



Distribution of Ricebean in Nepal and India



FOSRIN Project Final Meeting

**31 Jan-4 Feb, 2010
Hotel Country Villa, Nagarkot,
Nepal**



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Biodiversity, Research and Development



Presentation Outline

- Back ground
- Method adopted
- Results
- Conclusions





Background

- Ricebean being an underutilized crop no systematic study done in Nepal and very little done in India compared to many other legumes
- In Nepal, NARC PGR unit collected 136 accessions of ricebean from 29 districts of Nepal in 1976
- In India NBPGR initiated germplasm collection in 1960s from NE India and a series of collections were done in the following years by NBPGR and also by different State Agriculture Universities and other Research Institutions
- FOSRIN project has tried to look over the over all distribution of ricebean in India and Nepal





Methods adopted

Nepal

Steps	Approaches	Outcomes
Consultation with DADO staff	Individual contact	Collection of preliminary information based on existing knowledge
Literature review	RAD and DADO profiles, Journals, Reports	Identify the crop status through literature
Information from NARC PGR unit	Study information available in PGR unit	Identification of potential districts





Methods adopted contn...

Nepal

Steps	Approaches	Outcomes
In consultation with commodity research programme and scientists	Study information available and individual contact	Potential districts listed
Germplasm collection	Mobilization of local organizations	Diversity assessed
Field visit to potential areas	Identification of districts with large areas and identification of pocket areas	Verification of potential ricebean growing districts





Methods adopted contn...

India

Steps	Approaches	Outcomes
Consultation with the staff of CSKHPKV, AAU, GVT, Vivekananda Parvatiya Krishi Anusandhan Shala, Uttarankhand, GB Pantanagar University of Agriculture and Technology, Uttarakhand and State Agriculture Departments	Individual contact	Preliminary information on ricebean obtained
Literature review	ICAR, All India Coordinated Research Network on Under-utilized Crops, ICAR Ad-hoc Project report NBPGR Publications, CAB Abstracts, journal articles	Crop status identified





Results



Distribution of ricebean in Nepal





Information from literature

- No information on wild forms of ricebean
- No information on distribution in Nepal
- No formal seed system



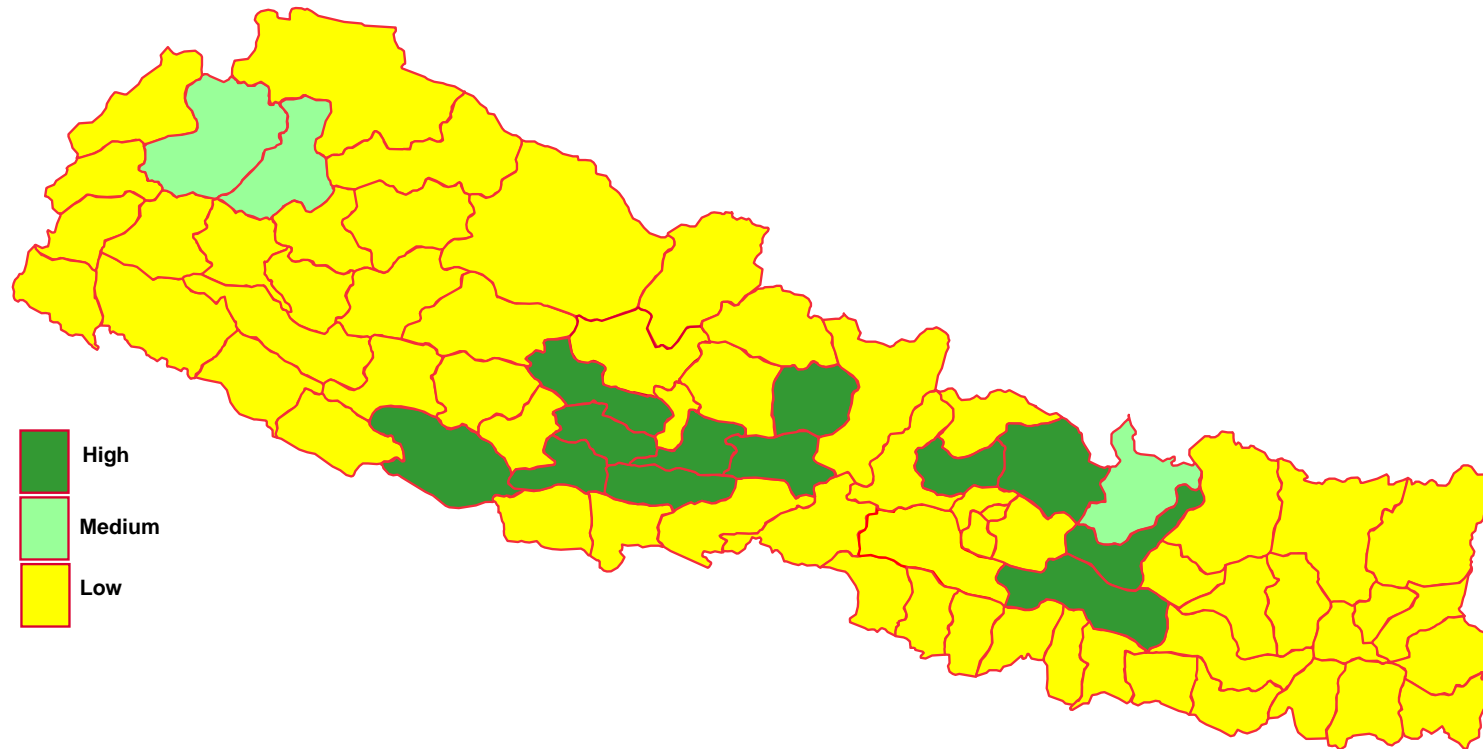


Area under ricebean cultivation based on DADO information

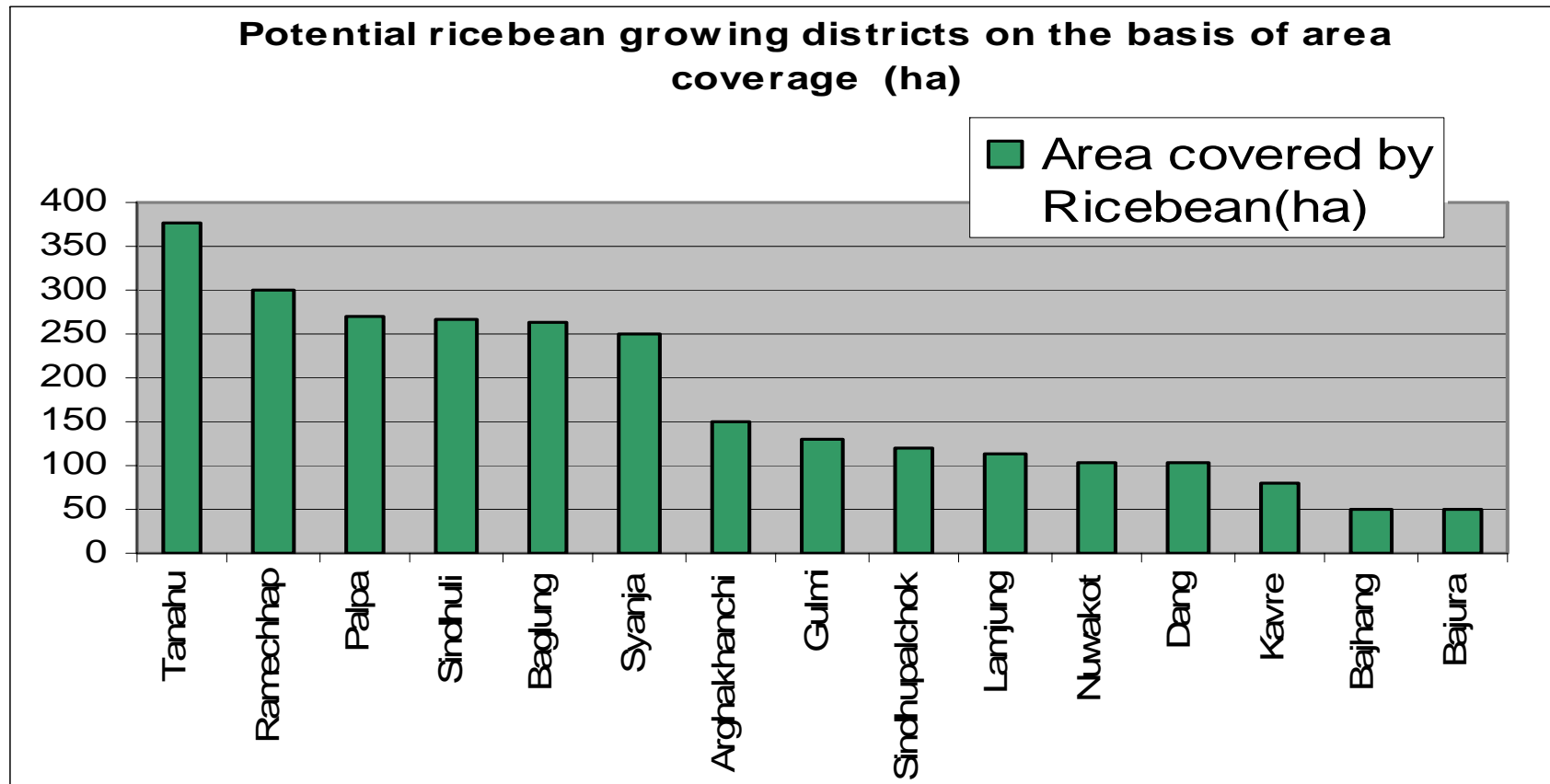
Category	Index	Districts
<40 ha	Low/no coverage	Makawanpur, Pyuthan, Kaski, Dhading, Chitwan, Parbat, Salyan, Gorkha, Illam, Terahathum, Achham, Doti, Dadeldhura, Baitadi, Rolpa All other Terai and High mountain districts (60)
40-90 ha.	Medium	Bajura, Bajhang, Dolakha (3)
>90 ha.	High	Ramechhap, Tanahun, Lamjung, Palpa, Gulmi, Baglung, Dang, Nuwakot, Sindhupalchhok, Syanja, Sindhuli, Arghakhanchi (12)



Distribution of ricebean based on area coverage (DADO information)



Tentative area under ricebean





Ricebean area compared to other legumes in potential districts

- Tahanun has the highest area under ricebean (378 ha, which is 7% of total legume growing areas in the district)
- Ramechhap (300 ha, which is 9% of total legume growing areas in the district)
- Palpa (269 ha, which is 11% of total legume growing areas in the district)
- Baglung (265 ha, which is 24% of total legume growing areas in the district)





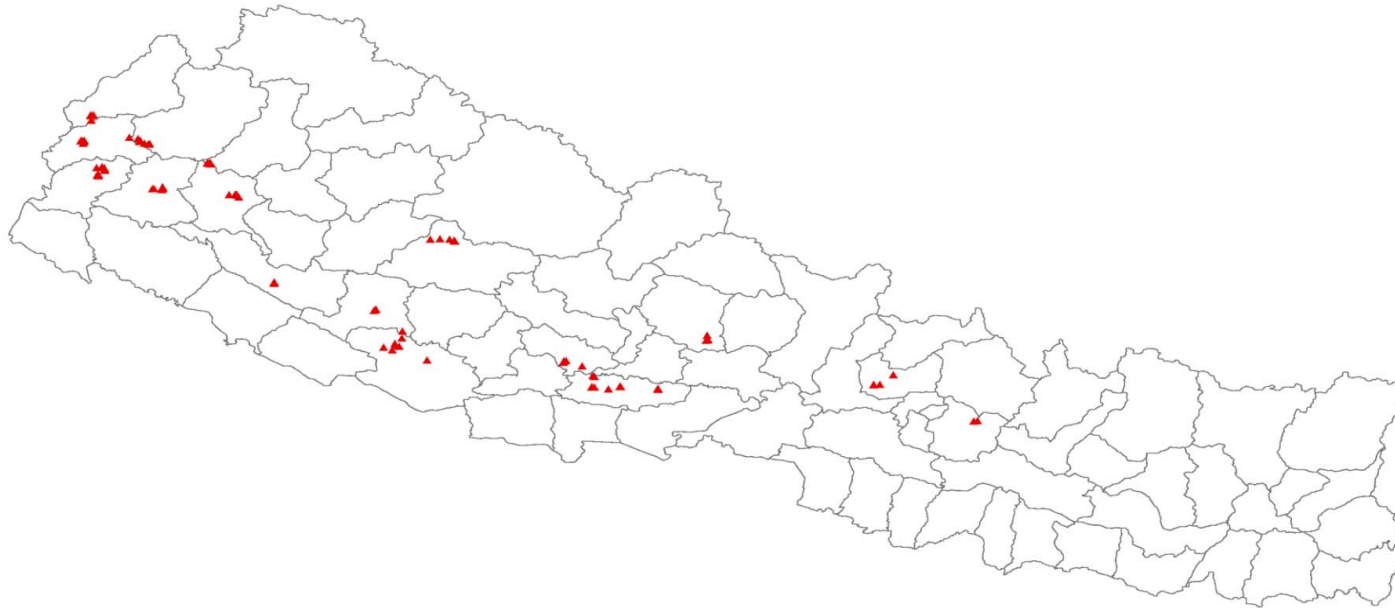
Germplasm collection by FOSRIN in 2006

S.N	Name of districts	No. of accessions	Collected by
1.	Achham, Bajura, Baitadi, Bajhang, Dadeldhura, Doti, Darchula, Surkhet,	71	SUPPORT Foundation
2.	Gulmi, Kaski, Palpa	48	LI-BIRD
3.	Kavre, Nuwakot	17	CAZS-NR/NARC
4.	Dang, Salyan, Pyuthan	20	RAS-Nepal
	Total	156	





Distribution observed based on the GPS information





Result



Distribution of ricebean in India



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Information from literature

- Ricebean mainly grown in Western and Eastern *Ghats* and the NE Himalayas, including Assam, Meghalaya, Mizoram and Manipur; and also grown in Mid hills of Uttarakhand and Himanchal Pradesh
- Wild forms widespread from Kerala through Eastern and Western *Ghats* to Himalayas
- Great diversity exist both in the landraces that farmers are growing and the wild forms



Information from NBPGR

State/ region }	Indigenous collection	Exotic collection	Miscellaneous
Assam	12		
Meghalaya	55		
Mizoram	35	120	16
Manipur	108		
Tripura	1		
Arunachal Pradesh	6		
Bihar	33		
Orissa	40		
North Bengal	50		
Sikkim	42		
<i>Khasi</i> hills, Himachal hills and Western Ghats	12		
Total germplasm	394	120	16
Total diversity collected		530	

Initial germplasm collection assembled in NBPGR, Delhi

Now NBPGR has a collection of >1700 (>2000) accessions





Germplasm collection by FOSRIN in India

- Exploratory visits were made by FOSRIN project staff to ricebean growing areas in Himachal Pradesh (HP), Assam, Manipur, Nagaland, Arunachal Pradesh and Madhya Pradesh to collect germplasm
- 89 accessions from 13 districts in the NE and NW India in 2006, and more in the following years
- All these accessions have shown greater variability





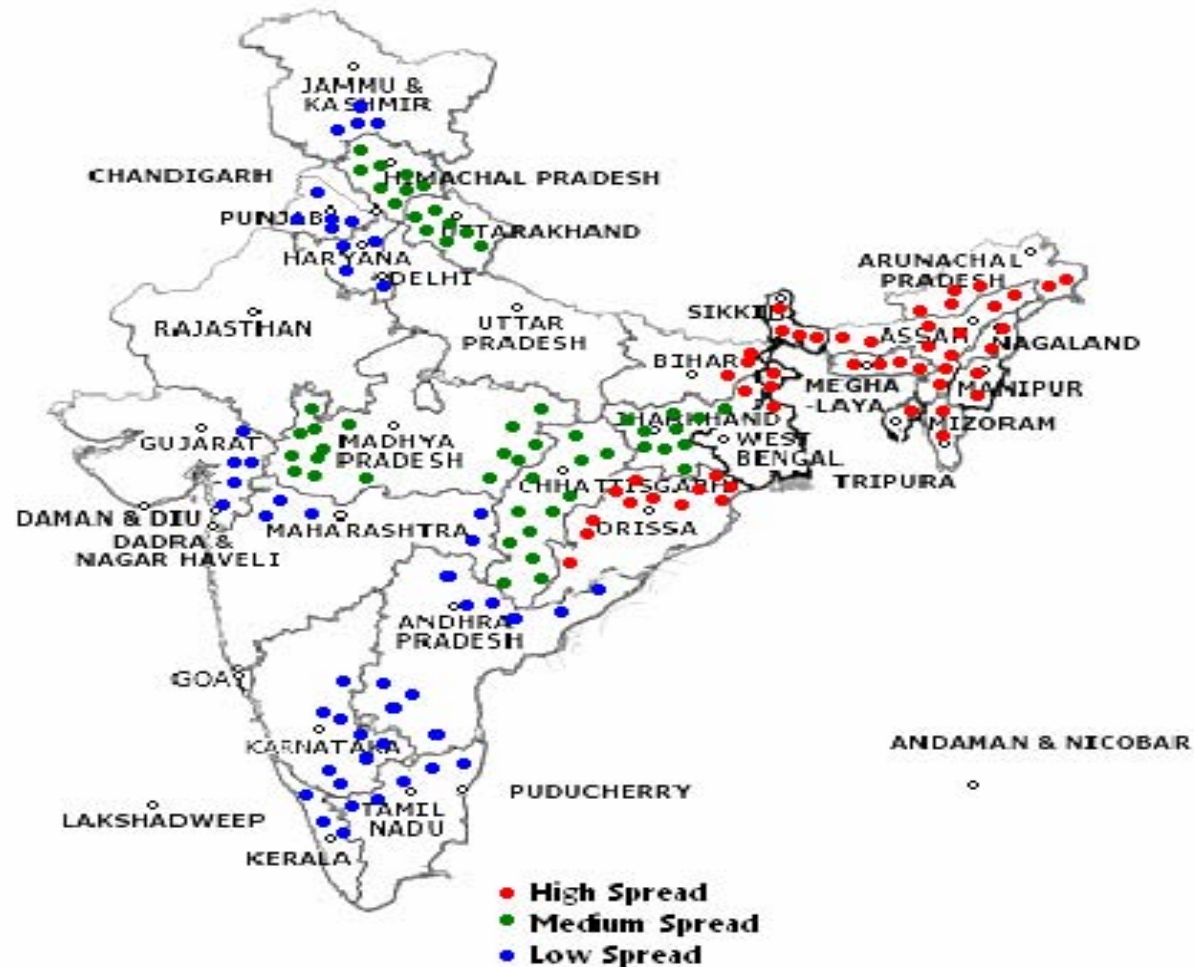
Distribution of ricebean in India

Distribution	States with ricebean
High	Parts of Assam, Meghalaya, Manipur, Nagaland, Mizorum, Arunachal Pradesh, hill regions of North Bengal, Sikkim and Orissa (NE states)
Medium	Himachal Pradesh, Uttrakhand, Chattisgarh, Jharkhand, Madhya Pradesh (NW and Central)
Low	Kerala, Tamil Nadu, Gujrat, Punjab, Maharashtra, Haryana, Jammu & Kashmir , Karnataka , Andhra Pradesh, Andaman and Nicobar Islands



Distribution of ricebean in India

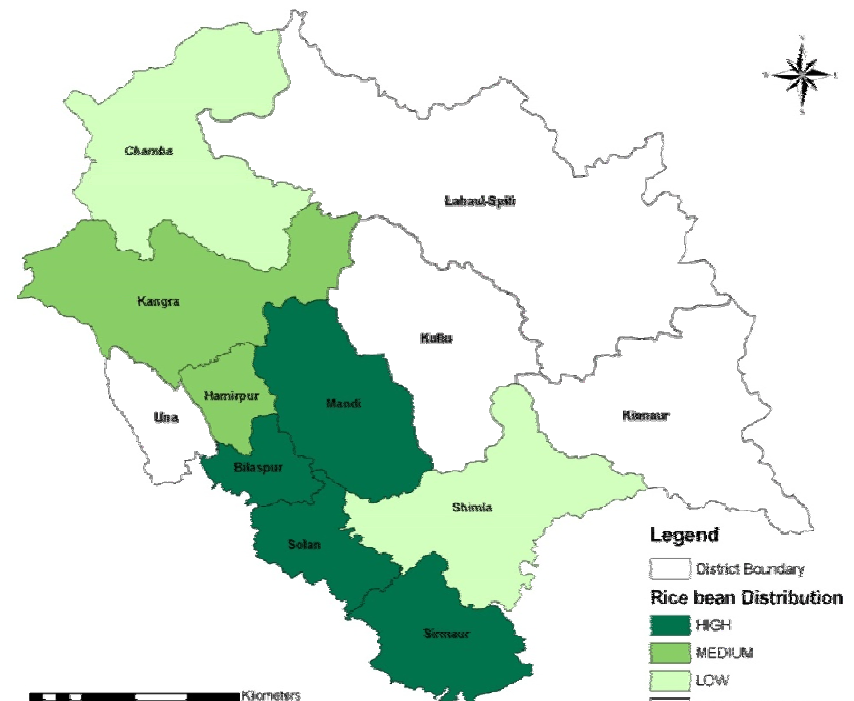
- Low in S and E, and NW plains (Punjab and Haryana)
- Reported to some extent in all states except Rajasthan



Distribution of ricebean in HP

Uneven distribution within the states

Category	Districts
High coverage	Solan, Mandi, Sirmour, Bilaspur
Medium coverage	Hamirpur, Kangra
Low coverage	Chamba, Simla





Distribution of ricebean in Uttarakhand

Category	Districts
High coverage	Tihari, Garhwal
Medium coverage	Kumaon
Low coverage	Nainital, Almora





Conclusion

Nepal

- The main ecology of ricebean crop in Nepal is the hills.
- The area under ricebean is more in Western Development Region as compared to other parts of the country

India

- Ricebean distribution is high in NE, medium in NW and Central and low in the other states in South and West





Thank you



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