CGIAR | RESEARCH PROGRAM ON Rice

Understanding Gendered Varietal Trait Preferences: Case of Stress Tolerant Rice in Odisha

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Why understand gendered trait preferences?

- To inform gender-responsive breeding priorities and investment decisions

- Sets of traits that women and men value and desire in the Rice varieties they grow could be different
  - Producers
  - Consumers
  - Other value chain actors

- We will not be developing separate varieties for men and women, but varieties that include preferred traits of both women and men

- We cannot breed for the large number of diverse traits that women and men prefer, but ensure the 'must have' traits for both are included
  - And also ensure the not-so desirable traits which might affect them negatively are managed (e.g., requiring high labour or costs etc)

Do men and women prefer different traits?

A very broad generalisation based on a review of literature (across all crops, agro-ecologies and regions) says:

-overall men focus more on production and marketing related traits

-women on production and use (post harvest and food preparation) related traits

However, when they face similar constraints (mostly production and agro-ecological) they tended to mention similar preferences

Very few studies conducted and published focused on Asia (13%) and fewer on Rice

Are there specific traits that women prefer?

There seem to be

- Based on their roles on the farm and in the household

  - e.g, yield, cooking quality, ease of manual threshing, straw quality and quantity, storability, grain characteristics, losses, by-products

- Related to family food security
  - Earliness, multiple harvests, production in unfavourable conditions (bad years, poor soil conditions)

- Production goals
  - Whether producing for home consumption or market

- Based on their resource access

  - e.g, land holding, labour availability

Data from PVS

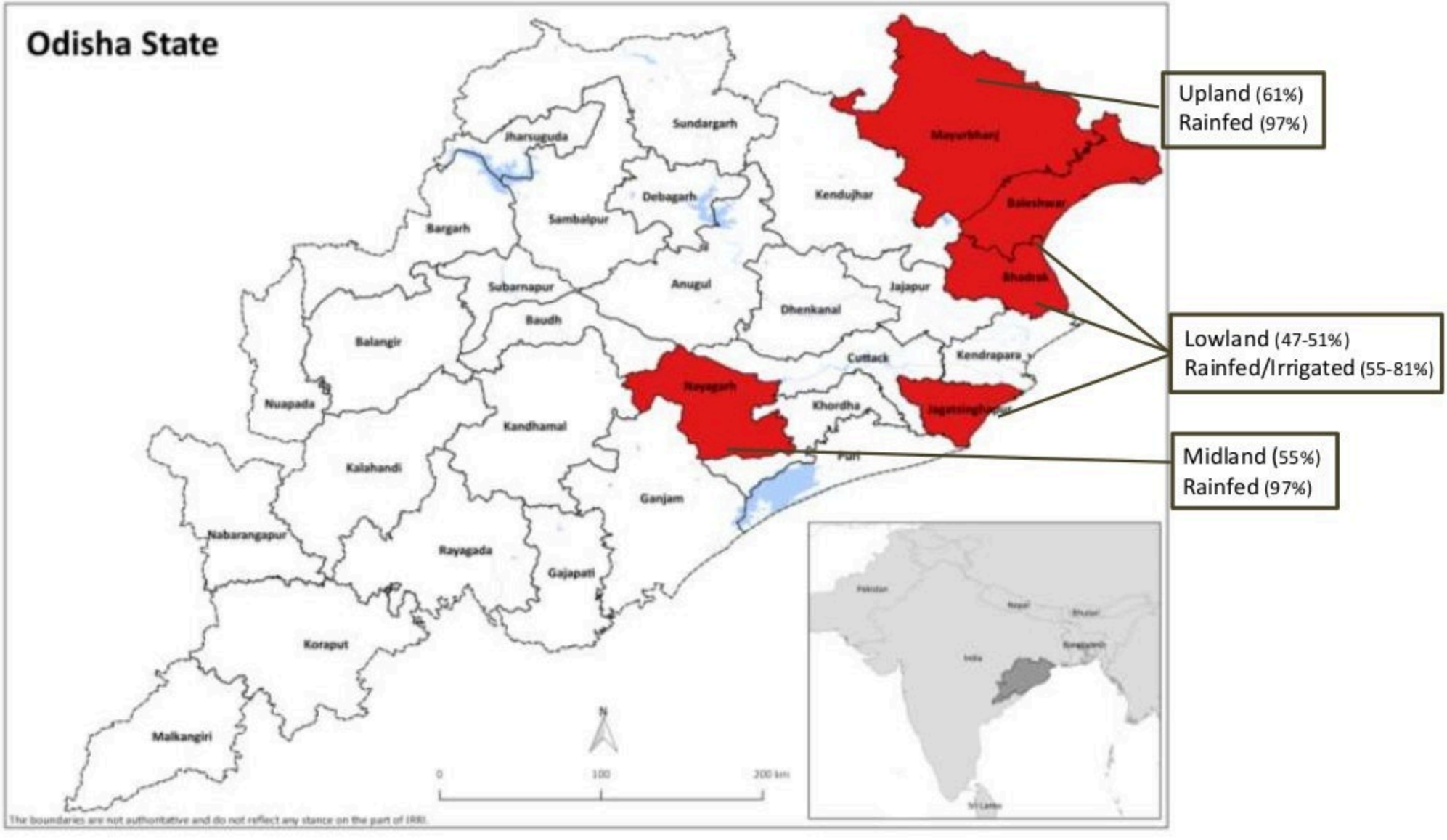
Table 1. Rice trait preferences by gender in India, 2008.

Traits	Submergence			Salinity/sodicity		
	Mean rank		*P* value	Mean rank		*P* value
	Males	Females		Males	Females	
Grain characteristics	6.35	6.59	0.230	6.25	6.57	0.008***
Agronomic characteristics	8.10	7.62	0.000***	6.21	6.00	0.235
Maturity	6.28	6.21	0.781	7.10	6.41	0.005***
Management considerations	6.17	6.06	0.540	6.53	6.63	0.713
Harvest and postharvest quality	5.82	6.11	0.012**	8.00	8.34	0.058**
Raw milled rice characteristics	6.19	6.06	0.105	6.64	6.95	0.102
Cooking and eating quality	6.63	7.15	0.000***	6.86	7.02	0.256
Grain yield (tons/ha)	8.51	8.35	0.002***	8.14	8.27	0.007***
Marketability	6.10	5.92	0.006***	7.41	6.97	0.003***

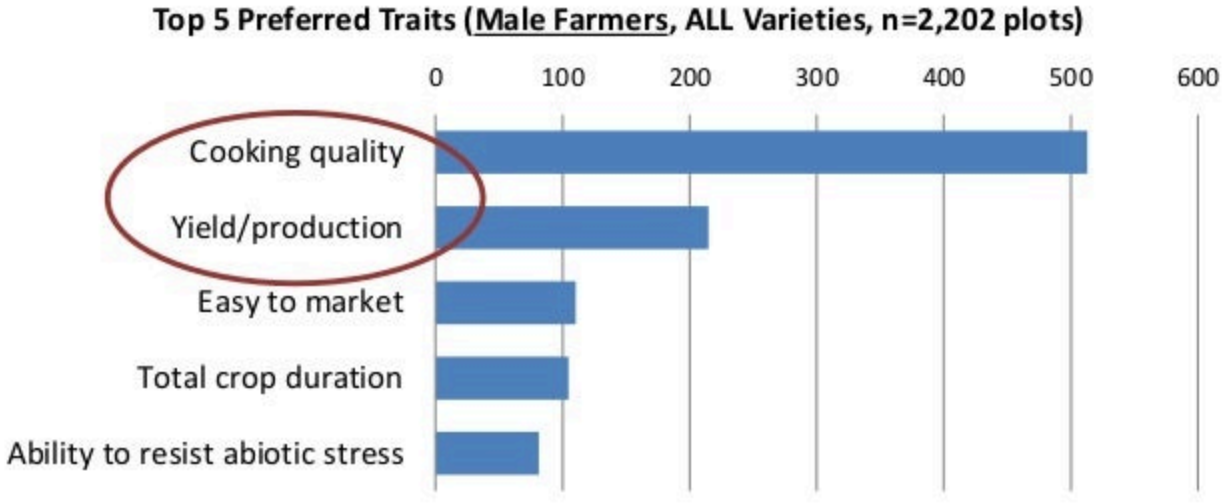
*= significant at 10%, ** = significant at 5%, *** = significant at 1%.

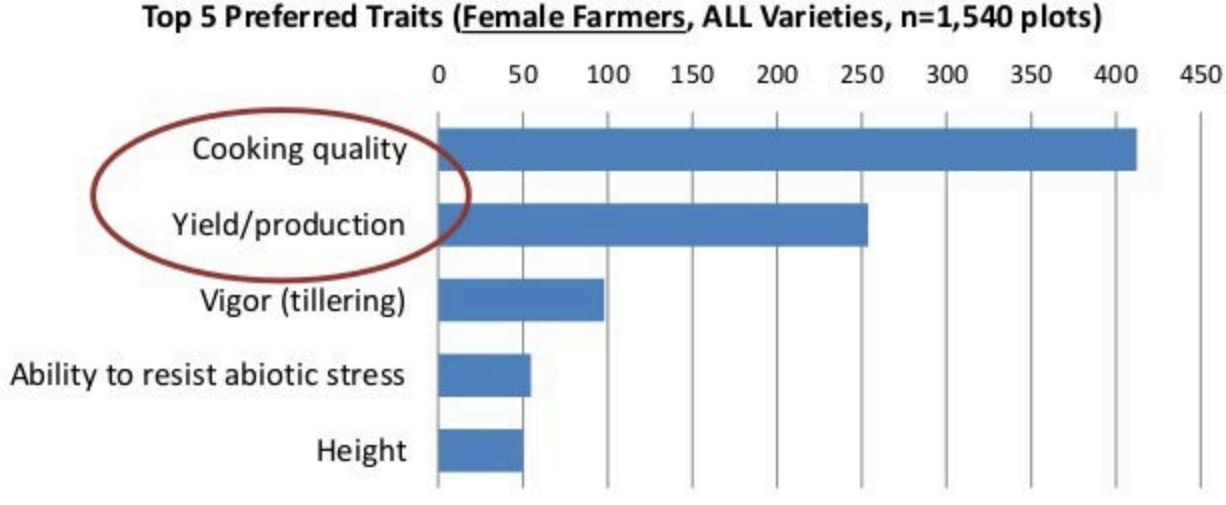
Source: Household baseline survey, India, 2008.

Note: Wilcoxon analysis is for India only because of insufficient data for statistical analysis for Nepal and Bangladesh.


Odisha State
Upland (61%)
Rainfed (97%)
Lowland (47-51%)
Rainfed/Irrigated (55-81%)
Midland (55%)
Rainfed (97%)
Mayurbhanj
Baleshwar
Bhadrak
Jajapur
Kendujhar
Sundargarh
Jharsuguda
Debagarh
Sambalpur
Bargarh
Subarnapur
Anugul
Dhenkanal
Baudh
Balangir
Cuttack
Kendrapara
Nuapada
Khordha
Kandhamal
Kalahandi
Ganjam
Nabarangapur
Rayagada
Gajapati
Koraput
Malkangiri
0
100
200 km
The boundaries are not authoritative and do not reflect any stance on the part of IRRI.

Preferred Traits – Sex-disaggregated



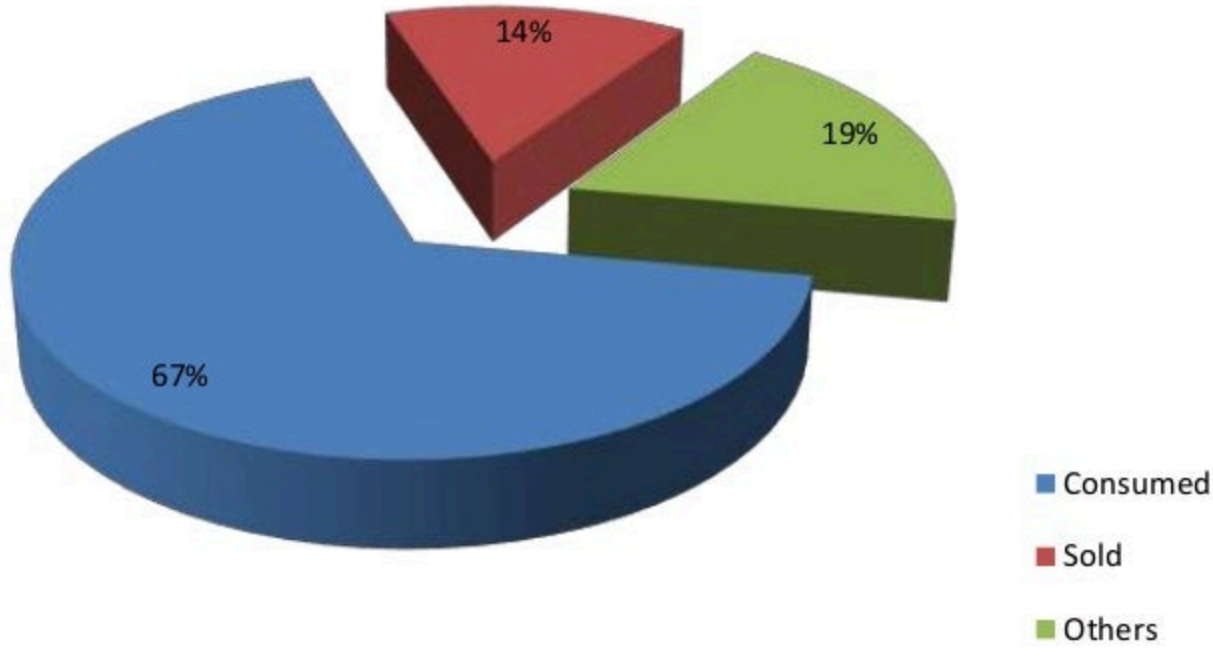


Other factors influencing trait preferences

- Poverty
- Caste
- Location – vulnerability due to abiotic stresses faced

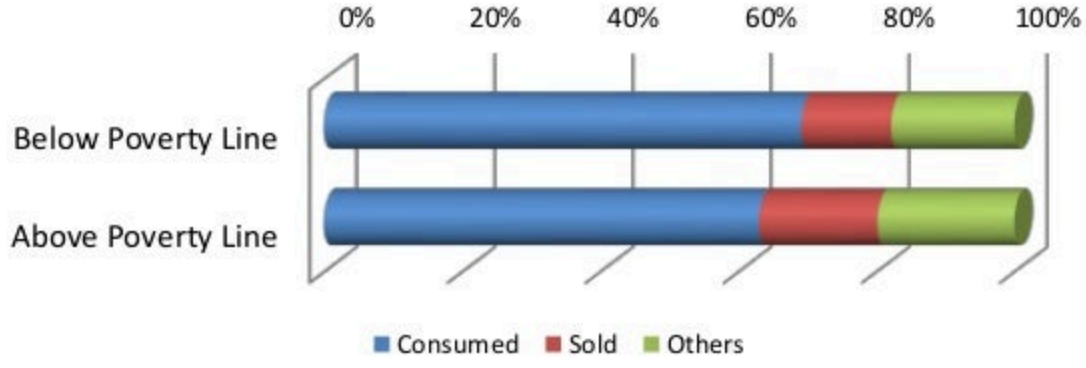
- Production purpose
- Seed source
- Family labour participation
- Access to information
- Social networks
- Intra-household decision making

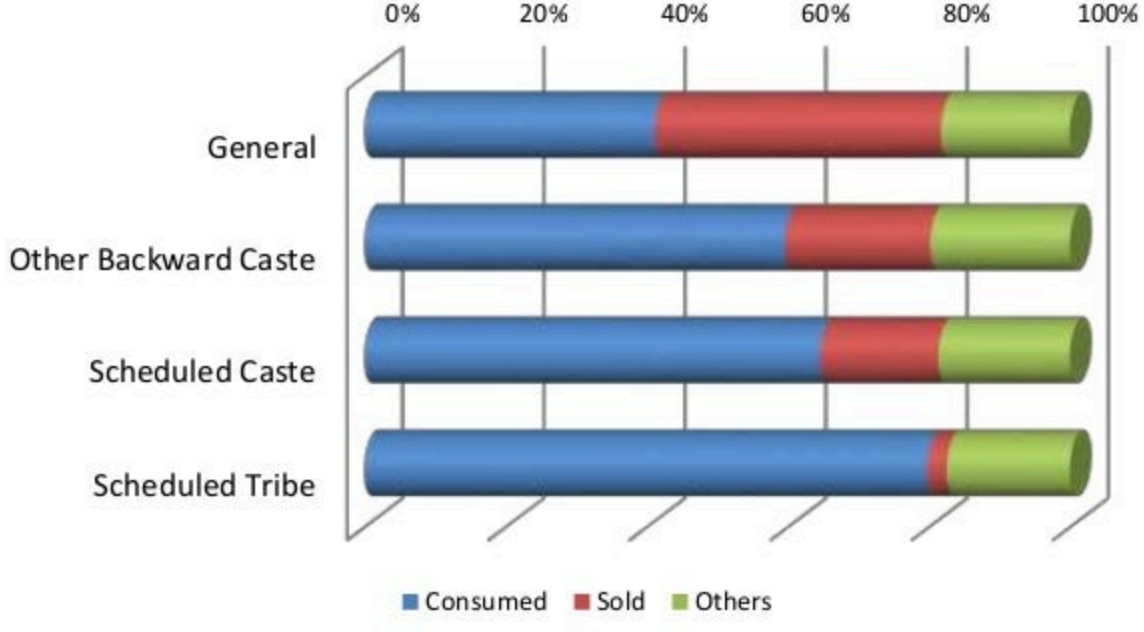
Utilization of Rice Produced



More than 2/3 of households have a landholding of 0.5-2 acres

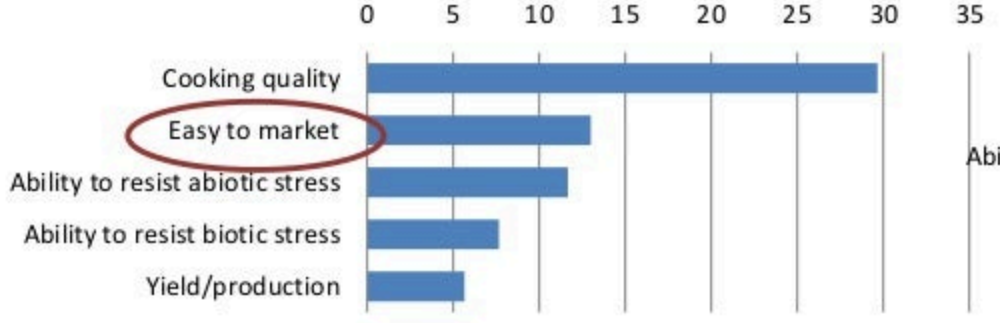
Utilization of Rice Produced – poverty and caste



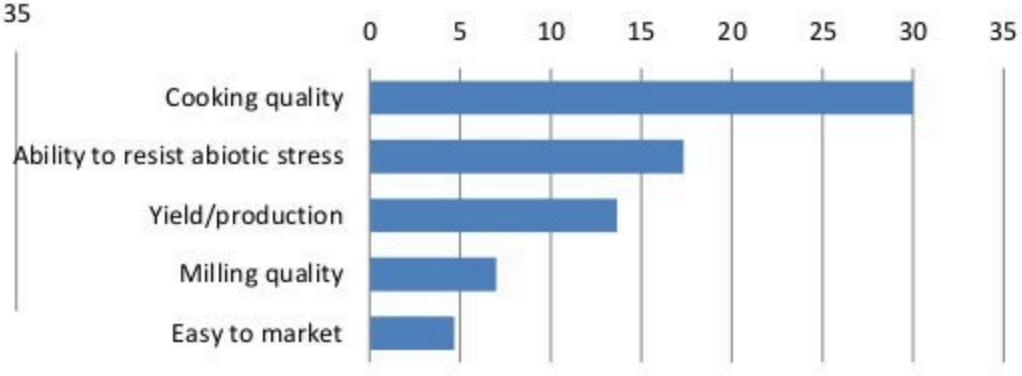


Preferred Traits – Caste

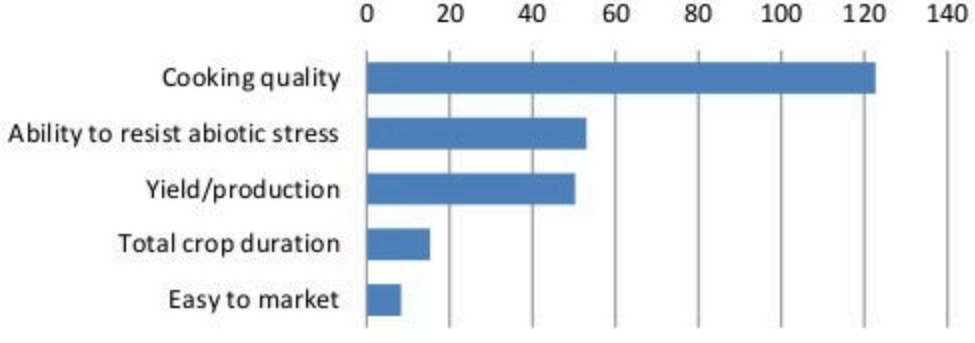
Top 5 Preferred Traits (General, STRV Varieties, n=95 plots)



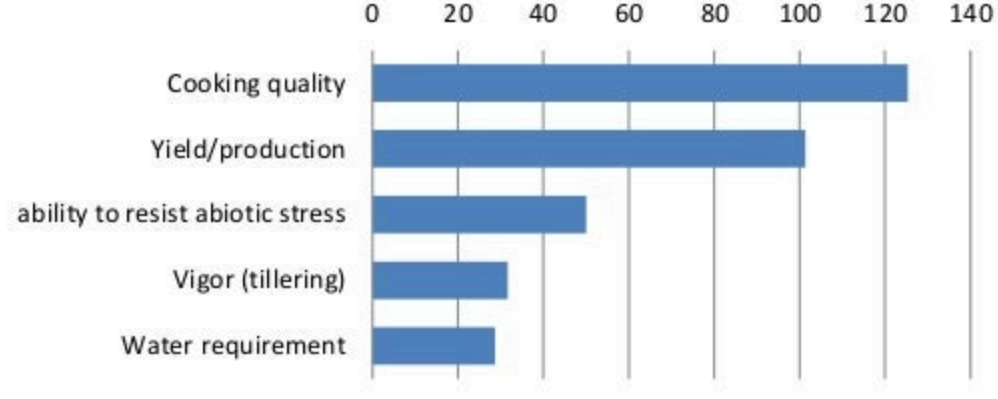
Top 5 Preferred Traits (S.Caste, STRV Varieties, n=94 plots)



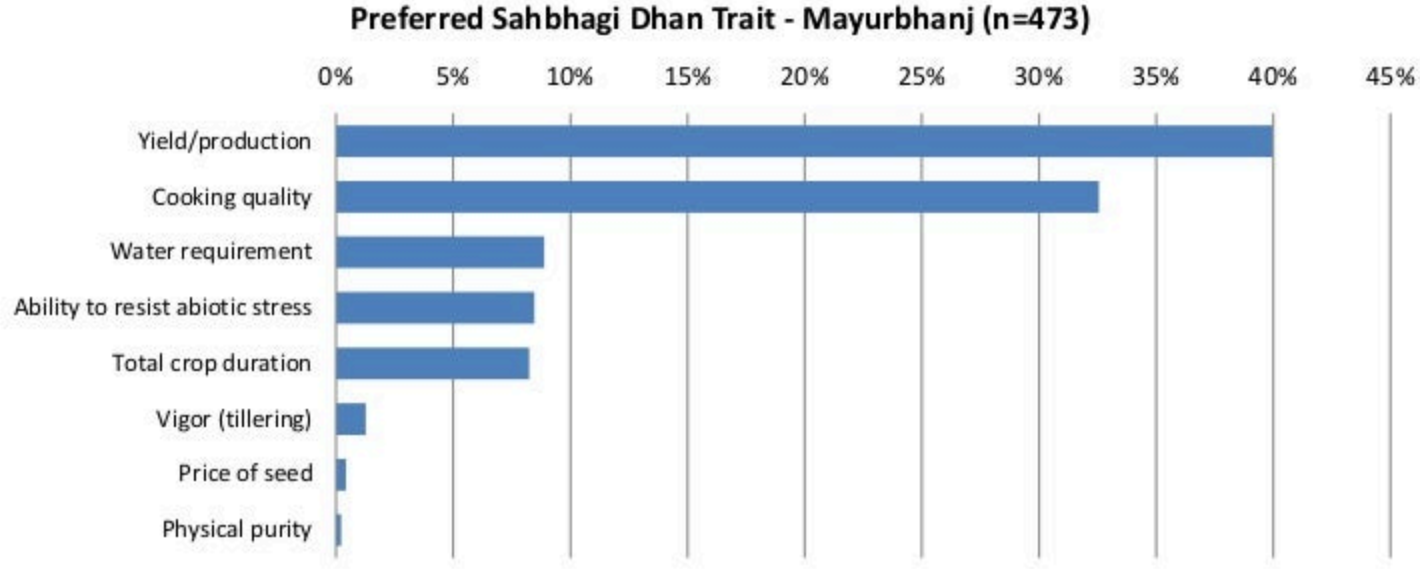
Top 5 Preferred Traits (OBC, STRV Varieties, n=388 plots)

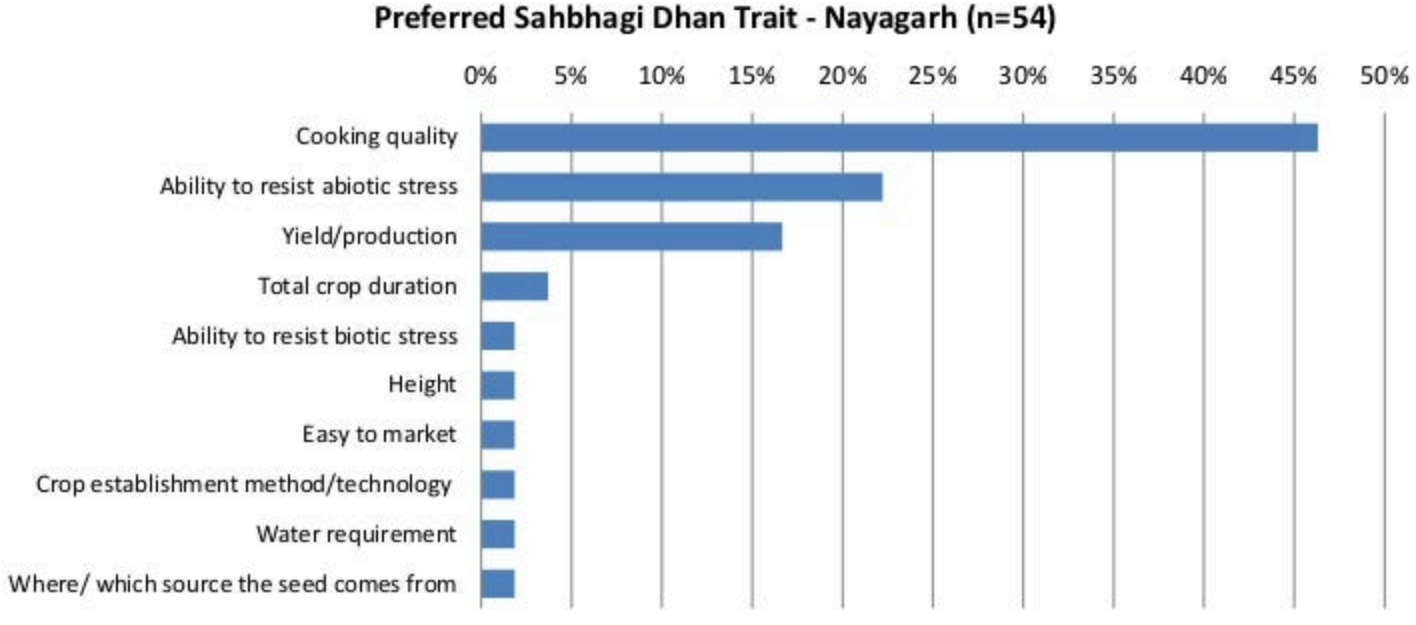


Top 5 Preferred Traits (S.Tribe, STRV Varieties, n=481 plots)

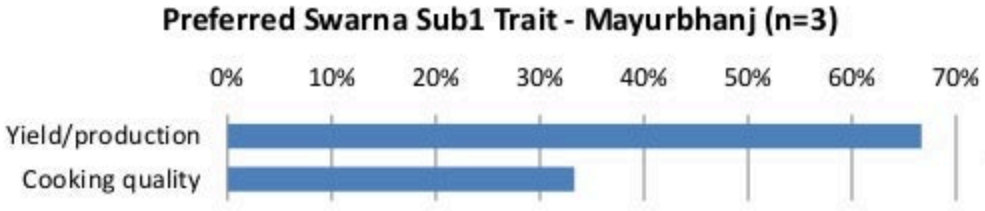


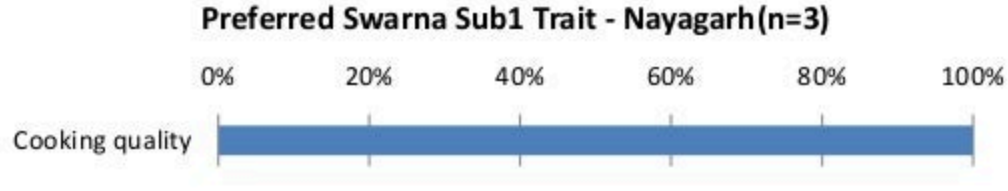
Preferred Traits by location – Sahbhagi Dhan

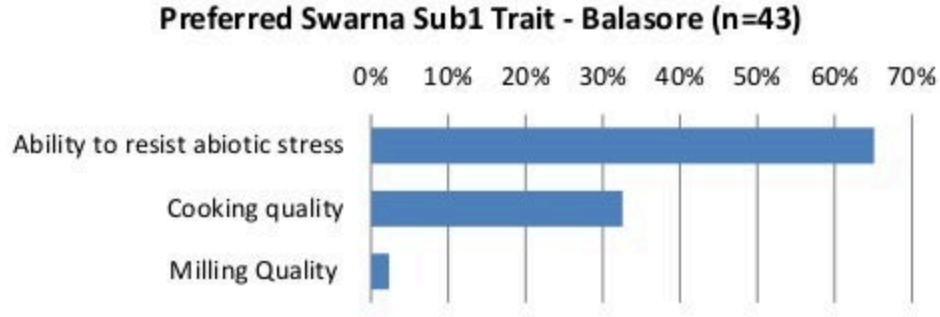


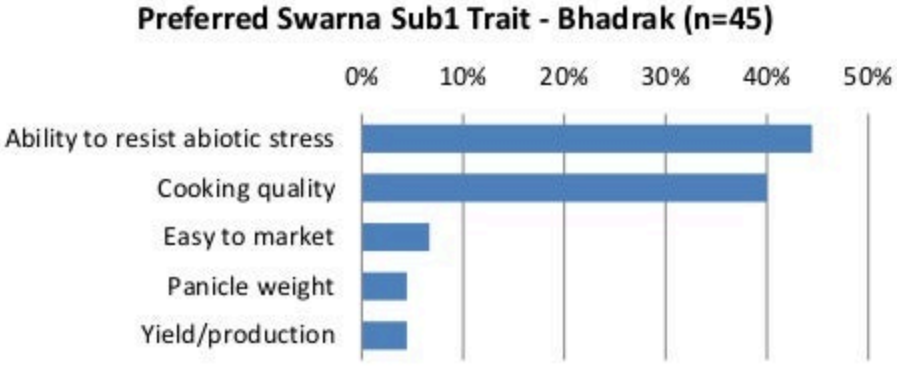


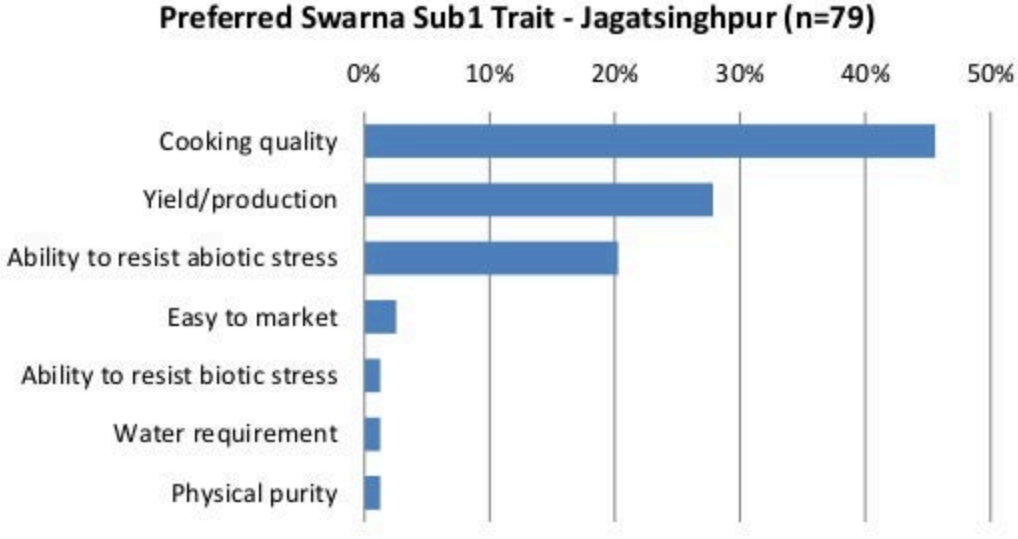
Preferred Traits by location – Swarna Sub1



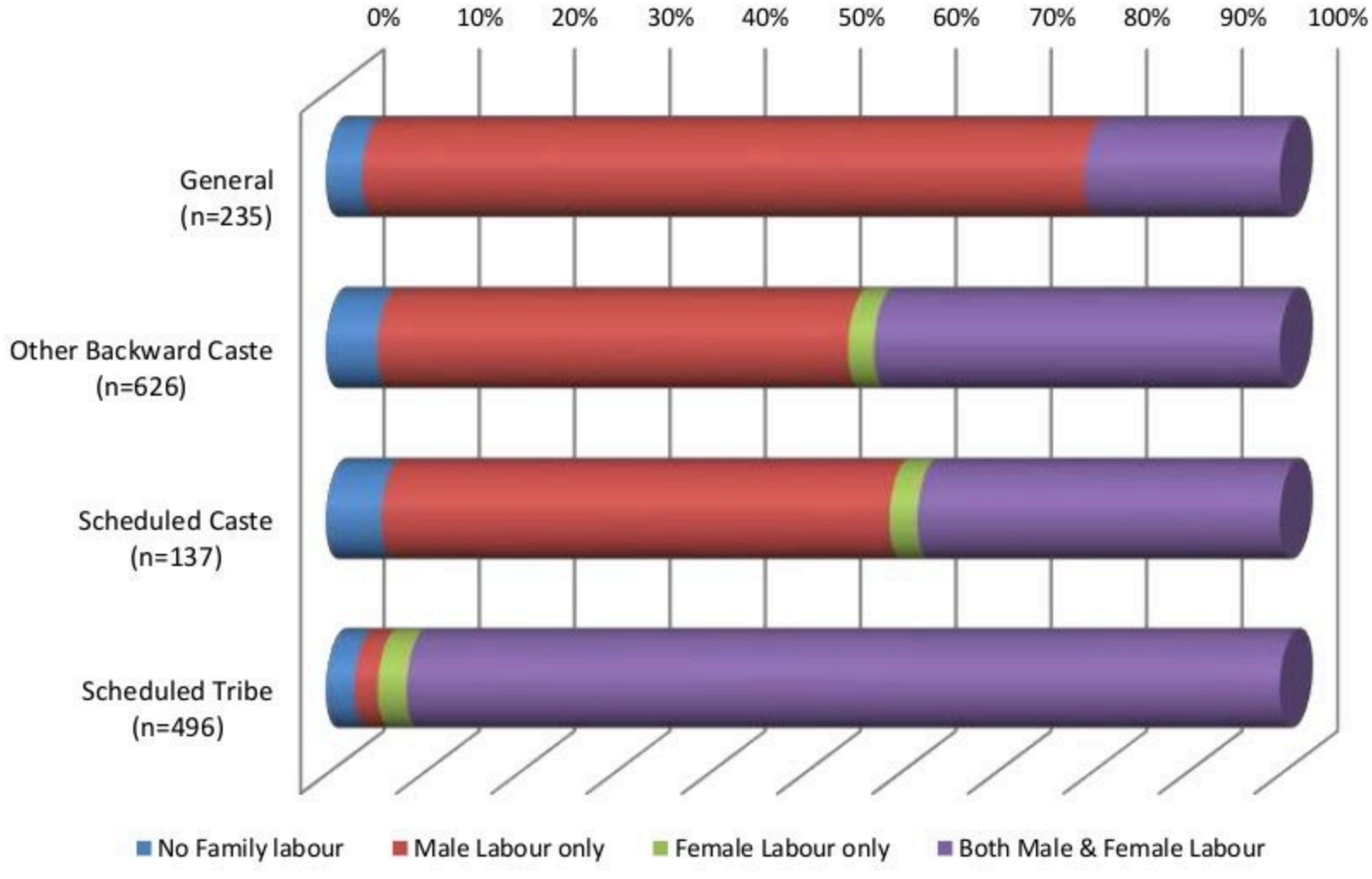




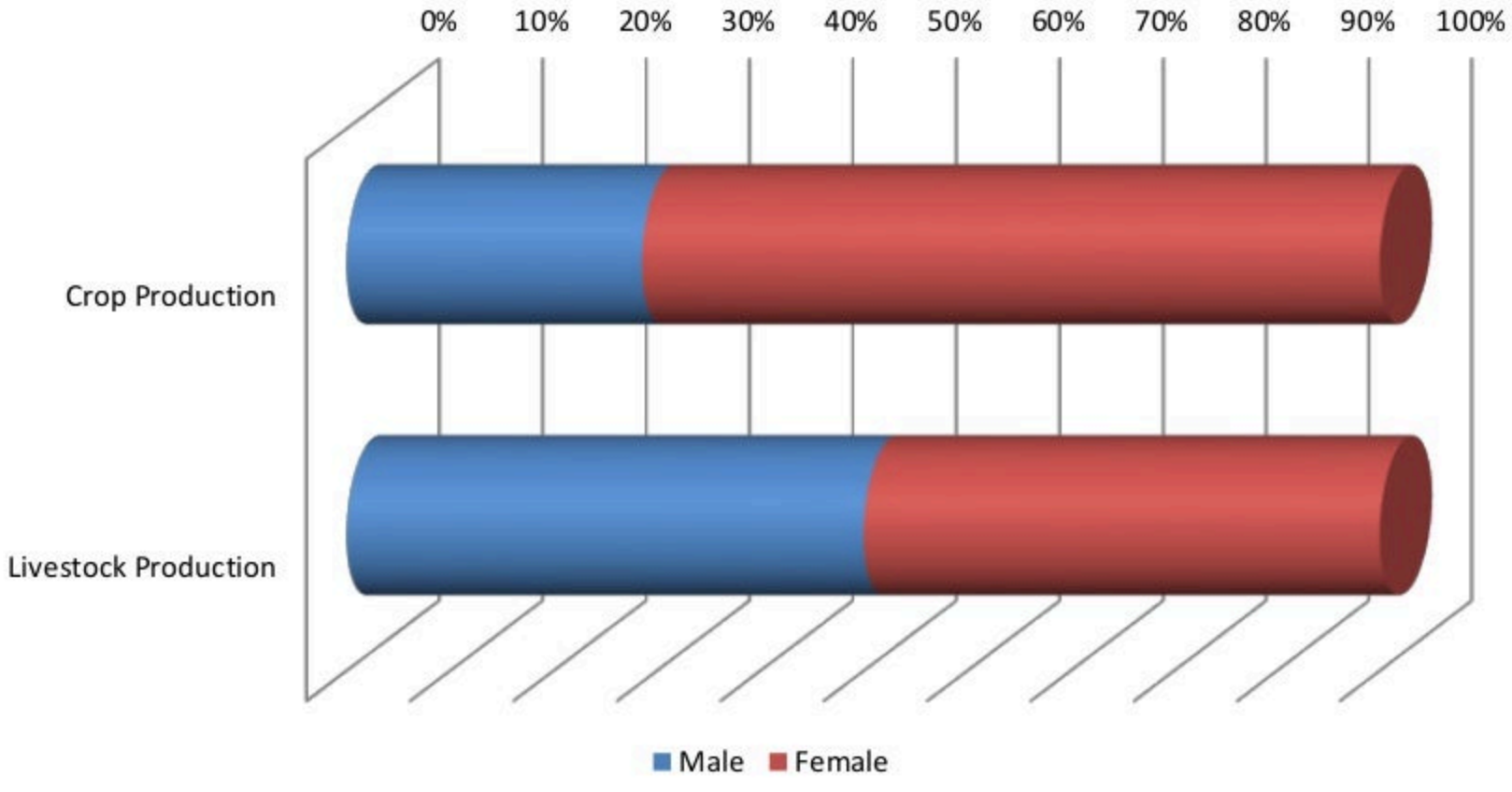




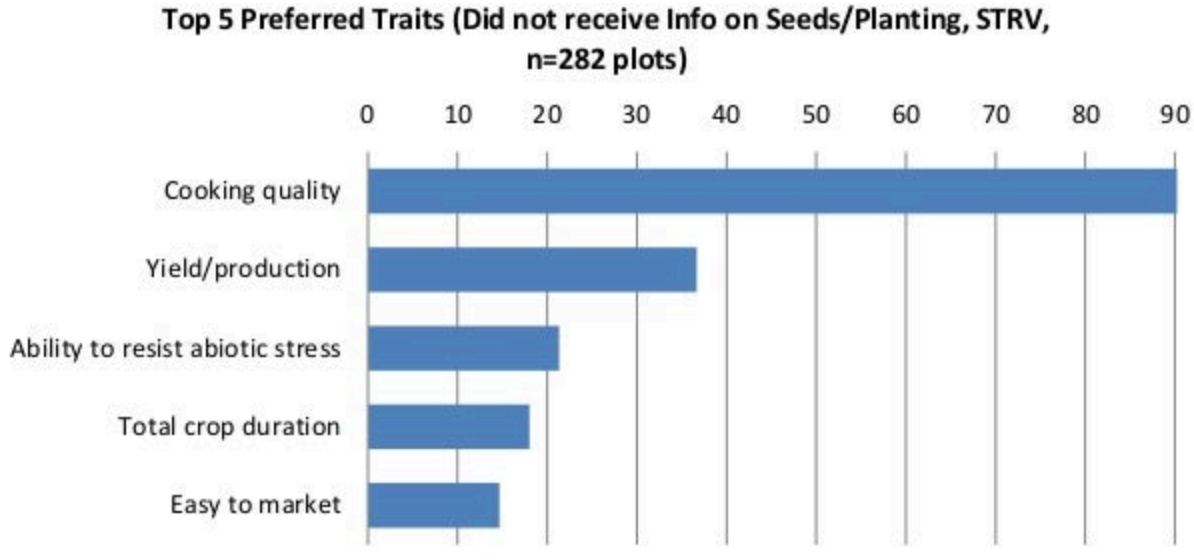
Family Labour Participation by Caste



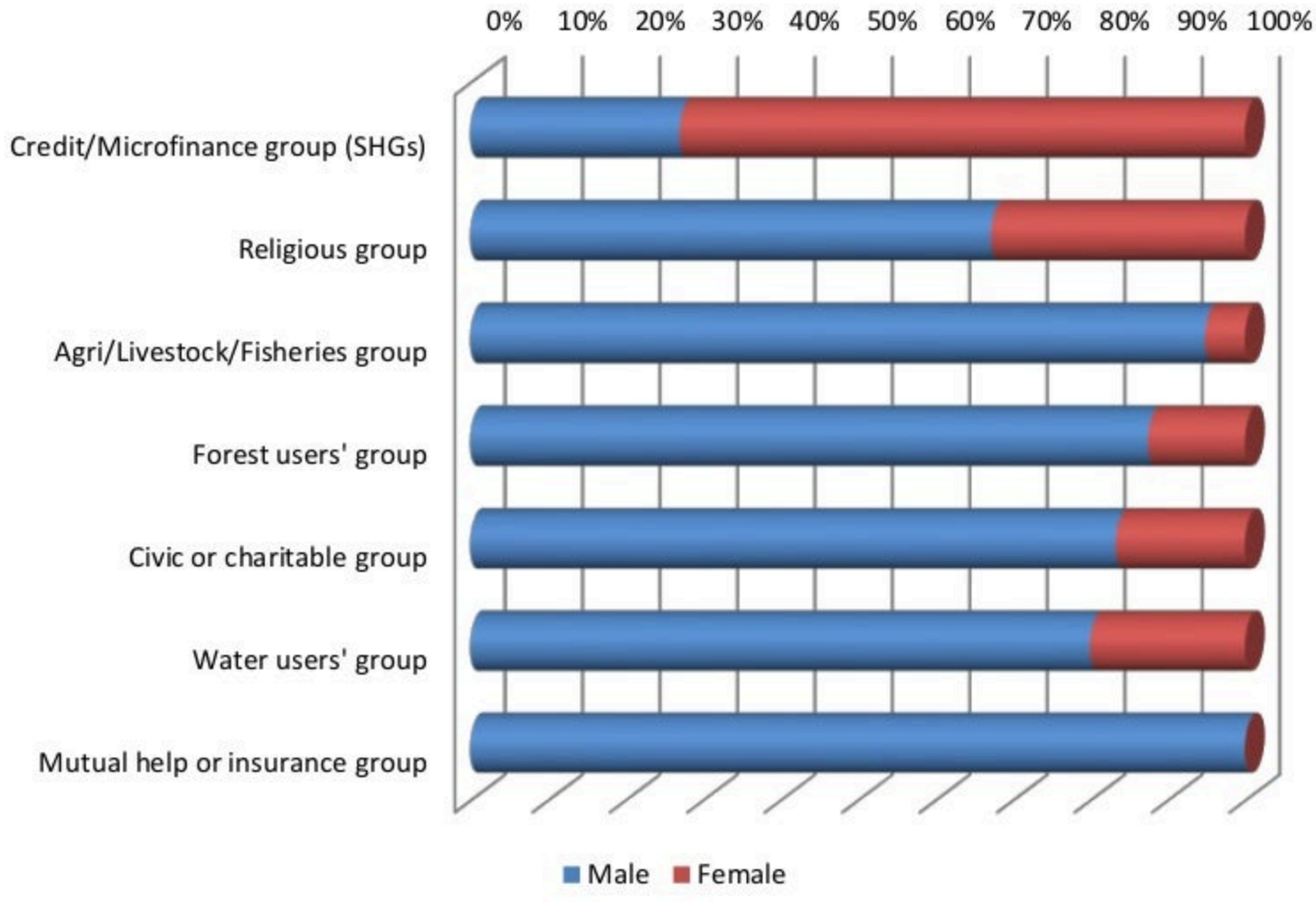
Access to information/knowledge



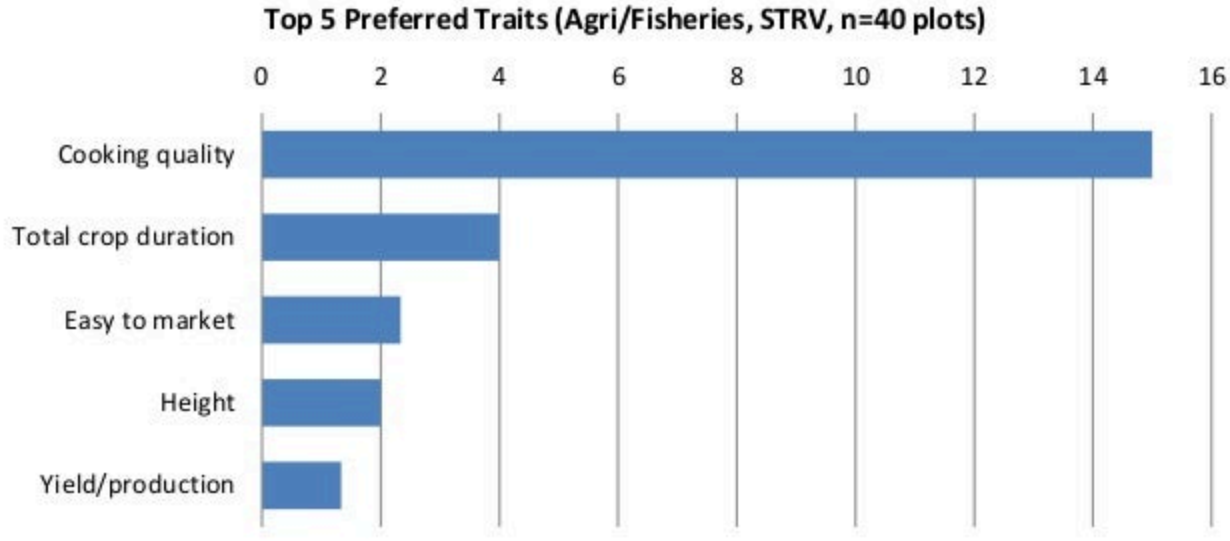
Influence of information on trait preferences

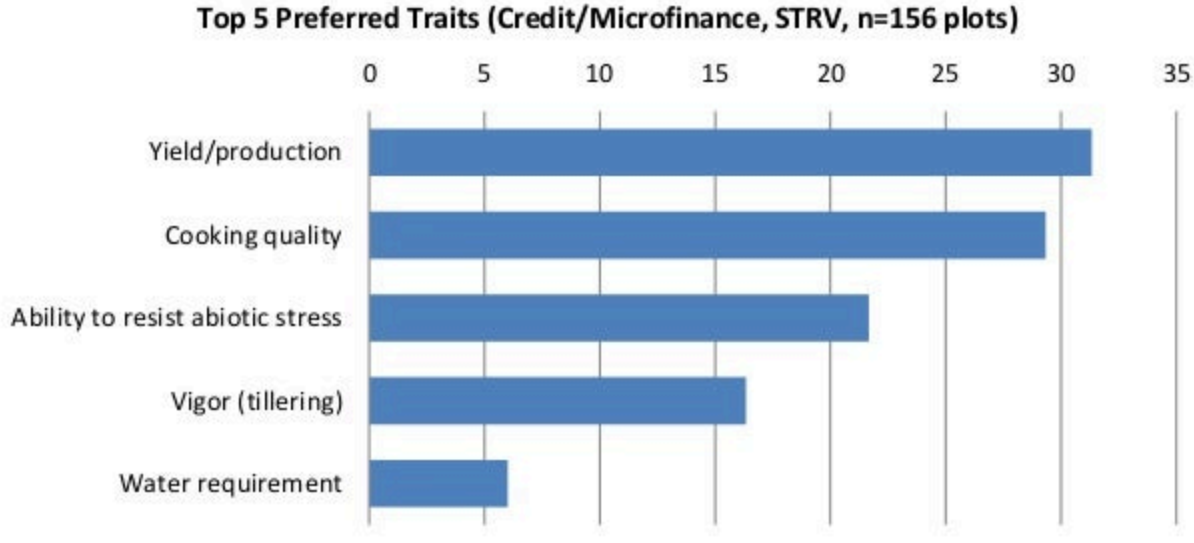


Group Membership

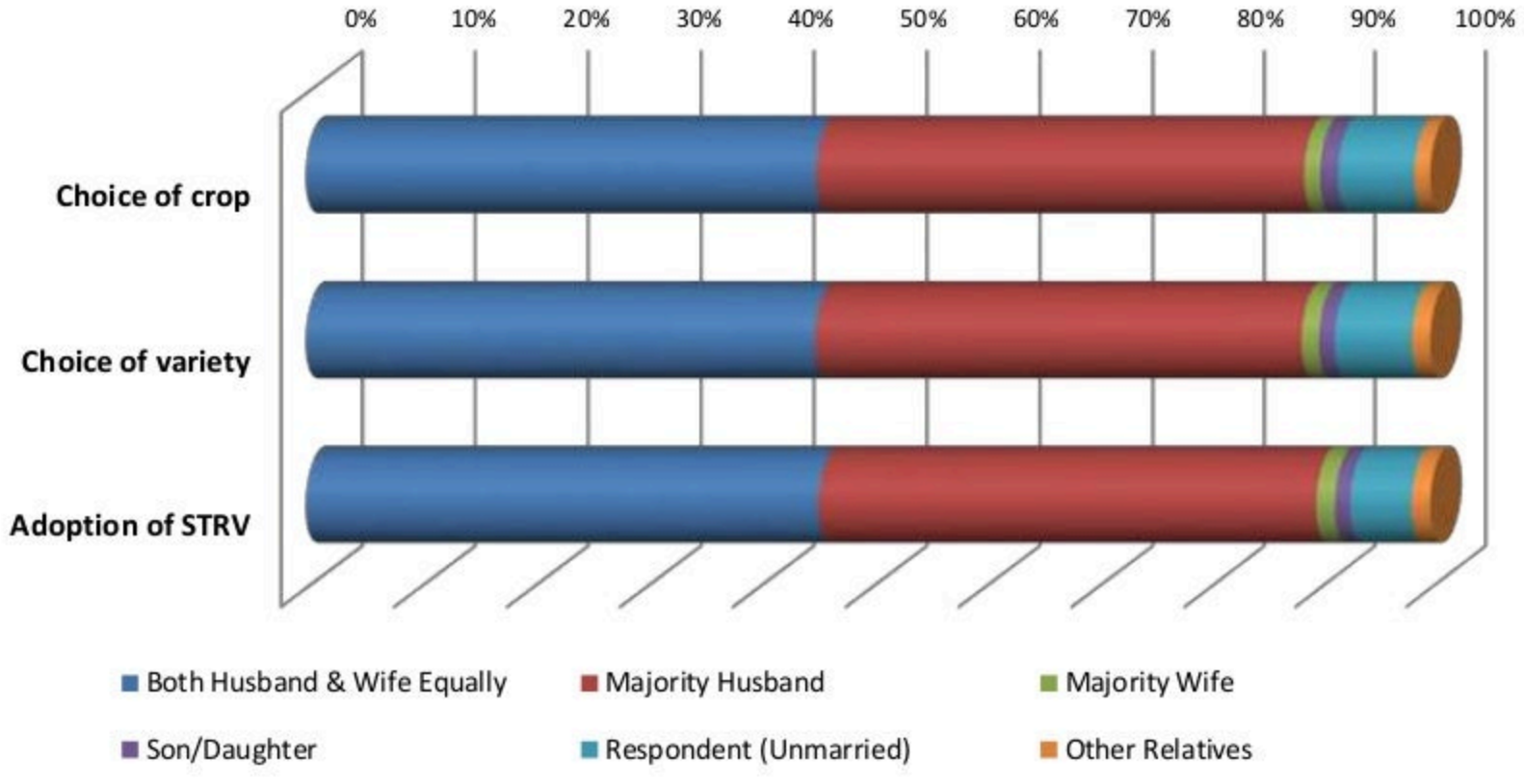


Trait preferences and Group participation

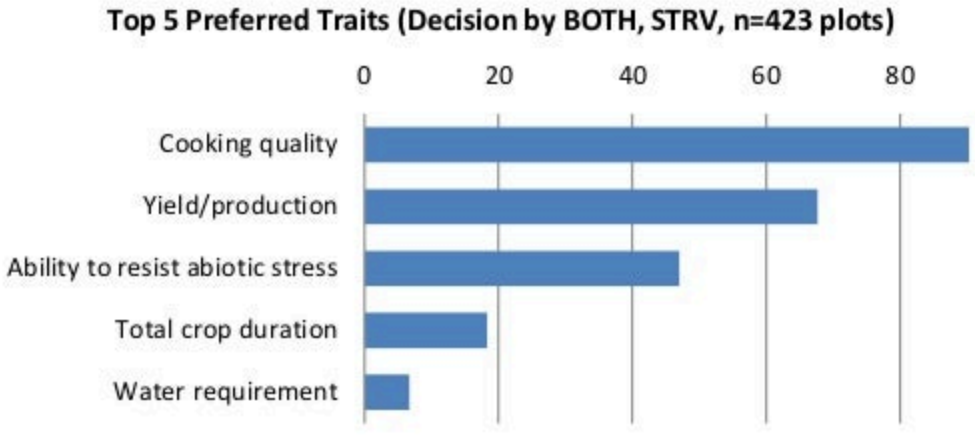


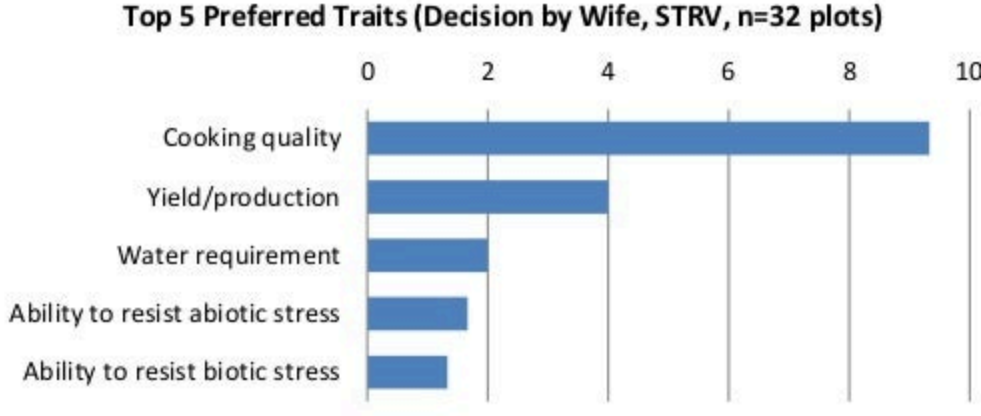


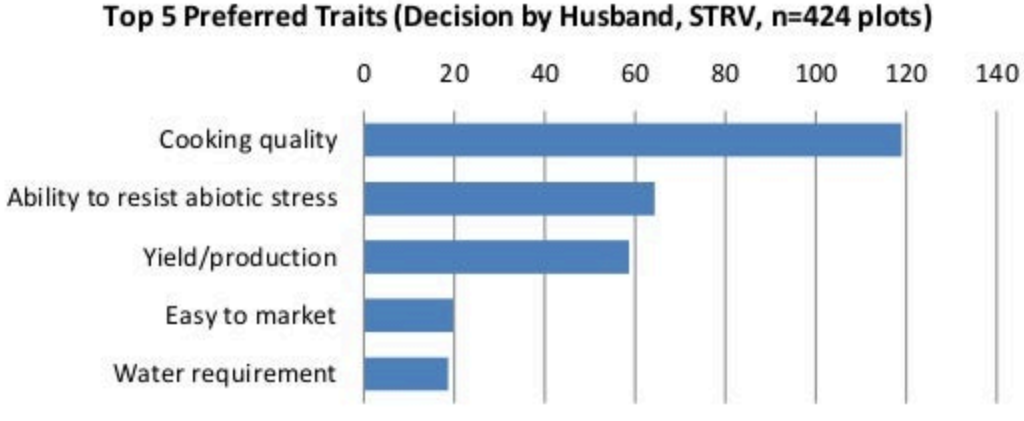
Intra-household Decision-making



Trait preferences and decision-making







Food for thought..

- What transformations are taking place in Rice-based Farming/Agri-food systems (including policy) and what do we anticipate from a producer and consumer perspective, but also how the chains evolve?
  - What are the implications for future varietal trait preference?

- Who are our target groups (customers) and how do we segment them?
  - Distinguish producers based on production goals, gender, socio-economic class, cropping systems, livelihood portfolios?
  - Would we distinguish between regions/agro-ecologies/stress conditions?
  - Rural and Urban consumers?

- How important are preferences along the chain between producers and consumers?

- What kind of mechanisms do we set up to update such information/knowledge on a continuous basis to develop a 'repeatable sustainable system' and 'dynamic product profiles'?

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