frequent droughts lead to crop failures. Even in good years, returns are low because the traditional millet and legumes varieties that many farmers cultivate have low yields and limited market value.

As a result, poverty is widespread. A third of the population lives on less than US$1 a day, and more than 40 percent children under the age of three are underweight. Boosting farmers’ incomes and nutrition security in such areas is a big challenge, but one solution might be to integrate native, drought-resistant, high-value crops into farming systems and linking farmers with markets.

Scouring local agro-ecosystems for big opportunities

In 2013, scientists began partnering with local farming communities to identify suitable medicinal plants. Shankhpushpi (Convolvulus pluricaulis), Jeevanti (Leptadenia reticulata), and Arna (Clerodendrum phlomidis) were all deemed good matches, and scientists determined that they could be integrated with millet and legume crops without much extra effort.

“Farmers’ revenue can grow significantly if they cultivate a high-value commodity crop like Shankhpushpi together with traditional crops like millets and legumes. It requires the same quantity of water as is needed for any other dryland crop,” said Dr. Shalander Kumar, of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), which led the intervention.

To make sure that farmers would be able to offload their products, scientists facilitated an agreement with a major private herbal company, Dabur India Ltd. While the company provided the market demand, scientists of ICRISAT, in collaboration with local partners Krishi Vigyan Kendra, Barmer and GRAVIS in Jodhpur, provided technical and organizational support to men and women farmers.

“The important thing is establishing a market. The combination of market integration and introduction of drought-tolerant, high-value, perennial plants, grown together with livestock and existing crops, was essential,” explains Shalander.
The efforts to integrate medicinal plants did not stand alone, but were part of a systems approach to intensifying agricultural production. Scientists helped facilitate other initiatives, such as water conservation and storage solutions, improved use of fertilizers, and appropriate integration of fruit trees and livestock.

**Traditional herbs prove a lifeline for farmers**

In 2014, 20 farmers in Barmer took up cultivation of Shankhpushpi, and in 2015, 300 more farmers from ten villages joined them along with more farmers from other villages in nearby Jodhpur district.

“Shankhpushpi acted as a lifeline for my family as I earned US$1,300 during the drought-like situation last year, when other farmers ended up earning nothing,” said Giana Ram, the man living in Barmer.

After adopting the integrated farming system approach, he now grows pearl millet and intercrops legumes, fruit trees and medicinal plants. His income has increased significantly, from about US$650–750 to about US$2,000–2,100 annually.

Shankhpushpi can be sold for US$0.4 per kilogram, and the seed for about US$23 per kilogram. An additional 15 farmers have started growing Jeevanti, another medicinal plant, which sells for about US$5 per plant. Finally, Dabur India Ltd. has agreed to buy Arna, a third medicinal plant, which is very drought hardy and abundantly available, from those farmers that are also producing Shankhpushpi. Farmers can sell it to the company for US$0.23 per kilogram.

**Uptake and policy support show potential for up scaling**

Introducing medicinal plant cultivation and facilitating stronger linkages with markets have directly benefitted 300 farmers, who have more than doubled, and in some cases almost tripled, their incomes.

Most recently, farmers who have access to irrigation, which can further boost yields, have also started cultivating Shankhpushpi as a sole crop, and some members of a local women’s group have adopted the practice. The farmers in the district are currently producing about 20 tonnes of Shankhpushpi biomass annually, but the market demand is four to five times greater, which leaves room to scale up activities further.

Policy makers have also taken note: the principal secretary government of Rajasthan, for the department related to herbal medicines, has offered his support. Finally, the local government has agreed in principle to add Shankhpushpi to an existing list of medicinal crops that allows farmers to receive subsidies for water storage and planting materials.
Acknowledgement

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References


Outcome Story Coordinates

Country: India
Region: South Asia
Agricultural livelihood system: Pastoral and agropastoral
Cross-cutting theme: Policies and institutions
CGIAR SLO: Improved natural resources systems and ecosystems services
SDG: SDG 15: Life on Land, especially target 15.3 on achieving a land degradation-neutral world

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