



**Indigenous Knowledge on Ricebean: Implication on
Future Use of the Crop**

FOSRIN Project Final Meeting

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Nepal**



**Local Initiatives for
Biodiversity, Research and Development**

Presentation Outline

- Background
- Objectives of local knowledge documentation
- Method used in local knowledge documentation
- Findings from the study
- Implications





Background

- Ricebean is a traditional legume grown basically in the mid hills of Nepal in the marginal areas
- As no work is done for improvement in ricebean farmers' have been growing ricebean on their own local technology
- Farmers thus possess a wide knowledge on various aspects of ricebean diversity, cultivation and use values
- Thus local knowledge on ricebean was documented to dig out the underlying information regarding ricebean crop



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Objectives of local knowledge documentation

- To document farmers' practices and knowledge associated with the cultivation and use of ricebean
- To analyze the farmers' indigenous knowledge on ricebean and identify its implications on the future use of the crop





Method used

- Potential district for ricebean production were assessed through DADOs
- Pocket areas of ricebean identified through field visits and group discussions with farmers
- Potential sites for the study were selected from Gulmi and Ramechhap districts
- Local knowledge was assessed from these pocket areas through direct visits, observations and interactions with the farmers



Method use contrn...

15 key informants in Gumi and 18 in Ramechhap were identified to document ITK

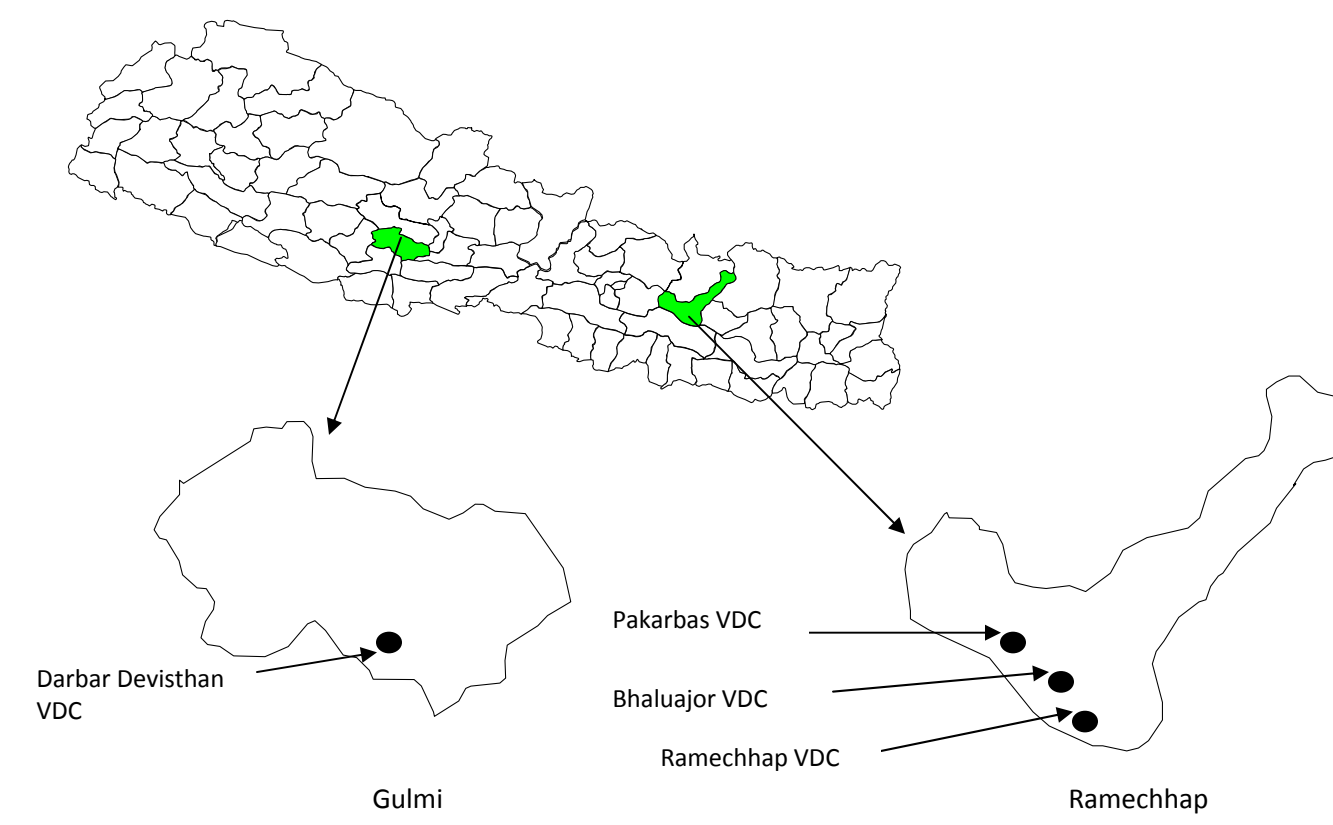
District	Gender		Altitude (m asl)		Ethnicity		
	M	F	600-1000	1000-1600	BCK	MGN	KDS
Gulmi	7	8	4	11	8	4	3
Ramechhap	10	8	9	9	7	6	5

†M = Male, F = Female, BCK= Brahmin, Chhetri and Khatri; MGN = Magar, Gurung and Newar; KDS= Kami, Damai and Sarki.





Study sites





Findings of the study





Production and productivity of ricebean

- Production and productivity of ricebean is decreasing in the recent years due to:
 1. Ricebean is a long duration crop and these days farmers prefer to take 3 crops a year
 2. A number of legumes/pulses readily available in the market
 3. Intercropped ricebean with maize yield low due to higher use of chemical fertilizers





Soil and land types for ricebean cultivation

- Farmers believe that ricebean does better in the sunny south and east facing aspects
- Ricebean yields higher grain in low to medium fertile soil and red-gravel soil is considered best for growing ricebean
- Ricebean is drought tolerant compared to many other legumes
- Although it is tolerant to short term damp conditions, in longer damp conditions and shady areas there is more disease/insect infestation, non seed bearing pods leading to poor production





Diversity of ricebean in the study areas

Farmers have their own descriptors like days to maturity, size of seed, and colour of seed to describe the diversity of ricebean

Study area	Ricebean landrace	Colour	Size	Maturity
Gulmi	<i>Bhadaure sano</i>	Light green to yellowish	Small	Early
	<i>Rato Jhilunge</i>	Red	Medium	Medium
	<i>Seto Thulo Jhilunge</i>	White to yellowish	Big	Late
	<i>Chhirkemirke Thulo</i>	Grey mottled	Big	Late
Ramechhap	<i>Chhirkemirke Madhyam</i>	Grey mottled	Medium	Medium
	<i>Sano Seto Masyang</i>	White to yellowish	Small	Early
	<i>Pahelo Masyang /Pahenli</i>	Yellow	Medium	Medium
	<i>Singare/ Ghorle/ Bage/ Chirkemirke Masyang</i>	Grey mottled	Big	Late
	<i>Rato Masyang</i>	Red	Medium	Medium
	<i>Kalo Masyang</i>	Black	Medium	Medium

Cultivation practices of ricebean

- Ricebean is dominantly intercropped with maize, grown on rice bunds, margins of bari land and as a sole crop in home gardens
- Whole plant is harvested when more than 60% of the pods get into maturity





Chaffy (unfilled) pods/hard seededness in ricebean

- Chaffy pods are common in north facing areas than in the east and south facing lands, in higher altitudes
- Damp and shady areas are also more prone to chaffy pods
- Ricebean has less hard seededness compared to common pea and cow pea
- Farmers believe that rainfall during the harvest cause more hard seeds??



Use values of ricebean as food

- Ricebean is basically used to prepare Dal, boiled whole grains, biramla, batuk, nuggets etc
- Grains with larger size are preferred for Dal and other food products due to better taste
- Misconceptions regarding ricebean as hot or cold
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- Some farmers believe that ricebean creates some digestive problems



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Socio-cultural values

- Ricebean has social, cultural and ritual values
- Newar and Magar communities prepare special local recipes during social and cultural functions





Farmers knowledge on Fodder value

- Ricebean vines are considered excellent fodder to livestock animal
- Dried residue from threshing and winnowing ricebean is best used in lean seasons
- Green ricebean fodder is not given to lactating animal (perception is that animal gets cold)



**Implications of local knowledge on ricebean
in the future**



Implications of LK on future use of crop

- Farmers believe that ricebean has a high yield potential. The recent decline in the productivity should be addressed through different researches on the agronomy and also breeding
- Farmers' descriptors have been used in the germplasm characterization. However, there is high inconsistency with the farmers' way of describing diversity. Thus, this knowledge should be smartly used



Implication of LK on future use of crop

- Ricebean is a long duration crop and it is dominantly mixed/intercropped and can grow in diverse soil conditions. Hence, to diversify its production there is a great scope for further research on agronomy of this crop so that it fits into different cropping patterns
- It has been observed that socio-cultural values of ricebean has helped in conservation of ricebean. But this knowledge is not being transferred in the new generations. This can be improved by making the new generations aware on its use values



Implications of LK on future use of crop contn...

- There are several misconceptions on food values of ricebean. Hence, it has left the researches to work with the nutrition and other related issues
- Farmers have a good knowledge on the use of ricebean as a good fodder but they lack the knowledge on its value as a green manure crop. Hence, there is a great possibility of promoting ricebean as a good green manuring crop



Implications of LK on future use of crop contn...

- Hard seededness and chaffy pods are problems in ricebean. But as there are no scientific basis there is scope for improving this trait in the future
- Ricebean can be an important crop from the view point of climate change as it is a drought tolerant crop

