

Economic Impact Assessment of SRI – Tamil Nadu

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**Growing demand for rice
despite income increase**

Demand, Required Productivity, and Rate of Growth in Rice through 2010

| Scenarios | Demand (Lakh tons) | Productivity (tons/ha) | Rate of Growth (per cent) |
|-----------|-----------------------|---------------------------|------------------------------|
| I | 97.0 | 4.75 | 3.07 |
| II | 83.0 | 4.06 | 2.06 |
| III | 83.5 | 4.09 | 2.11 |

Increasing the rate of growth
of yield – Overcoming
technology stagnation

| Period | Food grains (%) | Rice (%) |
|--------------------|-----------------|----------|
| 1965-66 to 1998-99 | 1.11 | 2.23 |
| 1965-66 to 1979-80 | 2.31 | 2.37 |
| 1980-81 to 1989-90 | 3.71 | 4.69 |
| 1990-91 to 1998-99 | 0.84 | -0.40 |
| 1990-91 to 2003-04 | - | 1.96 |

Fig 13. Raising nursery



a. Conventional method



b. SRI method

Fig 14. SRI nursery



A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a white rounded rectangle with a green border, partially overlapping a dark blue horizontal bar.

Land Saving

Rice Area

| Year | Total cropped area (Lakh ha) | Rice area (Lakh ha) |
|---------|------------------------------|---------------------|
| 2001-02 | 62.26 | 20.59 (33%) |
| 2002-03 | 51.91 | 15.16 (29%) |
| 2003-04 | 53.16 | 13.96 (26%) |
| 2004-05 | 58.89 | 18.72 (32%) |
| 2005-06 | 60.32 | 20.50 (34%) |

Fig 10. SRI farmer explaining method of cultivation - I



Fig 11. SRI farmer explaining method of cultivation - II





Perfection of SRI Package

Adoption levels of SRI practices

| Suggested practices | Number of farmers |
|---|--------------------------|
| Seed rate (5 kg/ha) | - |
| Transplanting 8-12 day-old seedlings | 58 (100.00) |
| Careful transplanting of seedlings with soil and roots intact | 40 (68.97) |
| Wider spacing (25 x 25 cm or 22.5 x 22.5 cm) | 58 (100.00) |
| Weed management | 15 (25.86) |
| Water management | 45 (77.59) |
| Organic manure application (10 t/ha) | - |

(Figures in parentheses indicate percentage to total)

Deviation levels in adoption of SRI method

| Suggested practices in SRI method | CI - II | | CI - I | |
|---|---------|-----------|--------|-----------|
| | Actual | Deviation | Actual | Deviation |
| Seed rate (5 kg/ha) | 105.00 | 100.00 | 7.50 | 2.50 |
| Transplanting 8-12 day-old seedlings (no.) | 15.00 | - | 15.00 | - |
| Careful transplanting of seedlings with soil and roots intact (no.) | 10.00 | 5.00 | 15.00 | - |
| Wider spacing (25 x 25 cm or 22.5 x 22.5 cm) (no.) | 15.00 | - | 15.00 | - |
| Weed management (no.) | - | 15.00 | 15.00 | - |
| Water management (no.) | 15.00 | - | 15.00 | - |
| Organic manure application (10 t/ha) | 1.35 | (-) 8.65 | 1.05 | (-) 8.95 |

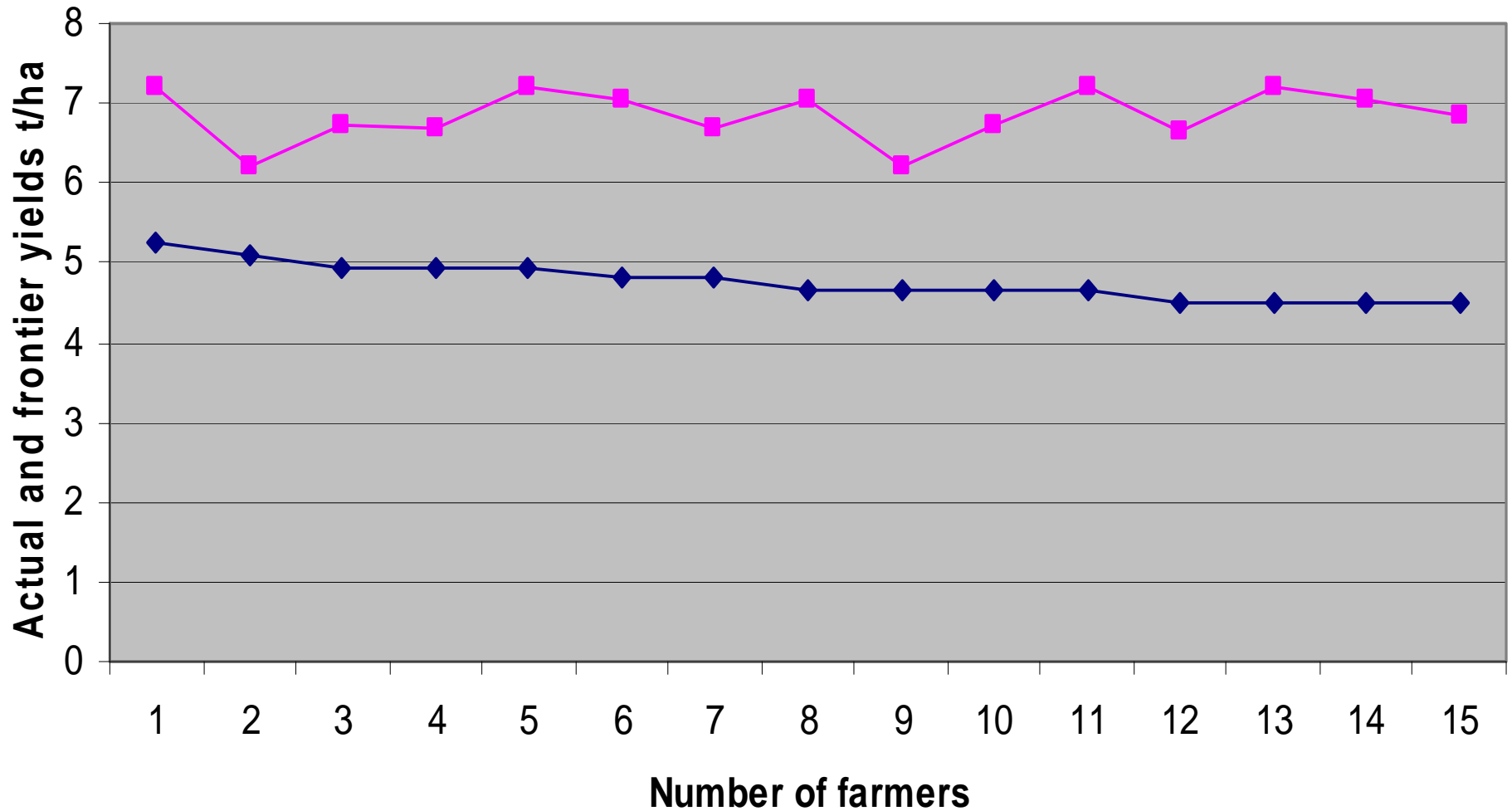
(Figures with respect to deviation in organic manure application indicate reduction in quantum of use of organic manure compared to recommended level)

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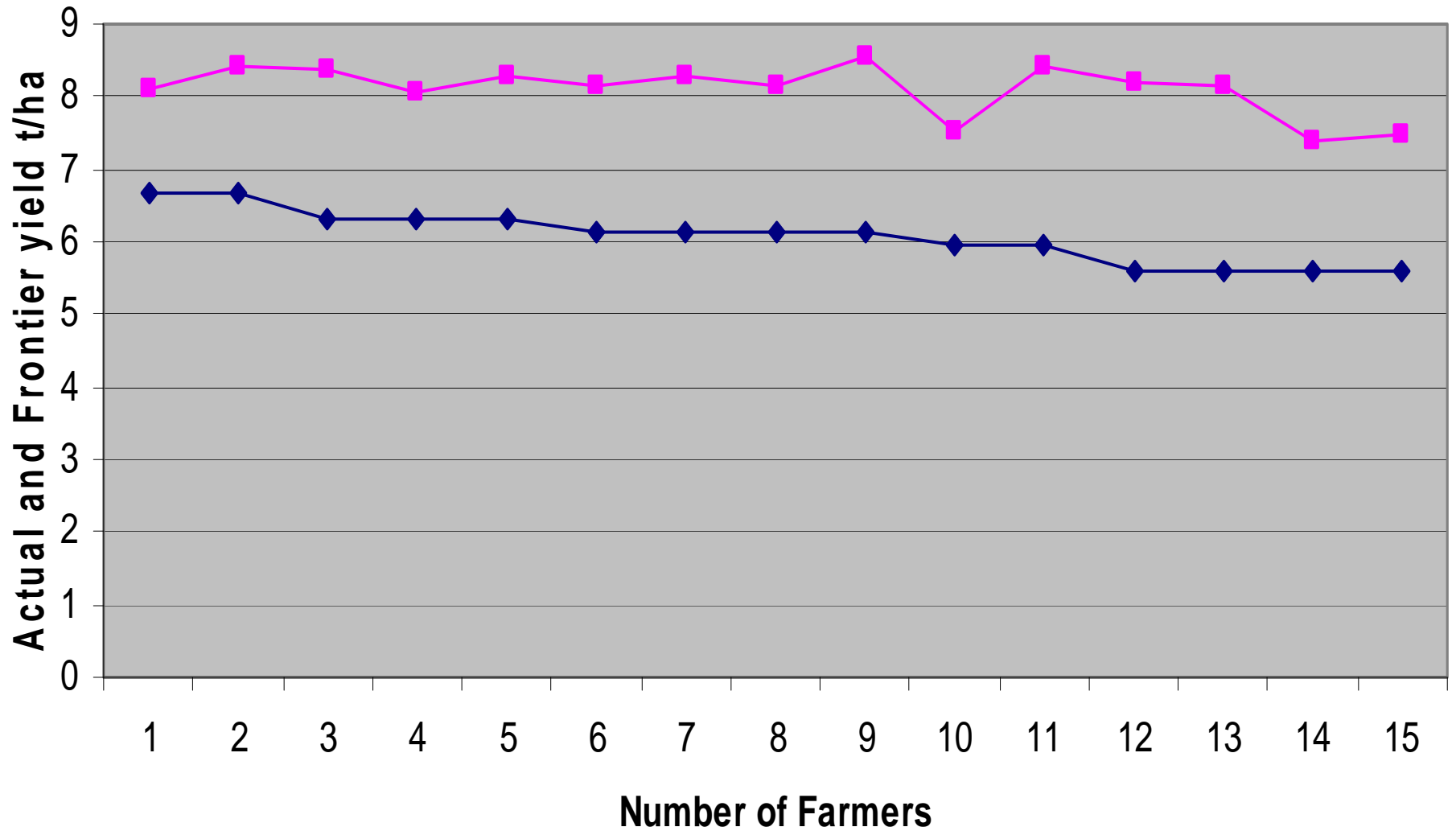
| Suggested practices in SRI method | WI | | RF | |
|---|---------------|------------------|---------------|------------------|
| | Actual | Deviation | Actual | Deviation |
| Seed rate (5 kg/ha) | 12.50 | 7.50 | 37.50 | 32.50 |
| Transplanting 8-12 day-old seedlings (no.) | 15.00 | - | 13.00 | - |
| Careful transplanting of seedlings with soil and roots intact (no/) | 5.00 | 10.00 | 10.00 | 3.00 |
| Wider spacing (25 x 25 cm or 22.5 x 22.5 cm) (no.) | 15.00 | - | 13.00 | - |
| Weed management (no.) | - | 15.00 | - | 13.00 |
| Water management (no.) | 15.00 | - | - | 13.00 |
| Organic manure application (10 t/ha) | 1.38 | (-) 8.62 | 1.55 | (-) 8.45 |

(Figures with respect to deviation in organic manure application indicate reduction in quantum of use of organic manure compared to recommended level)

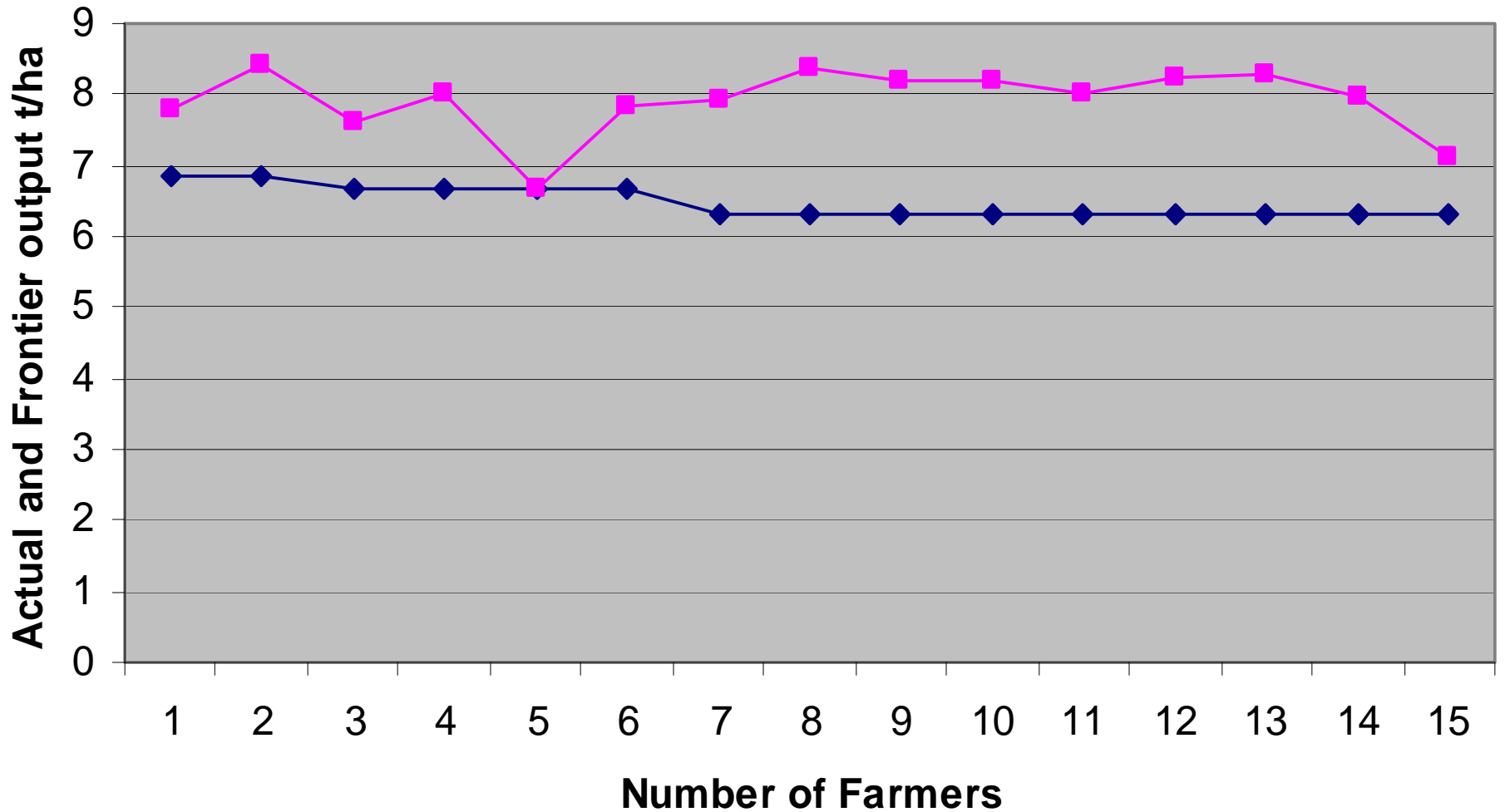
Canal-Irrigated Environment I



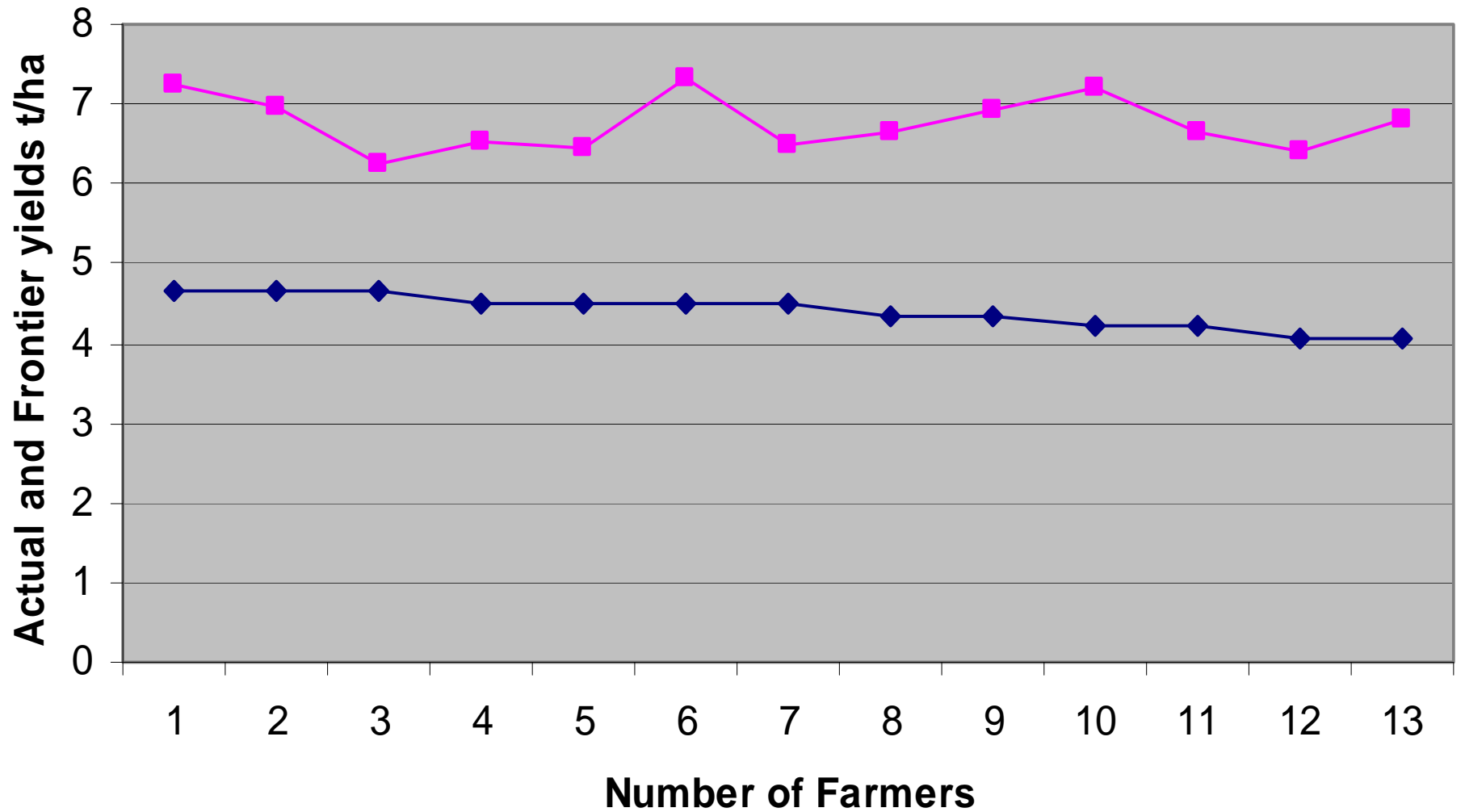
Canal-Irrigated Environment II



Well-Irrigated Production



Rainfed Production





Production Increase in Tamil Nadu – SRI is the Panacea?

Decomposition of productivity difference between the SRI and conventional rice yields

| <u>Source of productivity difference</u> | <u>Percentage contribution</u> |
|---|--------------------------------|
| Total difference in output | 40.26 |
| Sources of contribution | |
| A. Adoption of SRI practices | 37 |
| B. Input use | |
| 1) Seed | 6.96 |
| 2) Human labour | -0.32 |
| 3) Fertilizer | -11.00 |
| 4) FYM | 7.00 |
| 5) Expenditure on PPC and miscellaneous items | 0.62 |
| Difference due to all inputs | 3.26 |

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- Food production in Tamil Nadu has increased from 61.16 lakh tons in 2005-2006 to 100.35 lakh tons in 2007-2008 and it is expected to increase by 108 lakh tons during 2008-09.
 - Government is committed to attain 4 per cent growth in agriculture in the 11th Plan
 - In 2007-08, nearly 50,000 farmers were trained in SRI on 11,320 hectares (*The Hindu*, 2008).
 - SRI method is now being adopted in over 10 lakh acres of land under paddy cultivation in the State.
 - In the coming financial year, State to extend SRI method to 18.75 lakh acres of land under cultivation of paddy.
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Trade Opportunities and Threats

Domestic Resource Cost*

Exportable Hypothesis Rs. 19.08

Importable Hypothesis Rs. 16.46

Shadow Exchange Rate Rs. 43.72

* Average for the period between 1995-96 and 2001-02

Tariffs and Bound Rates for Rice

| | Basic Custom Duty | Bound Duty |
|---|------------------------------|-------------------|
| Rice in the husk | 80 | 80 |
| Husked (brown) rice; broken rice | 80 | 80 |
| Semi-milled or wholly milled rice, whether or not polished | 70 | 70 |

Finally:

- With conservative estimate of a 40% yield increase on an area of 7.5 lakh hectares, the production increase would be substantial, provided that the SRI package is perfected
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THANKS