



**Although weeding means extra work, it contributes to higher yields as one of the key components of SRI.**

# Beyond technical solutions

## Edwin van der Maden

The majority of farms in Tamil Nadu, India, are less than two hectares in size, and the family depends on successful rice production for food. Therefore, risk is central to many aspects of rice cultivation and “risk aversion” plays a major role in the farmers’ decision-making processes. These small farms are especially vulnerable to unexpected changes and unstable conditions, and the increasingly limited availability and irregular supply of water is a major problem in crop production. As the System of Rice Intensification (SRI) requires less water than conventional rice cultivation, it is an interesting option which could help to resolve the problems of water availability.

Farmers in Tamil Nadu have started to try out SRI. The level of adaptation will depend not only on its technical feasibility but equally on its social viability. In 2004, a study was undertaken to analyse the social suitability of SRI. Farm surveys were conducted in the Tambiraparani river basin (Tirunelveli and Tuticoring districts) in Tamil Nadu; interviews at Government departments, field visits and literature research provided additional sources of information.

## Risk and uncertainty

The farmers who tried out SRI for the first time were generally surprised and positive about the method and its results: higher yields with reduced water usage. Despite these positive reactions and awareness of the advantages, relatively few farmers practice SRI or are motivated to fully switch over to SRI. They remain sceptical, and perceive SRI practices as relatively difficult compared to conventional rice cultivation practices. Most farmers say that they are not familiar enough with the SRI technique to practise the system independently. They feel insecure about the practices and fear that poor implementation of the practices could lead to crop failure. At the same time, they are highly skilled in the conventional system and know what to expect from it. It may be expected that large, wealthy farmers with a good education level are likely to be the first adopters of SRI, as they are better positioned to deal with a certain level of risk. If SRI is seen to be effective and successful, without increasing the risk of crop failure, then the majority of the smaller and poorer farmers may follow.

## External influences

The government extension service works with selected progressive farmers, as they find it impossible to reach all farmers directly. In practice, many small and marginalised farmers are unreachable. The quality of the extension services differs greatly between and within regions, although communication between farmers and extension agents is mostly one-way (top-down). All these conditions mean that farmers are often not as well supported as they could be.

When the System of Rice Intensification was introduced in Tamil Nadu, it encountered a different social-technical environment from the farming environment of Madagascar where it was originally developed. The influence of the Green Revolution is clearly visible in Tamil Nadu, whereas in Madagascar it is not. As a result, several adjustments to the system have already been developed and implemented, such as the introduction of the nursery mat, mechanical weeding in combination with line and square planting and direct seeding techniques. The main focus of interest in SRI in Tamil Nadu is its potential to reduce water usage. The other practices are of lesser interest but are necessary to achieve desirable results. In Tamil Nadu, SRI practices are a combination of those developed in Madagascar with the Green Revolution practices already existing in the area. Initial experiments and field trials suggest that this combination offers promise for Tamil Nadu, combining increased yields with less water use.

## A promising option

The System of Rice Intensification is a promising option for addressing the problem of limited and irregular water availability for crop irrigation in Tamil Nadu. However, any solution needs to consider more than just the technical aspects. The study showed that successful introduction of an innovation like SRI goes far beyond the technical level and is closely interwoven with the socio-technical environment which significantly influences uptake and therefore must be given equal consideration. ■

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