

## Diffusion of Spaced Transplanting Technology through Farmer's Training

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Sugarcane Research & Training Institute (SRTI), Ishurdi, Pabna has been organizing short duration (2-3 d) training programmes for the advanced sugarcane growers of both mills and non-mills zone. The major objectives of this training programme is to motivate the innovative sugarcane growers to adopt spaced transplanting (STP) method, a modern sugarcane production technology developed at SRTI with the hope that they will serve as multipliers in popularizing the same among other farmers. The Training and Communication Division of SRTI conducted an assessment of impact of such training programme on STP diffusion among 50 sugarcane growers. Data obtained from 50 trained sugarcane growers using semi-structured questionnaire were analyzed and presented in Tables 1 and 2.

Table 1. Trend in STP adoption by trained sugarcane growers.

| Year of training | No. of growers received training | No. of growers adopted STP in 1989 |    |               | No of growers adopted STP in 1990 |              | No. of growers discontinued | No. of growers who never tried | % of adopter in 2nd year |
|------------------|----------------------------------|------------------------------------|----|---------------|-----------------------------------|--------------|-----------------------------|--------------------------------|--------------------------|
|                  |                                  | Nos.                               | %  | Nos. Continue | Nos. of new adopter               | Total (Nos.) |                             |                                |                          |
| 1989             | 31                               | 23                                 | 74 | 15            | 6                                 | 21           | 8                           | 2                              | 68                       |
| 1990             | 19                               | -                                  | -  | -             | 16                                | 16           | -                           | 3                              | 84                       |

Table 2. Trend in extent of STP adoption.

| Year of training | Extent of STP adoption in 1989 |                     |                         |              | Extent of STP adoption in 1990 |                      |                         |              |
|------------------|--------------------------------|---------------------|-------------------------|--------------|--------------------------------|----------------------|-------------------------|--------------|
|                  | No. of growers                 | Total cane area(ha) | Total STP coverage (ha) | Adoption (%) | No. of growers                 | Total cane area (ha) | Total STP coverage (ha) | Adoption (%) |
| 1989             | 23                             | 21.5                | 7.7                     | 35.9         | 21                             | 31.2                 | 15.6                    | 49.9         |
| 1990             | -                              | -                   | -                       | -            | 16                             | 19.2                 | 9.4                     | 49.2         |

The Table 1 shows that out of 31 growers who received training in 1989, 23 (74%) adopted the STP technology in the immediate cropping season. In the second

cropping season, 6 more trained growers adopted STP technology. But out of 23 adopters in 1989, 8 growers (35%) discontinued the innovation in the second cropping season. Two trained growers (6%) have never tried the technology. Finally 21 growers (68%) were found to adopt the technology in the second cropping season. Among 19 growers trained in 1990, only 16 growers (84%) adopted the technology in 1990-91 cropping season (Table 1).

Results indicate that a significant number of trained growers adopted STP technology. This trend is more prevalent among the growers who received training in 1990 (84% vs 68%). This is obvious that these growers have got the opportunity to see STP crops grown in 1989 by their fellow growers, and therefore better convinced about the benefits accrued and superiority of STP technology. Though two-thirds of the trained growers adopted STP technology in cropping season that followed 1989 training, about one-third of those adopters (35%) discontinued the same in second cropping season. This negative behavior, as expressed by the concerned growers, is possibly attributed to large scale germination failure in the seed bed. Poor germination of seedlings in polybags and in soil beds was due to low temperature in December-January (Miah *et al.* 1988). During promotion of a particular new technology, growers obviously face difficulties which can be overcome by backup supports provided by the extension workers. Discontinuation of STP may be attributed to timely unavailability of extension workers supports and services.

Results appended in the Table 2 seems to be encouraging. Among 50 growers who received training in 1989 and 1990, at least 37 (75%) adopted STP technology in 1990. These growers have diverted almost one half of their plant cane area (49.2%) under STP. Though number of adopter-growers reduced to 21 from 23 in 1989, extent of STP adoption registered an increase of 49.9% in 1990. This appears to be a strong positive impact of training. Similar results were also reported elsewhere (Patel and Patel, 1968; Anon., 1984; Karim and Mainuddin, 1986).

Table 3. STP yield in 1989 and adoption-decision for the next.

| Number of trained farmer adopted | Yield obtained by the trained farmers (TCH) |       | % increase | Decision for the next year (1990) |
|----------------------------------|---------------------------------------------|-------|------------|-----------------------------------|
|                                  | Conventional                                | STP   |            |                                   |
| 15                               | 79.0                                        | 141.1 | 78.6       | Continued                         |
| 8                                | 71.0                                        | 76.1  | 7.2        | Discontinued                      |

Rationale in adoption, continuation, and discontinuation of STP can be found from the yield data of first two categories of growers (Table 3) i.e. those who continued after adoption for the second cropping season and growers who discontinued after adoption the same in the following season. The farmers who continued in the second consecutive season harvested higher yield in STP (141.1

TCH) against conventional planting (79.0 TCH). This means that these farmers got 78.6% higher yield in STP plots compared to conventional planters. On the other hand, those who discontinued, harvested almost similar yields in STP (76.1 TCH) and conventional planting (71.0 TCH), an increase of only 7.2% over the conventional cultivation. This finding is in agreement with that of Rogers and Shoemaker (1971) who concluded that technology unless provides 30% or more relative advantage in terms of economic profitability, yields etc. compared to the technology it supersedes is unlikely to adopt by the farmers.

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