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## PRA: an approach to find felt needs of crop varieties

M. Manoharan, K. Velayudham and N. Shunmugavalli

### • Background

In agriculture, the need for identification of location specific problems and analysing them in their own environment is increasingly felt in research planning. PRA, which is informal in its approach, helps scientists to know about villages quicker than conventional methods through interviews. Understanding the advantages of PRA is giving momentum to its use in Tamil Nadu Agricultural University (TNAU) research planning.

TNAU is the main institute for agricultural research in the state of Tamil Nadu, India. Research in TNAU is planned at the regional level in seven such agro-climatic zones, classified based on soil and climatic conditions. There are seven such agro-climatic zones. With the objective to appraise farmers' varietal requirements, certain PRA methods were used in the high rainfall zone of Tamil Nadu. This high rainfall zone of Tamil Nadu is located in the southern tip of peninsular India.

### Overview of the studied village

Thittuvilai village was randomly selected for the study. It is situated in the Thovalai block of Kanyakumari district, about 13 km west of Nagercoil, the district headquarters. The village has one main road. The entire settlement is found on both sides of the main road. To the north of the road are houses; to the south are fields. Paddy, banana, tapioca and coconut are the main crops. The PRA team members met Mr Padmanabhan, the fertiliser shop owner, when he was opening his shop. Then the team took a village transect walk with Mr Padmanabhan. Some farmers also joined the team. The community is located in four streets, running north-south. All the inhabitants of the village live in this

area. The settlement is surrounded by facilities such as school buildings, mosque, temple, church, clinic, cinema, theatre and playground. The outsiders or migrants live in the southern side of the main settlement. They are not permitted to construct houses in the main settlement area.

### Major issues

During the discussion some villagers mentioned that the villagers' physique had decreased due to consumption of white rice. Then the PRA team was interested to know more about food habits. The farmers said that local red rice varieties were cultivated until 1970. When they ate red rice they could work until 3pm without getting tired. They feel that the present day white rice is not very nutritious. When Manoharan asked them to explain this issue further, they brought grains of red rice, white rice and tapioca tubers. These materials were arranged proportionately on a concrete floor to show their food habits.

The old people could recollect the historical changes of the introduction of the high yielding varieties. They explained the historical profile by writing on the cement floor using chalk. That profile brought out the following key information:

- Local rice varieties such as *Vasamunda* and *Samba* were grown until 1970;
- High yielding varieties were introduced in 1970. Now *Ponmani* and *ASD 16* are much used; and,
- The early 1980s witnessed massive cultivation of banana, which even occupied part of the rice growing area.

Thus, the major issues for research planning were identified as varietal requirements in

paddy and banana.

Sl. No.	characters	ASD16	TKM9	LOCAL
1	yield	*** **	*** **	*** **
2	Grain Shedding	*** **	*** **	*** **
3	Duration	*** **	*** **	*** **
4	Straw yield	*** **	*** **	*** **
5	Market Price	*** **	*** **	*** **
6	Colour	*** **	*** **	*** **
7	Disease resistance	*** **	*** **	*** **

Figure 1 Matrix ranking of three rice varieties, Thittuvilai.

Sl. No.	characters	Red	Nendran	Robusta	Palayam-kottai
1	Profit	●●●●	●●●●	●●●●	●●●●
2	Managerial requirement	●●●●	●●●●	●●●●	●●●●
3	Easy Marketability	●●●●	●●●●	●●●●	●●●●
4	Labour requirement	●●●●	●●●●	●●●●	●●●●
5	Disease resistance	●●	●●	●●	●●●●
6	Resource Allotment	●●●●	●●●●	●●●●	●●●●
7	Cost of Cultivation	●●●●	●●●●	●●●●	●●●●

Figure-2. Matrix ranking of banana Varieties, Thittuvilai.

## Matrix ranking for paddy and banana varieties

A few farmers witnessing the historical profile, explained that *ASD 16*, *TKM 9* and *Keela Samba* were the main varieties. These varieties along with key characters were compared through matrix ranking. Among the three, *ASD 16* was ranked first because of high yields (grain and straw), non-shedding and short duration. Straw yield was also considered as one of the important characteristics because of the fodder value. For matrix quantification rice grains were kept in small circles (Figure 1). The matrix ranking and their discussions revealed that people of Thittuvilai village want a single rice variety with bold red grains, high grain and straw yields, and resistant to pest and diseases.

A matrix ranking was prepared for banana as it was done for rice (Figure 2). Findings revealed that farmers preferred the red banana variety because of its profitability. This variety is exported to Gulf countries. They wanted a red banana variety with less managerial and labour requirements, resistant to diseases and with low input requirement.

### • Conclusion

From the study, it is suggested to plant breeders to breed research projects to breed red rice and red banana varieties with the characteristics preferred by farmers. These findings were presented in a research planning workshop in August 1992. After this the University Authorities requested plant breeders of the Agricultural Research Station, Thirupathisaram in Kanyakumari district to take up research to evolve a suitable red rice variety. The research is in progress. We felt that the PRA method was found to be a quick and effective method to assess the felt needs of farmers.

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| <ul style="list-style-type: none"><li>• <b>M. Manoharan, K. Velayudham and N. Shunmugavalli</b>, Agricultural College and Research Institute (TNAU), Killikulam, Vallanad-627 252, Tamil Nadu, India.</li></ul> |
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