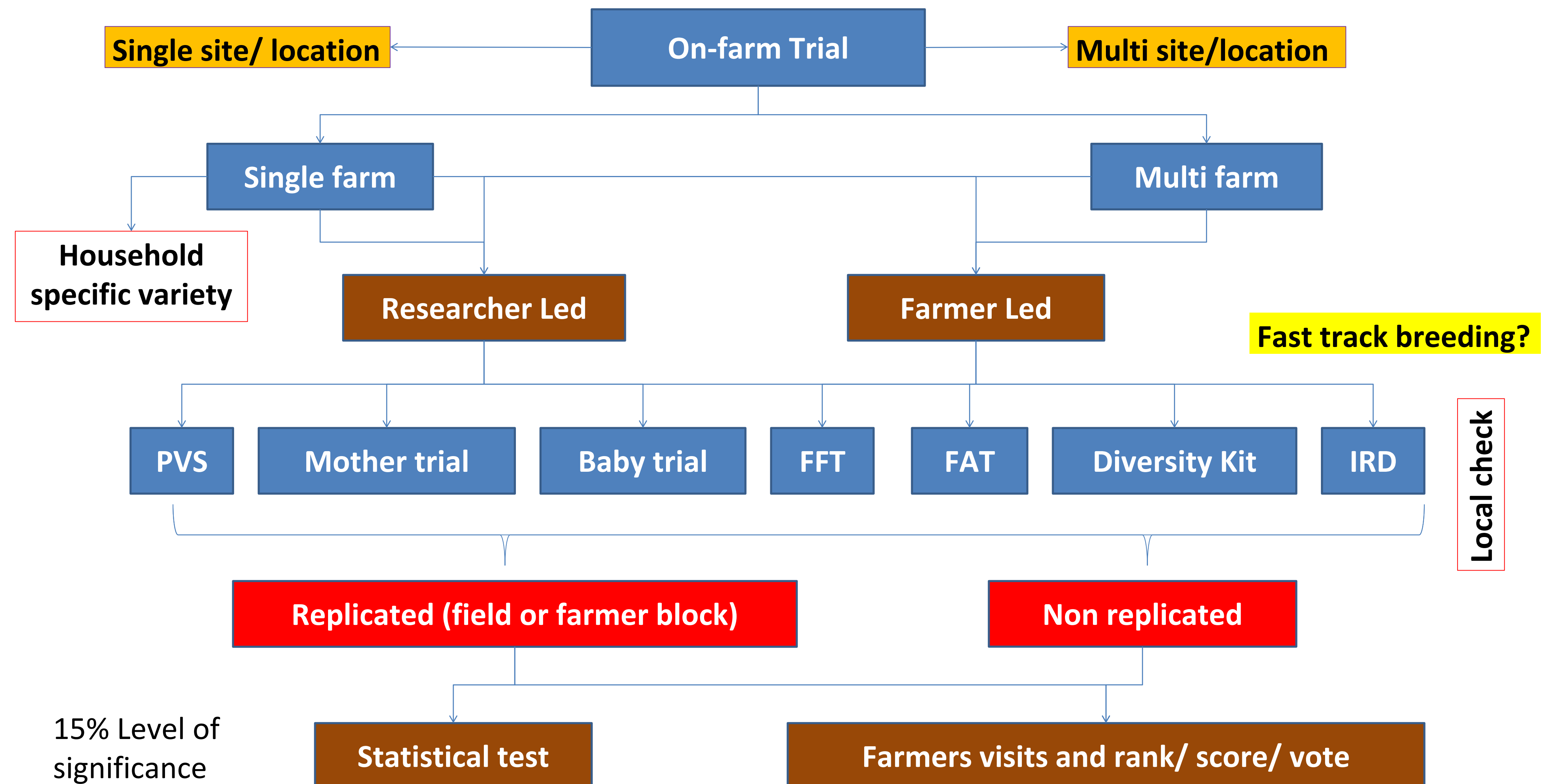


# On-farm Trials and Preferential Ranking for Facilitated Decision on Choice and Registration of Crop Cultivars (Varieties and Landraces)

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## On-Farm Trials

- Very common, simple and easy method for deploying cultivar diversity and providing varietal options to farmers.
- This local crop project implemented many on-farm trials in Humla, Jumla, Lamjung and Dolakha
- Generally non replicated trial (may be replicated) and participatory
- Include at least two varieties and different types of on-farm trials are given below.



## Preference Ranking

- Visual observation, voting, ranking, organoleptic test
- Involve Individual farmer, group of farmers, male and female farmers
- Ranking methods (rank, score, vote, frequency, %)
  - Voting, preference index (score) and ranking
  - Overall ranking
  - Pair wise ranking
  - Matrix ranking
  - Trait specific ranking
  - Percentage base ranking

### The preference analysis generates two kinds of data

- A quantitative preference score/ index (PI) for each variety, expressed as the number of votes it received divided by the total number of votes cast (PI = (no. of votes for variety)/(total votes cast))
- A list of characteristics farmers like about the preferred varieties
- If separate ballots for good and bad varieties are used, the index for each variety is:  

$$PI = \frac{\text{no. of positive votes} - \text{no. of negative votes}}{\text{Total no. of positive and negative votes cast}}$$
- ANOVA on these scores for trials that are replicated over locations (individual locations are usually considered replicates). LSD values for the scores are calculated from the variety x location (residual) variance.

## A. Preference Index/Score and Ranking of Rice Landraces in Lamjung

Landrace	Male (N=15)		Female (N=15)		Male preference score	Female preference score	Total preference score	Rank
	+ve votes	-ve votes	+ve votes	-ve votes				
Takmaare	2	5	5	3	0.040	0.068	0.014	5
Chhomrong	11	5	12	1	0.143	0.277	0.210	2
Lekaali baasmati	4	8	1	10	0.107	0.227	0.167	3
Darmaali	0	10	1	9	0.226	0.196	0.211	1
Khairo Dhaan	7	6	2	6	0.023	0.084	0.032	4

## B. Overall Ranking of Proso Millet landraces by Individual Farmers in Humla

Row Label	Sum of Female preference scores	Sum of Male preference scores	Sum of Total preference scores	Rank
HDC-07-2016	58	63	121	I
HDC-08-2016	60	54	114	II
HDC-1.2.3.4-2016	37	37	74	III
HDC-1to16-2017	40	24	64	IV
HDC-5.10.12.13.14-2017	33	33	66	V
Local Dudhe Chino	30	39	69	
Rato Chino	12	20	32	

## C. Pair wise Ranking of Bean Genotypes in Jumla

Genotype	Kalo male	Kalo sano	Rato sano	PB001	PB0048	Local	Points	Rank
Kalo male		Kalo male	Kalo male	Kalo male	Kalo male	Kalo male	5	1
Kalo sano			Rato sano	Kalo sano	Kalo sano	Local	2	4
Rato sano				Rato sano	Rato sano	Local	3	3
PB001					PB001	Local	1	5
PB0048						Local	0	6
Local							4	2

## D. Matrix Ranking of Finger millet Landraces in Jumla

Trait	Seto kodo	Murali kodo	Kalo kodo	Rato kodo
Grain yield	2	3	4	1
Maturity	4	3	1	2
Cooking quality	1	3	4	2
Total score	7	9	9	5
Rank	2	3	3	1

## E. Trait Specific Ranking of Finger Millet Landraces in Lamjung

Landrace	Yield	Maturity	Disease	Cooking quality
Dalle kodo	4	2	2	1
Lafre kodo	3	5	3	4
Seto kodo	2	3	1	2
Nangre kodo	4	4	5	3
Kegro kodo	3	3	4	3

## F1. Percentage base Ranking of Bean Landraces in Dolakha

Genotype	Taste after cooking			Disease problem		Rank
	Good	Moderate	Poor	No	Yes	
Khairo Ghu Simi	80.7	19.3	0	90.5	9.5	1
Kalo Simi	73	23	4	96	4	2
Seto Simi	30	60	10	60	40	3

## F2. Percentage base Ranking of Improved Jethobudho over Local Rice in Pokhara

