

# Improving Dryland Agronomic Practices One Pastoralist at a Time

Submitted by Kathryn Clifton, Mounir Louhaichi and Arun Mishra on May 19, 2015

## Courageous Generosity in the Heart of Rajasthan



In a small village outside of Rajor Ki Dhani in India, one man has made a huge difference in his community by implementing improved forage and management practices in his own land and sharing improved seeds with other pastoralists. In Western Rajasthan, where annual rainfall is only 100-400 mm a year there are huge feed shortages that pastoralists grapple with. It is common for dryland communities living in this area to lose 30% or more of their herd annually.

However improved forage varieties and better agronomic practices can make a huge difference in managing this forage gap. The [Central Arid Zone Research Institute \(CAZRI\)](#) has been working in this area for many years to address this issue that affect many pastoralist livelihoods in India's drylands.

Yet many of these pastoralists are often hesitant to make such an investment in terms of changing their practices without seeing firsthand the benefits.

Champion pastoralists like Javana Ram Patel, who are willing to take the initial risk of adopting a new practice are critical to the success of the [Sustainable Intensification of Silvopasture Systems](#) project, a collaborative effort between scientists at CAZRI, the [International Center for Agricultural research in the Dry Areas \(ICARDA\)](#) and the Indian Government that is being implemented in the framework of the CGIAR Research

Program on Dryland Systems. ICARDA is following [ICRISAT's](#) lead on the project with their innovative participatory approach.

[Research demonstrates that silvopasture](#), a mixture of shrub and tree species with improved grasses shows promising results across arid and semi-arid areas in India. It not only produces more forage, but also provides forage reserves with drought resistant shrubs and trees. On the other hand, it creates beneficial microenvironments that hold more moisture and as a result promote more biomass that livestock can utilize. [Cenchrus ciliaris](#) in particular is the kind of forage plant that can regenerate from both vegetative cuttings and seeds.



Indian pastoralist and scientists discuss improved forage and management practices  
(Photo credit: ICARDA)

In addition to sharing improved seeds with other pastoralists in his community, Javana worked with scientists and offered his land as a testing ground for demonstrating the benefits of improved rotational grazing practices as part of the project. Early adapters like Javana lead their community by example because they influence others by showcasing the benefits of improved practices and the security of their investment.

The demonstration areas of the new practices consist of 2 ha in Rajour Ki Dhana yet practices have already been adapted in 6 ha. Farmers have reported that approximately 20 farmers in the surrounding areas have planted *Cenchrus ciliaris*. As project efforts continue, this number is expected to increase. Farmers are being followed up with socioeconomic surveys to further understand the impact of the project. Farmers have stated:

**“We have increased forage for animals during the dry months and also reduced the feeding cost. The cattle that grazed on the new grass produces more milk with higher fat content. They also make milk for a longer period than before.”**

Aside from increasing forage reserves and saving vital livestock, these improved agronomic practices produce multiple outcomes with significant impact on people's

livelihoods such as poverty reduction, better incomes and increased resilience and adaptation to climate change.

## References

Misra, A., Singh, RP, Singh, R., Roy, M. (2014, February) *Improving productivity of common grazing resources in hot arid region of India through participatory pasture development*. Paper presented at the World Congress on Agroforestry, Delhi, India.

*This research is being conducted in the framework of the CGIAR Research Program on Dryland Systems under the South Asia Flagship and supported by the [CGIAR Fund Donors](#).*

*For more information, please contact: Mounir Louhaichi, Senior Rangeland Scientist, International Center for Agricultural Research in Dry Areas at [m.louhaichi@cgiar.org](mailto:m.louhaichi@cgiar.org)*

*About the authors*

*Kathryn Clifton is Postdoctoral Fellow in Landscape Ecology at the International Center of Agricultural Research in the Dry Areas.*

*Mounir Louhaichi is a Senior Rangeland Scientist at the International Center for Agricultural Research in Dry Areas.*

*Arun Mishra is a Principal Scientist at the Central Arid Zone Research Institute in Rajasthan India.*

## Tags:

- [resilience](#)
- [climate change](#)
- [pastoralism](#)
- [agronomic practices](#)
- [adaptation](#)

## Flagship:

- [South Asia](#)