



In Situ Conservation of Traditional Rice Varieties of Uttara Kannada

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INTRODUCTION

- Rice is an economically important food-crop. It feeds nearly half the world's population and accounts for more than 50% of their daily calorie intake (Maclean et al. 2002).
- The world is losing genetic diversity of rice
- Major reason for this loss is the steady replacement of native varieties with high-yielding new varieties in large scale.
- India: Land of genetic diversity of rice (100,000 local varieties) and about 90% are feared to be lost

IMPORTANCE OF TRADITIONAL VARIETIES

- ✓ High diversity at genetic level.
- ✓ Diverse qualities for rice- height of plant, colour, size, aroma, maturity and habitat.
- ✓ More fodder (5-7 ft height unlike new dwarf varieties).
- ✓ Disease, pest, drought and flood resistance more.

OBJECTIVES

- To trace out traditional varieties existing in Uttara Kannada
- To find out their special characters
- To estimate number of traditional varieties in the district using field survey and regression analysis for prediction of expected number in the district

RESULTS AND DISCUSSION

Altogether, a total of 181 rice varieties were inventoried from 232 villages, during this survey. Of these, 101 varieties were traditional ones; 80 were new varieties, considered high yielding.

Taluk-wise numbers found and numbers expected are presented in the table 1

HABITAT SPECIALIZATIONS

- For flood tolerance Eg: Neermulka; Mysore mallige;
- Salinity tolerance Eg: Bili-kagga; Kari-kagga.
- Drought tolerance Eg: Jedd Kemp; One-kaddi.
- Variable maturity periods: Halga, Jeddubatha (90 -100 days); Dibnasala, Bantwala (100 -120 days); Hegge, Aloorusanna (120 -140 days)

Figure 1: Map of Uttara Kannada district with 11 taluks

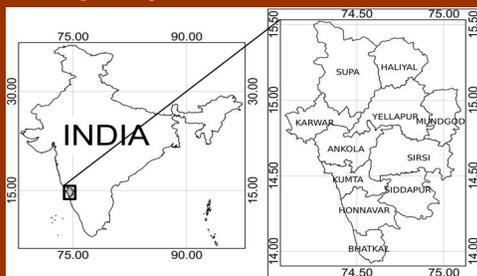


Figure 2: Trends of diverse traditional rice varieties in Uttara Kannada

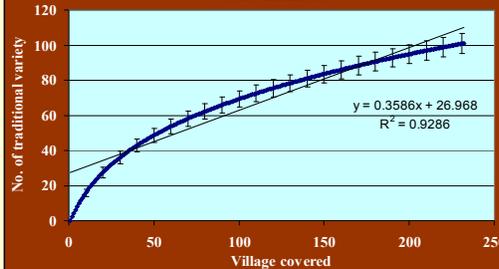


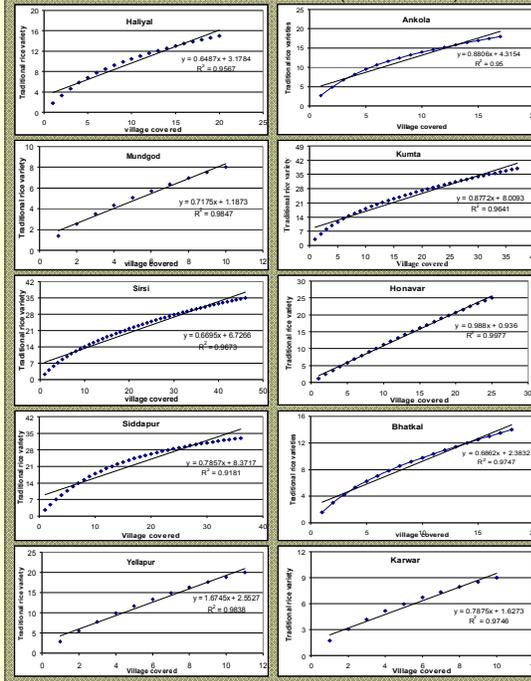
Table 1: Traditional rice varieties with expected varieties in 11 taluks of Uttara Kannada

Taluku	Village covered	Rice varieties		Total varieties encountered	Expected traditional varieties
		Traditional	New varieties		
Total	232	101	80	181	492
Ankola	17	18	14	32	81
Bhatkal	16	14	15	29	45
Haliyal	20	15	12	27	92
Honnavar	21	25	15	40	93
Joida	2	1	10	11	-
Karwar	11	9	10	19	45
Kumta	42	39	17	56	112
Mundgod	10	8	10	18	68
Sirsi	45	35	28	63	155
Yellapur	11	20	13	34	218
Siddapura	36	33	34	67	165

Some traditional rice varieties in Uttara Kannada



Figure 3: Village-wise diversity sampling trends regarding traditional rice varieties in 10 taluks of Uttara Kannada (after rarefaction)



CONCLUSIONS

- ✓ High landscape heterogeneity and strong in agriculture traditions make Uttara Kannada a stronghold of genetic diversity of rice and other crops
- ✓ The gene pool of rice was neglected all the while and even the agriculture department does not maintain data on local varieties
- ✓ Widespread introduction of dwarfish new varieties, considered high yielding, is a major threat to rice gene-pool.
- ✓ New varieties are susceptible to high disease and pest attacks and marginally high yield is often eclipsed by these drawbacks
- ✓ Introduction of new varieties has caused fodder crisis in the district which is adversely affecting milk production and availability of cattle dung for manure
- ✓ We have predicted using the sample survey method and regression analysis the talukwise numbers of local varieties available in Uttara Kannada; with nearly 500 expected varieties