

Category	: International Rice Research Conference
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Germplasm Enhancement
Keyword 2	: Abiotic stress tolerance
Keyword 3	: Breeding Strategy
Title of Entry	: TWENTY FIVE YEARS OF EASTERN INDIA RAINFED LOWLAND SHUTTLE BREEDING NETWORK - PROGRESS AND PROSPECTS
Presenting author	: Janga Nagi Reddy
Presenting author email	: jnreddycrri@gmail.com
Co author 1	: SSC Patnaik, RK Sarkar
Co author 2	: DN Bastia, SR Das
Co author 3	: Manoranjan Jana, Indrani Dana
Co author 4	: VN Singh
Co author 5	: SB Verulkar
Co author 6	: NK Singh, Rajesh Kumar
Co author 7	: RN Sharma, Anand Kumar
Co author 8	: T Ahmed, SK Chetia, Dhiren Chowdhury, KK Sharma
Co author 9	: Shalabh Dixit, Abdelbagi M Ismail, Surapong Sarkerung,
Co author 10	: US Singh
Co author 11	: EM. Septiningsih
Co author 12	: BCY Collard
Co author 13	: DJ Mackill
Co author 14	: GN Atlin
Affiliation presenting author	: ICAR-National Rice Research Institute, Cuttack, Odisha, India
Affiliation 1	: ICAR-National Rice Research Institute, Cuttack, Odisha, India

Affiliation 2	: Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, India
Affiliation 3	: Rice Research Station, Chinsurah, West Bengal, India
Affiliation 4	: Narendra Dev University of Agriculture and Technology, Faizabad, U.P., India
Affiliation 5	: Indira Gandhi Agricultural University, Raipur, Chattisgarh, India
Affiliation 6	: Dr. Rajendra Prasad Central Agricultural University Pusa, Bihar, India
Affiliation 7	: Bihar Agricultural University, Sabour, Bihar, India
Affiliation 8	: Assam Agricultural University, Jorhat, Assam, India
Affiliation 9	: International Rice Research Institute (IRRI), Los Baños, Philippines
Affiliation 10	: IRRI South Asia Regional Centre (ISARC), Varanasi, U.P., India
Affiliation 11	: Texas A&M University, Texas, USA
Affiliation 12	: NSW Department of Primary Industries, Tamworth 2340, Australia
Affiliation 13	: University of California, Davis, USA
Affiliation 14	: Bill and Melinda Gates Foundation, USA
Select only one type of presentation	: 15 minute oral presentation
Abstract	: To improve the genetic yield potential of rainfed lowland rice varieties for eastern India (Assam, Bihar, Chhattisgarh, Eastern U.P, Odisha and West Bengal), an ICAR-IRRI Collaborative Shuttle Breeding Network was established to facilitate sharing of improved breeding lines and segregating populations for location specific selection. Through germplasm sharing and screening, local cultivars like Gangasuli, Khoda, Kalaputia, Kusuma and Ravana from Odisha and improved lines like CR 2003-13, CR 2003-24, CR 2006-7, CR 2033-1, CR 2056-5, NDR 9830109, NDR 9830116, NDR 9830123, NDR 9830125, NDR 9830131, NDR 9930025, NDR 9930070, NDR 8588, NDR 8659, NDR 8820, NDR 8831, NDR 9475, OR 1901-14-32, CN 1266-6-3, RAU 1415-12-7-6-4-8-1, RAU 1415-6-6-4-3-3-1, RAU 1472-17, IR 74601-17-TTB 225-2-138, IR 76522-7-14-4-1, IR85083-SUB-1-1-2-2, IR 88776-SUB 8-1-1-2, IR 91211-SUB-SUB-10-1-1 etc., were found to have good submergence tolerance and are being used in breeding programs. Due to unpredicted and erratic rainfall, the farmers in east Indian states were forced to practice late planting using aged seedlings. Promising lines including CR 683-123(Durga), CRLC 899-2(Varshadhan), PSR 1119-13-3 (Kishori), and NDR 96004, CR 673-475, CR 780-1937 etc., were identified to be suitable for both control and delayed planting conditions. Over 25 elite lines identified through this program were released in different states of eastern India, such as Varshadhan for water logged areas and Swarna-Sub1, Mrunalini, Ashutosh, Hasanta for flood-prone (submergence) areas of coastal Odisha; Bhudev for semi-deep areas and Rajdeep, Amala and Swarnali for shallow lowland areas in West Bengal; NDR 8002, Narendra Mayank, Narendra Jalpushp, Narendra Naraini, Swarna-Sub1, Samba-Sub1, IR 64-Sub1 and Narendra Neha for shallow lowlands and Narendra Shishir for semi-deep areas of eastern Uttar Pradesh. Kishori, Satyam, Shakuntala, Rajendra Mahsuri-1, Rajendra Sweta, Santosh and Swarna-Sub1 for flood prone areas of Bihar; Gitesh and Prafulla for delayed planting and Swarna-Sub1, BR 11-Sub1, Ranjit-Sub1, Bahadur-Sub1 were identified for submergence prone areas in Assam. Apparently, substantial progress in breeding was made through this network, and numerous adapted high yielding genotypes were either released or are

in the pipeline. These varieties are making considerable impact on farmers' livelihood and food security in flood affected areas, improving their income and social conditions.

[Read Less](#)

Uploaded Files

No files found.