

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

**Plant Sciences Programme
Manager: Centre for Arid Zone Studies
University of Wales, Bangor**

Please note that this project is ongoing and a final technical report will not be available until April 2006. Below are further details of the project and contact details should you require further information.

R8099

2.88

1. Project title

Participatory plant breeding in rice and maize in eastern India

2. Abbreviated title

PPB in rice and maize in India

3. Is the research strategic / adaptive? (delete as appropriate)

4. Project summary

The PSP-funded participatory plant breeding (PPB) project R7434 has been very successful. Two new rice varieties (Ashoka 200F and Ashoka 228), and one maize variety (BGM 2) produced by PPB were released by Birsa Agricultural University, Ranchi, for the state of Jharkhand in May 2001.

These outputs will be scaled up, both horizontally and vertically.

Horizontal scaling up will promote the geographical spread of the varieties to more primary beneficiaries by facilitating formal and informal seed production and dissemination. This will involve *Krishi Vigyan Kendras* (Farm Science Centres), State Seed Corporations, NGOs, private seed companies, and seed producing groups of farmers. New varieties will be tested in trials of the Indian Council of Agricultural Research, State Agricultural Universities and Departments of Agriculture for official release.

Vertical scaling up will involve institutional spread from grassroots to policymakers, donors, and development institutions. The project will disseminate internationally the knowledge gained, and target key institutions and attempt to change mindsets by organising exposure visits, training courses, and symposia.

The results of collaborative and consultative PPB undertaken in R7434 are not yet fully evaluated. A comparison of the relative efficiencies of PPB and traditional breeding approaches will be made, and selection by farmers in segregating bulks and farmer-to-farmer spread monitored. Marker evaluated selection (MES) will be done in selected bulks to compare farmer and scientist selection and to identify useful genomic regions.

Variability within PPB varieties will be quantified, and varieties improved by selecting superior genotypes within them.

5. Keywords

Participatory plant breeding, rice, maize, scaling up, varietal testing, marker evaluated selection (MES), marker assisted selection (MAS).

6. Production System

Semi-arid production system

7. Project goal

Benefits for poor people generated by the application of new knowledge on selection and genetic enhancement of cultivars to crop production in the Semi-Arid Production System.

8. Geographic Focus

India (also Nepal)

9. Commodity Base

Rice, Maize

10. Applicant's full name(s), title(s), post(s) held, and departments(s)

Dr Daljit Singh Virk
Senior Research Fellow
Centre for Arid Zone Studies
University of Wales

11. Name, address, telephone and fax. numbers of applicant's institution

Centre for Arid Zone Studies
University of Wales
Bangor
Gwynedd, LL57 2UW, UK

Tel: 00 44 1248 383643/382922

Fax: 00 44 1248 364717/371533

Email: d.s.virk@bangor.ac.uk

12. Name and address of any overseas collaborators

Mr J S Gangwar
Project Manager
Eastern India Rainfed Farming Project
Gramin Vikas Trust (GVT)
280 Kanke Road (Near Pani Jahaj Kothi)
Ranchi-834008
Jharkhand
India

Tel: 00 91 651 231180/232893

Fax: 00 91 651 230904

Dr S C Prasad
Consultant
Eastern India Rainfed Farming Project
Gramin Vikas Trust (GVT)
280 Kanke Road (Near Pani Jahaj Kothi)
Ranchi-834008
Jharkhand, India
Tel: 00 91 651 231180/232893 Fax: 00 91 651 230904

Dr R P Roy Sharma
Vice- Chancellor
Birsa Agricultural University,
Kanke
Ranchi-834006
Jharkhand, India

Mr Rajkishore Bhjabal
Vice-Chancellor
Orissa University of Agriculture and Technology
Bhubaneswar
Orissa, India

Dr G N Atlin
Rice Breeder
International Rice Research Institute
Los Baños
Manila, Philippines
Tel: (63-2) 762-0127; Fax: (63-2) 761-2404

13. Project Location

Eastern India, i.e. states of Jharkhand, Orissa and West Bengal, and horizontal scaling up to areas of *Gramin Vikas Trust* (GVT) west and parts of Nepal

14. Starting and finishing dates

1st February 2002 – 28th February 2006

15. Is this proposal a continuation or extension of work already funded by the DFID? If so, please state project reference No. and title.

R7434 'Innovative methods for rice breeding — combining participatory plant breeding (PPB) with molecular marker techniques'