

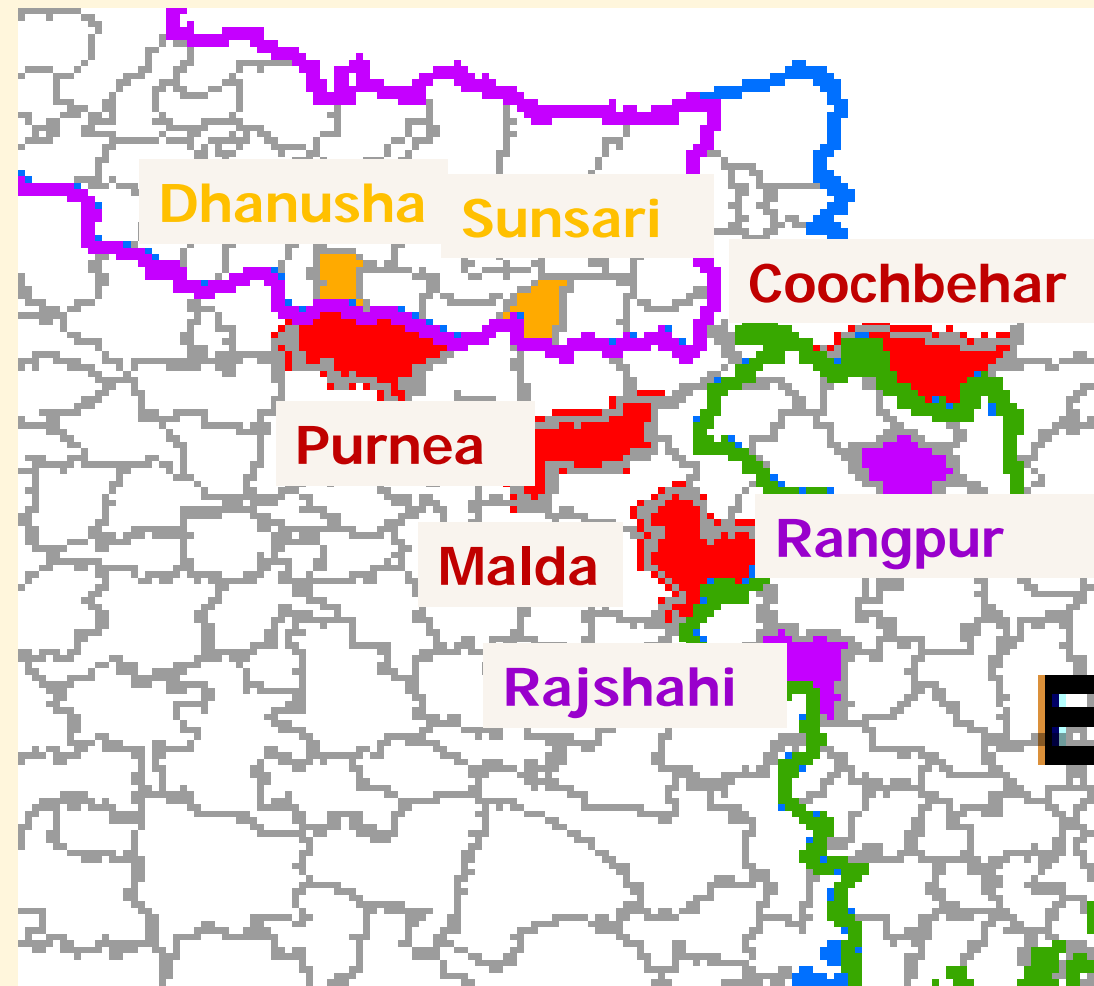
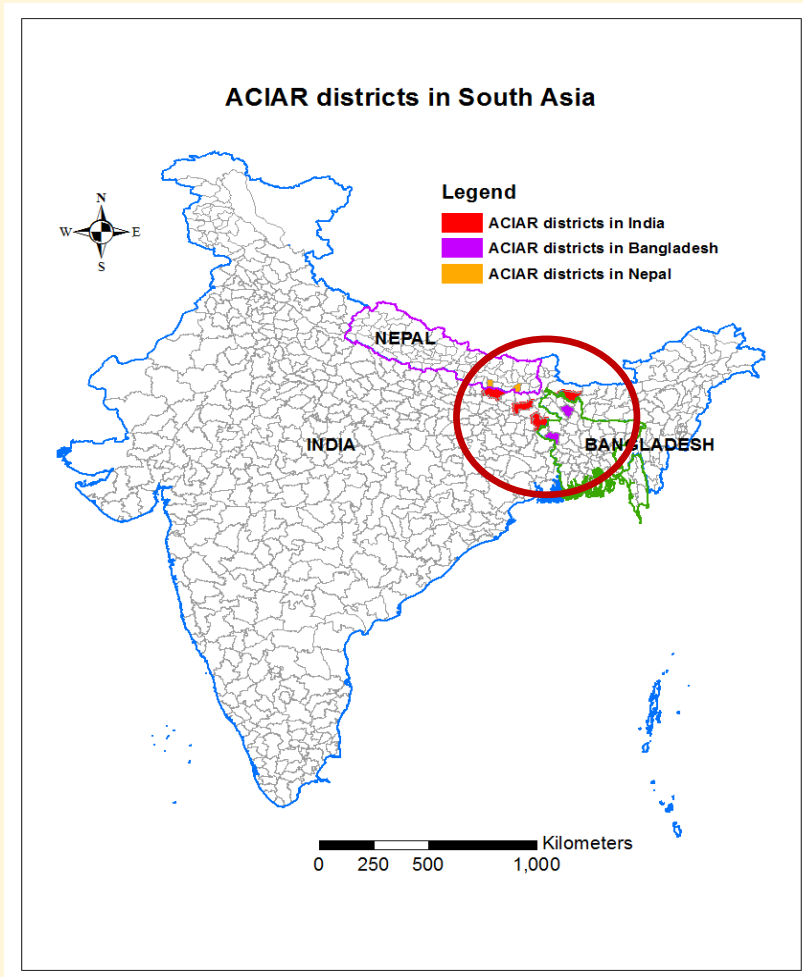


# Behavioural science insights into application of conservation agriculture in the East Ganges Plains

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# Project districts in the eastern Gangetic plains



# Fields in the EGP



# Farm behavioural insights project

- ❑ Understanding farm-household management decision making for increased productivity in the eastern Gangetic plains
- ❑ Evaluating value add of behavioural insights (behavioural economics, sociology and psychology)
- ❑ Understand decision making by farm women and men
- ❑ Use BI to design/re-design, test & assess interventions to encourage adoption of CASI technologies

# CASI innovations: Unpuddled rice transplanting



# Strip till crop planter



# CASI innovations: Zero till crop planter

# Laser leveller



# BI theories used as guides for investigations

- ❑ Early behaviour theories: associative learning, operant conditioning
- ❑ Bounded rationality: biases, heuristics, satisficing, context & framing
- ❑ Prospect theory: reference points, wealth, certainty, loss aversion
- ❑ Social cognitive theory: self-efficacy, collective efficacy, expectations
- ❑ Social identity approach: intergroup vs intragroup, self enhancement, social norms, uncertainty-reduction
- ❑ Dual systems theory: automatic vs deliberative thinking
- ❑ Theory of planned behaviour: attitudes, norms & social pressure, control
- ❑ Nudge theory: makes use of above with brief, low-cost & simple prompts & reinforcers

# Categorisation of behavioural factors

- ❑ Categorised based on level of abstraction or distance from the decisions being made (Dessart et al. 2019)
- ❑ Dispositional factors: most abstract, stable internal variables
- ❑ Social factors: range from abstract to concrete
- ❑ Cognitive factors: most concrete & related directly to learning & decision making



# Dispositional factors

- Relatively stable internal variables relate to an individual:
  - personality traits
  - resistance to change
  - risk tolerance
  - moral & environmental concern
  - farming objectives
- Correlated with multiple behaviours
- Not easy to change in short term
- Policies & strategies for change:
  - long term (e.g. social marketing).

# Social factors

- ❑ Farmers' relationships & interactions with key individuals of groups – family, other farmers, merchants, advisers
- ❑ Can be abstract: values and beliefs about behaviour
- ❑ Or more concrete:
  - ❑ descriptive norms (perceptions of what others do)
  - ❑ injunctive norms (what ought to do or what others expect)
  - ❑ signalling motives (provide status & image)
- ❑ Can relate to multiple or specific behaviours
- ❑ Policies & strategies for change:
  - ❑ harness descriptive & injunctive norms, use social recognition, social comparisons, foster social capital

# Cognitive factors

- ❑ How learn about, understand & perceive practices: very specific & concrete
- ❑ Elements:
  - ❑ awareness, knowledge and skills
  - ❑ perceived behavioural control
  - ❑ perceived benefits & costs: biases may deviate from objective measures
  - ❑ perceived risks (financial, climate, environmental, health) - subject to biases
- ❑ Policies & strategies for change:
  - ❑ change knowledge & skills, influence perceived behavioural control, framing, change perceptions.

# Potential strategies we will be trialling

- ❑ Focus on successful technologies first & use farmer groups to overcome negative norms & increase risk tolerance
- ❑ Promote farmers who successfully adopt CASI technologies & use for promotion
- ❑ Combine micro-incentives with discounts by SPs when farmers organise themselves to seed crops at same time or when purchase comprehensive contracting services
- ❑ Appropriate framing of benefits & costs of CASI technologies

# Potential strategies we will be trialling

- ❑ Social marketing & communication:
  - ❑ framed appropriately
  - ❑ simple, resonate with & relevant to the target audiences
  - ❑ increase perceptions of self and collective efficacy
  - ❑ use respected local influencers & networks
  - ❑ use micro-incentives where appropriate
  - ❑ be appropriately sequenced.
- ❑ Vouchers for micro-incentives to purchase appropriate inputs, plus crop replacement options for trialling CASI technologies, particularly for smaller farmers.

