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Sustainable and Healthy Diets in India

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Innovative Methods and Metrics for Agriculture and Nutrition Actions

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Leverhulme Centre for Integrative Research on Agriculture and Health

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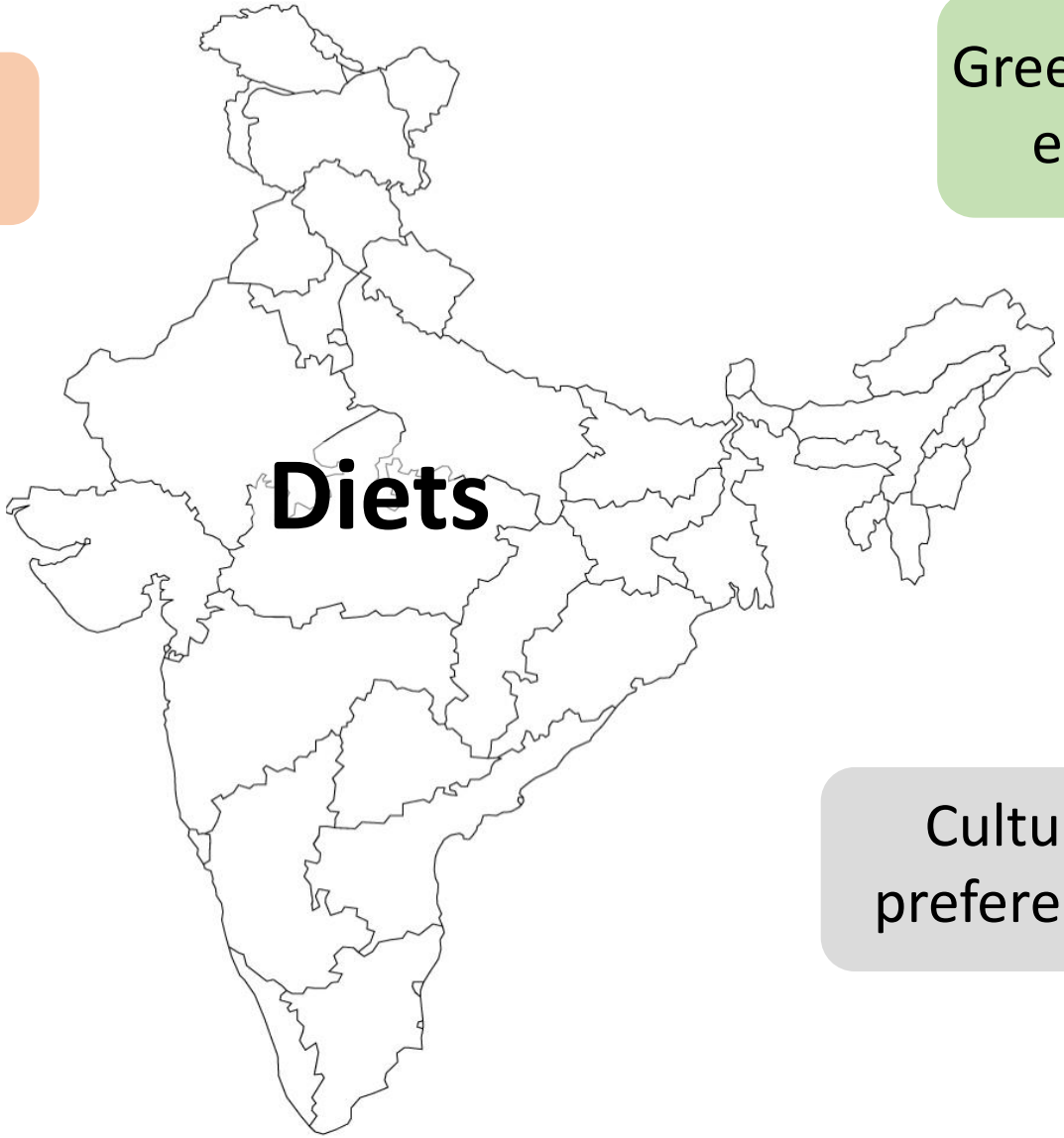
Food system – sustainable and healthy?

Nutrition and health

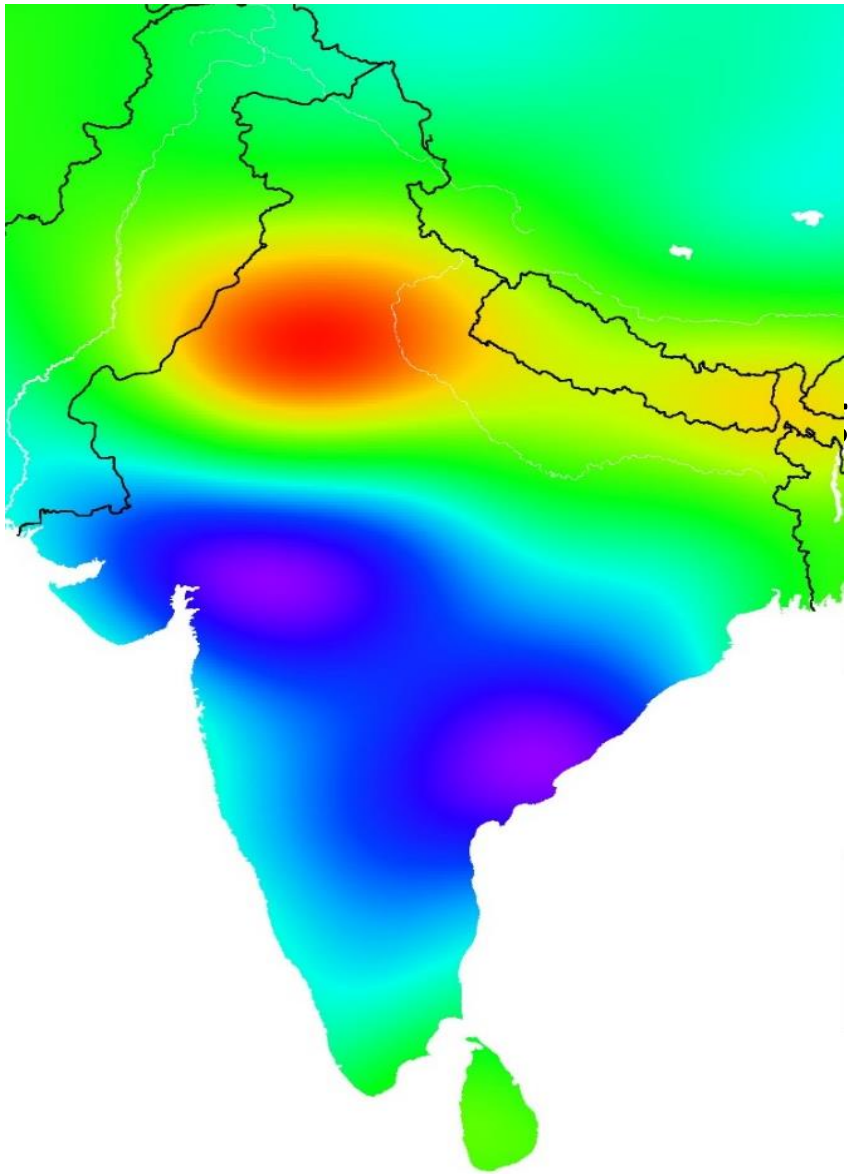
Greenhouse gas emissions



Water use

Economy and livelihoods

Cultural preferences



Water use

- Agriculture is responsible for ~70 % of freshwater use in India
- Area in red equivalent to 33 cm yr^{-1} decline in ground water table during 2002–08 .

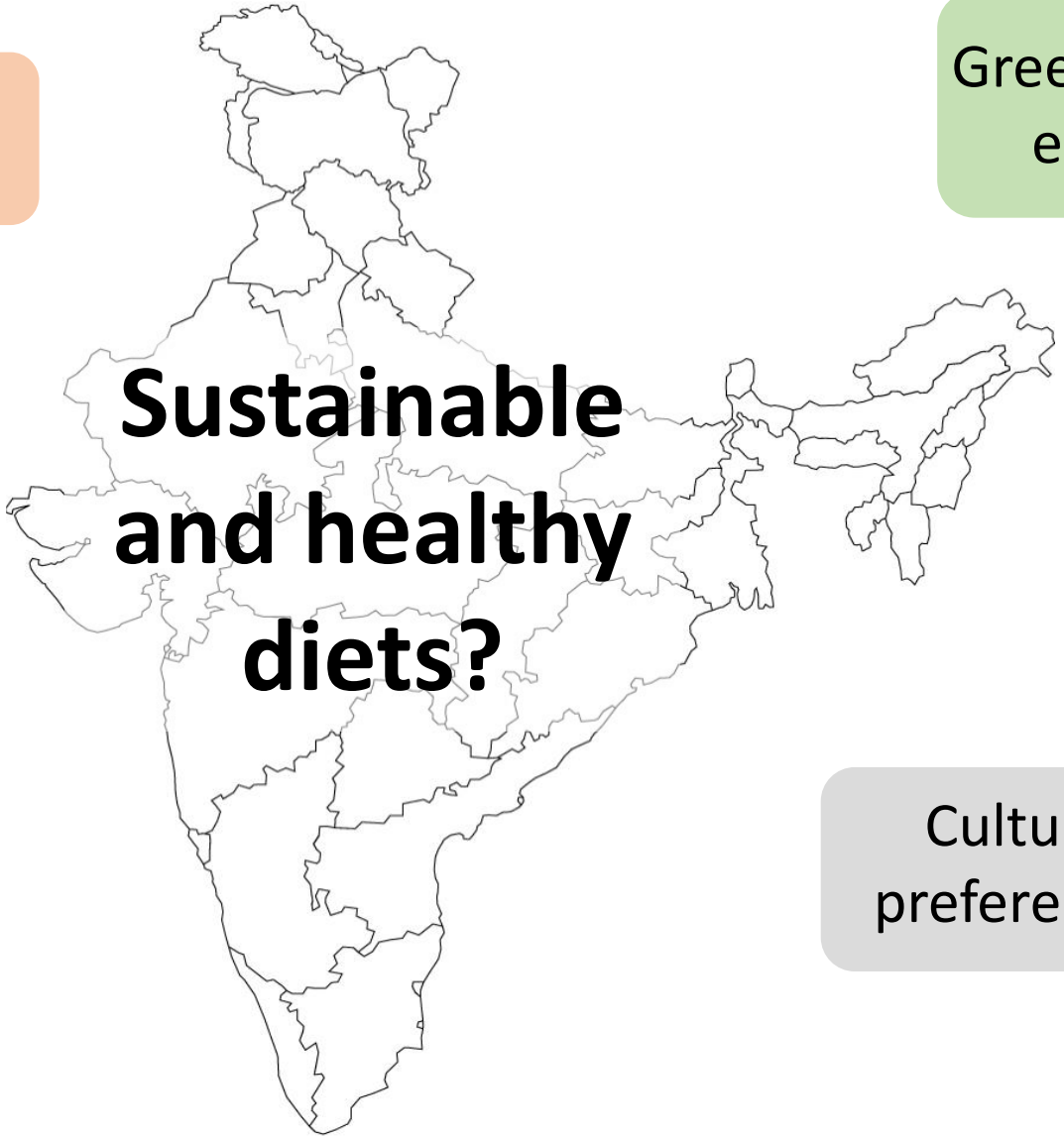
Rodell M et al (2009) *Nature* **460**, 999-1002.

Kumssa et al. (2015)

Image Credit: I. Velicogna/UC Irvine

Nutrition and health

Greenhouse gas emissions



Sustainable and healthy diets?

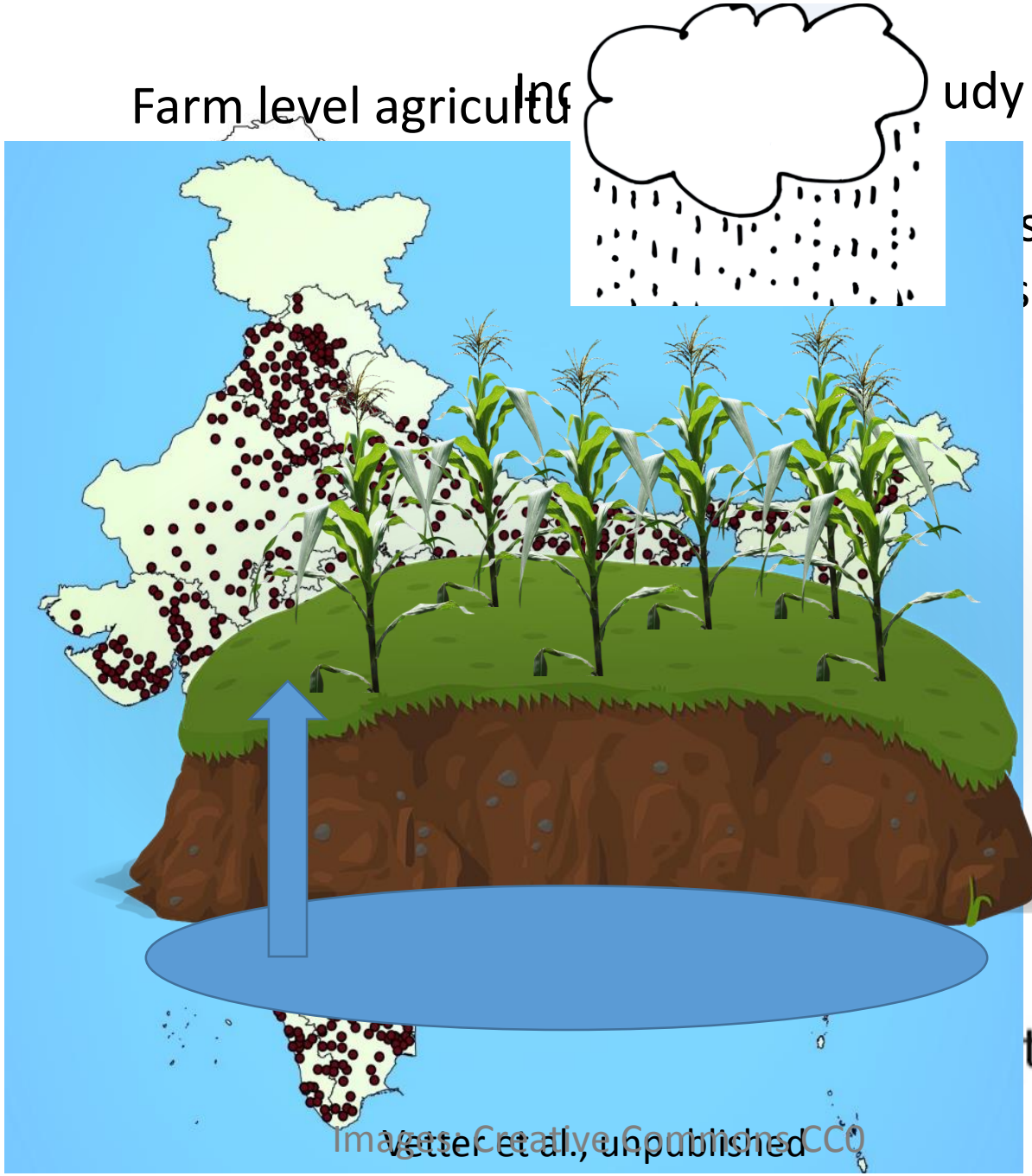
Water use

Economy and livelihoods

Cultural preferences

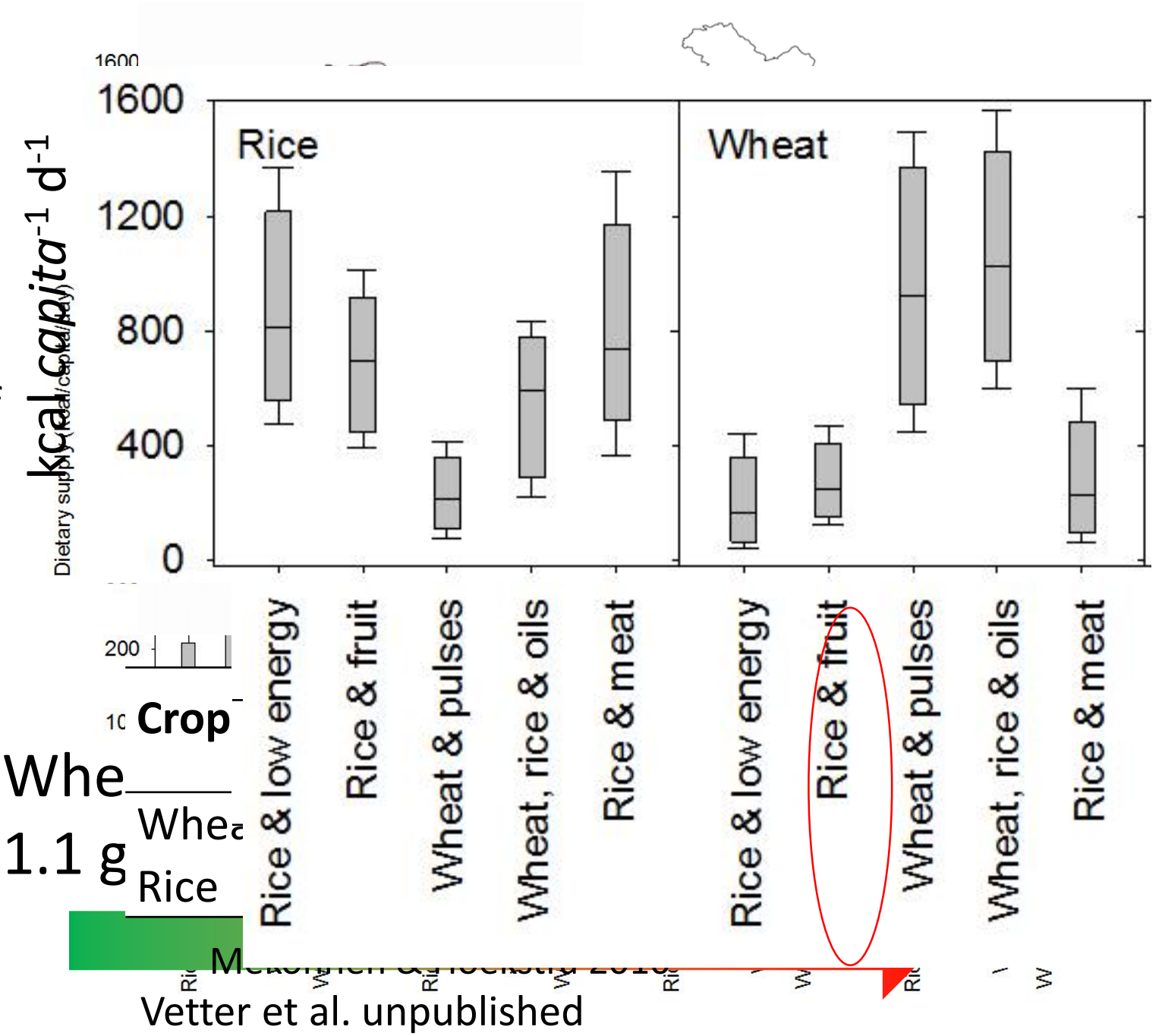
Methods

1. Define typical dietary patterns using Latent Class Analysis
2. Investigate health implications of dietary pattern membership
3. Quantify GHG emissions associated with dietary patterns
4. Quantify water footprints of dietary patterns
5. Optimise dietary choices to improve nutrition and environmental implications



Results

1. Define typical dietary patterns using Latent Class Analysis
2. Investigate health implications of diets through comparison between patterns
3. Quantify GHG emissions associated with dietary patterns
4. Quantify water footprints of dietary patterns



Vetter et al. unpublished

Future work

- Optimise dietary choices for health and environment
- Develop independent water footprint tool and database
- Forecast dietary consumption patterns to 2030 and quantify future water footprints of diets
- Investigate ways to reduce water use from consumption and production perspectives

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IMMANA Sustainable Diets Working Group

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