



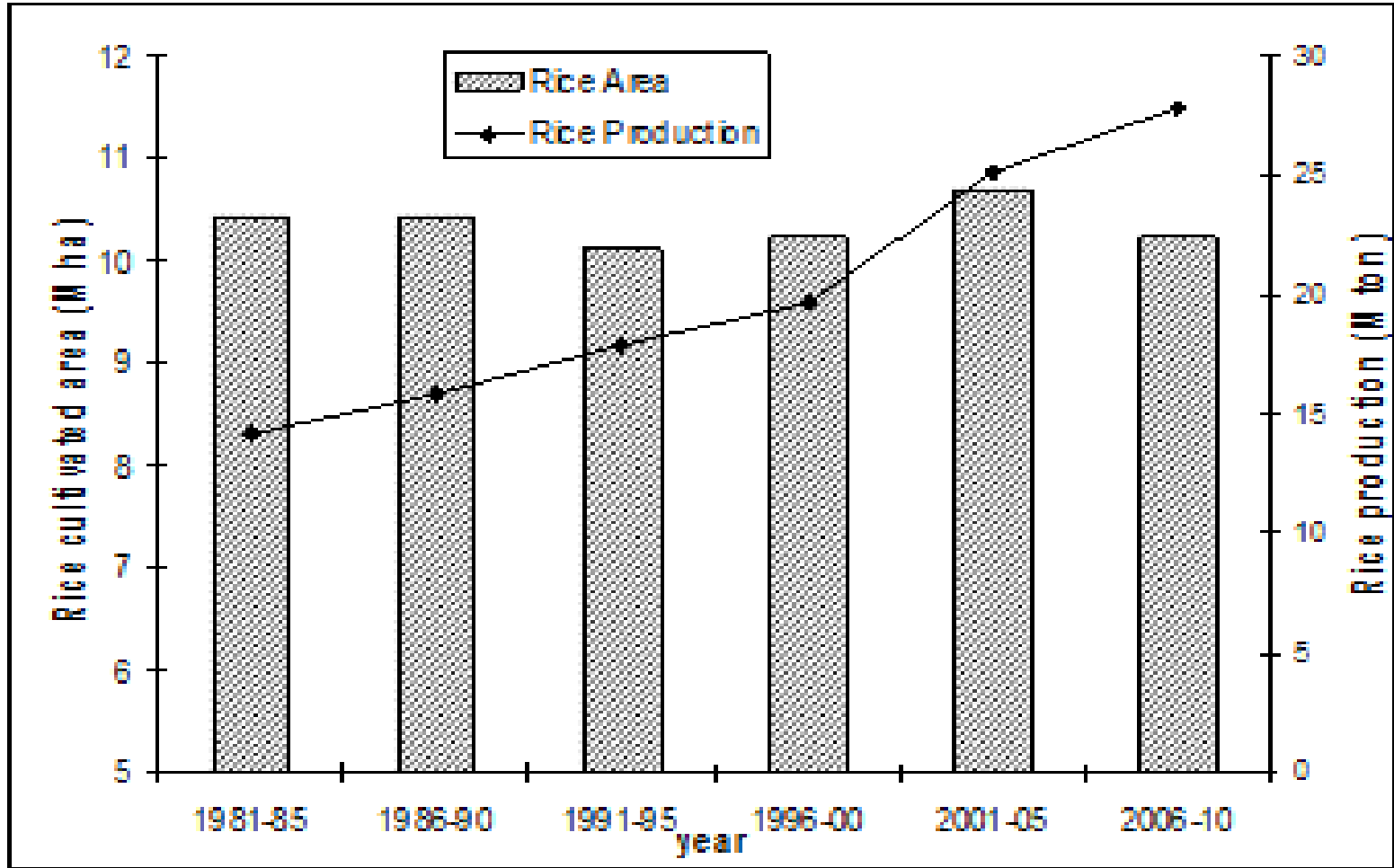
Bangladesh Rice Research Institute

(An organization under Ministry of Agriculture)

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Bangladesh Rice Research Institute

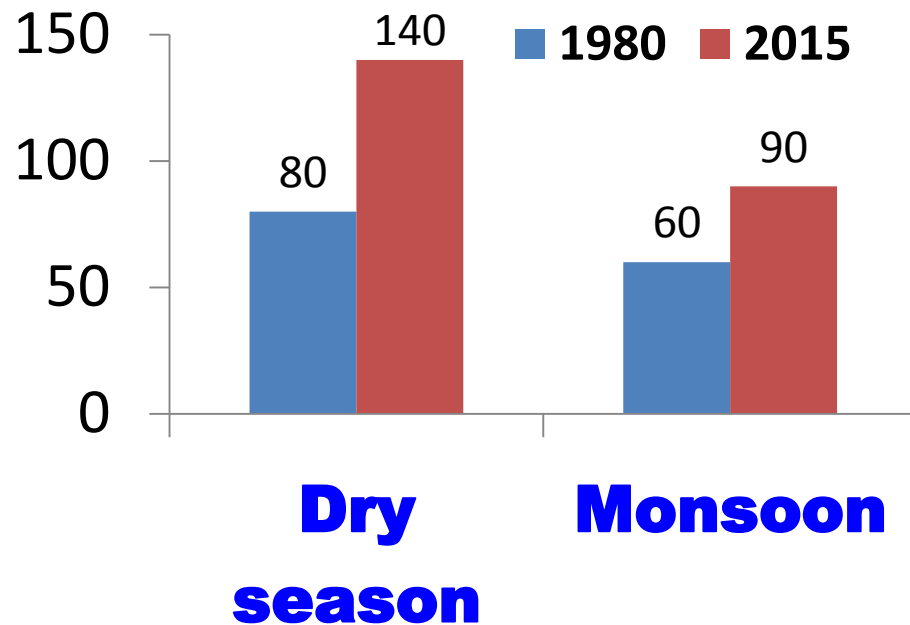


Major contributor is BRRI for such increased rice production in Bangladesh



Bangladesh Rice Research Institute

❑ In 2015, 75% more N is required for dry season rice & 50% more for monsoon rice compared to 1980s



❑ About 68 million tons of rice will be required to feed our people by 2050, which will require ~4 million tones of Chemical N fertilizer

Year	Population (Million)	Rice req (Million tons)	Urea (Million tons)	
			Dry season	Monsoon
2050	291	68	1.9	1.7

Future rice & N fertilizer requirement in Bangladesh



Rice

Improvement of N use efficiency

Rice/non rice crops

BRRI Initiative

Global initiative

Deep placement & or incorporation of N fertilizer

- ### Major N loss processes
- NH₃ volatilization
 - N₂O & NO emission
 - NO₃ leaching

Manipulation of Nitrifier & Denitrifier

Estimation of gaseous N loss & minimization

Genetic modification of diazotrophs for high N use-efficiency

Low N requirement of rice varieties

- ### N enrichment in soil-plant continuum
- Fertilizer
 - Organic matter
 - Associative & endophytic BNF
 - Thunderstorms & rain water

Genetic engineering of non-legumes with *nif* gene for BNF

Isolation of potential diazotrophs from agro ecological zones

Bio-fertilizer formulation for rice

Strengthening associative & endophytic N fixation in rice by preferential C sources manipulation

Evaluation of performances

Strengthening association of associative & endophytes with non-legumes by genetic engineering

Manufacturing of stable N fertilizers

THANK YOU ALL

