



Time Series Estimates Made for Indonesia's GHG Inventory Included in SNC

Presented by

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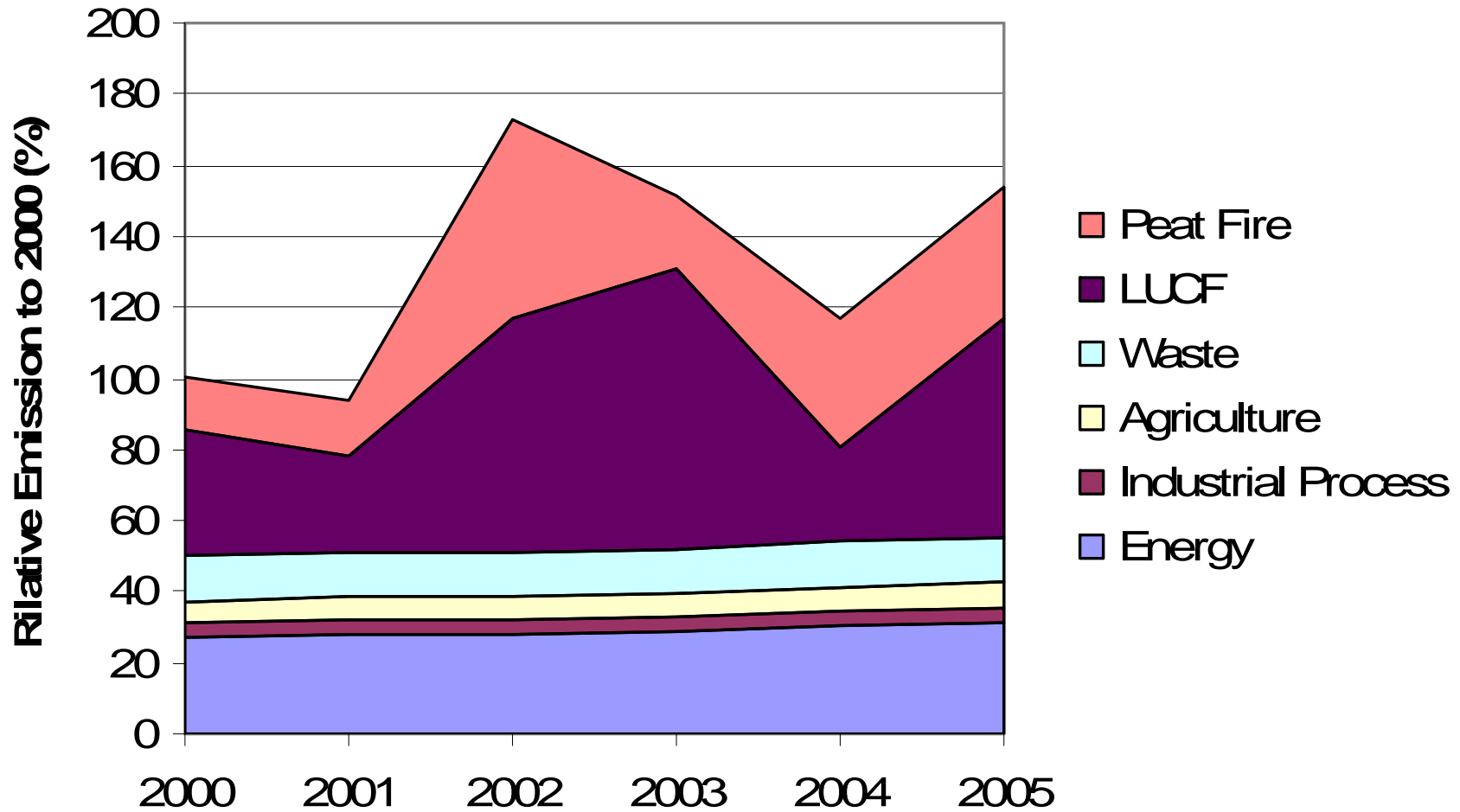
**MINISTRY OF ENVIRONMENT,
REPUBLIC OF INDONESIA**

Source: <http://www.oneinchpunch.net>

OUTLINE

- **GHG Emission Trend of Indonesia**
- **Process of collecting Activity Data and Developing Emission Factors for Rice Cultivation**
- **GHG emission series from rice cultivation**
- **Next Step**

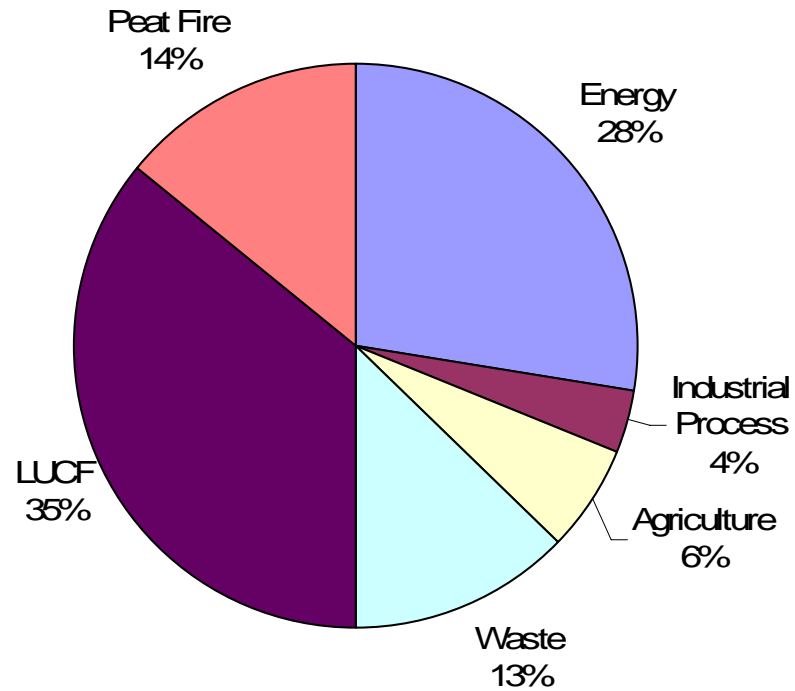
CO₂e emission trend by sector from 2000-2005



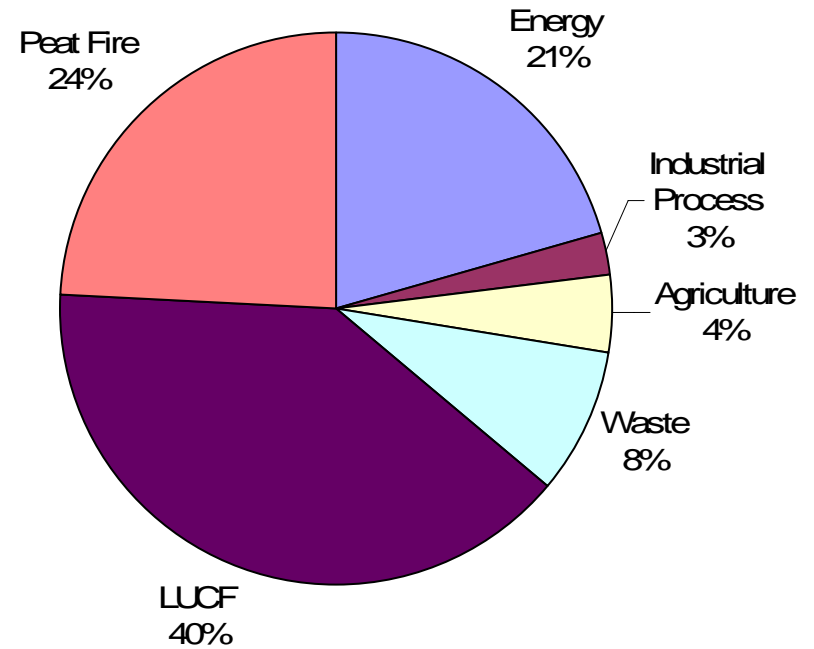
Note: Peat Fire emission was taken from van der Warf et al., 2007

Share of Sectoral Emission

2000



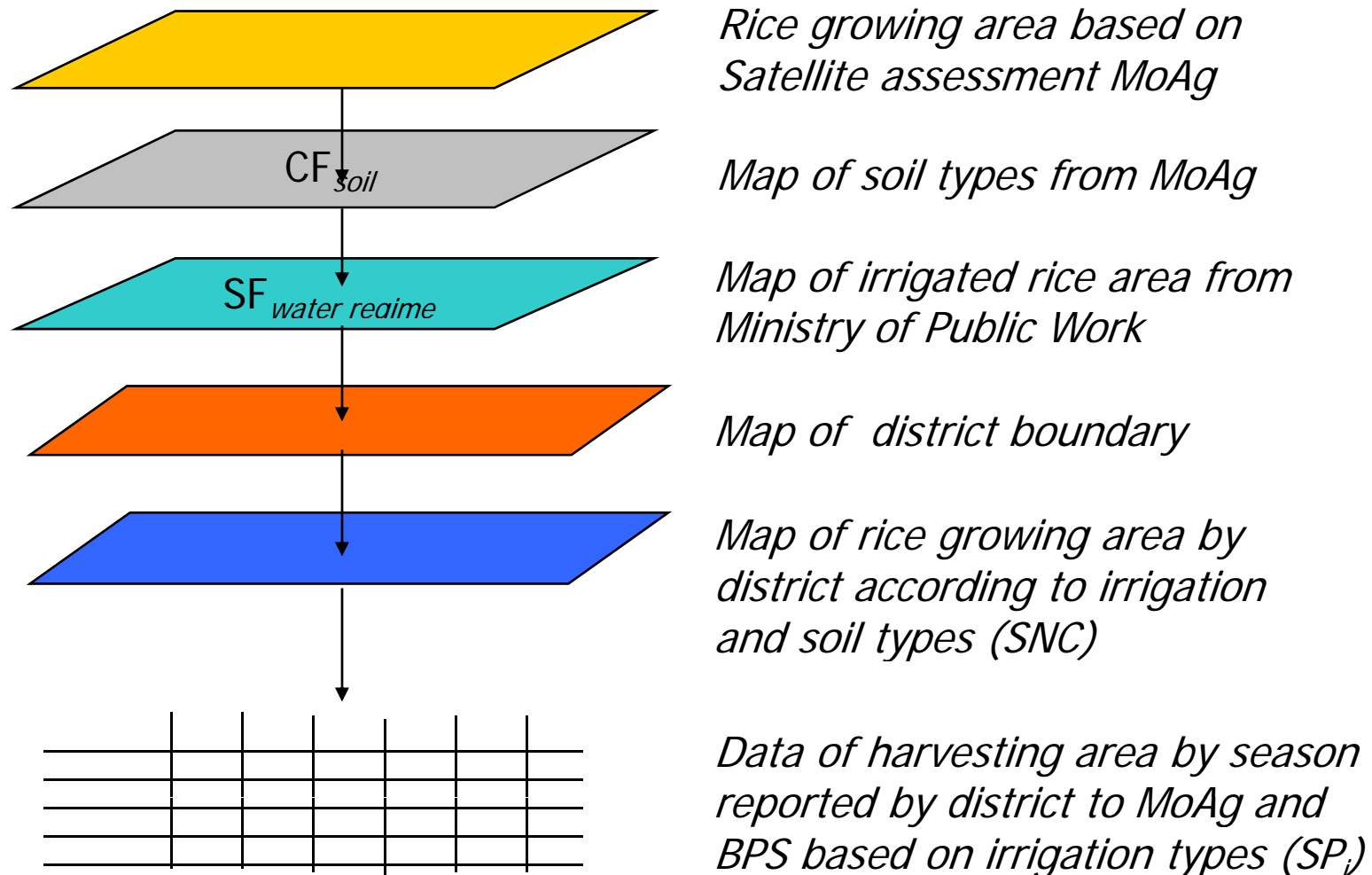
2005



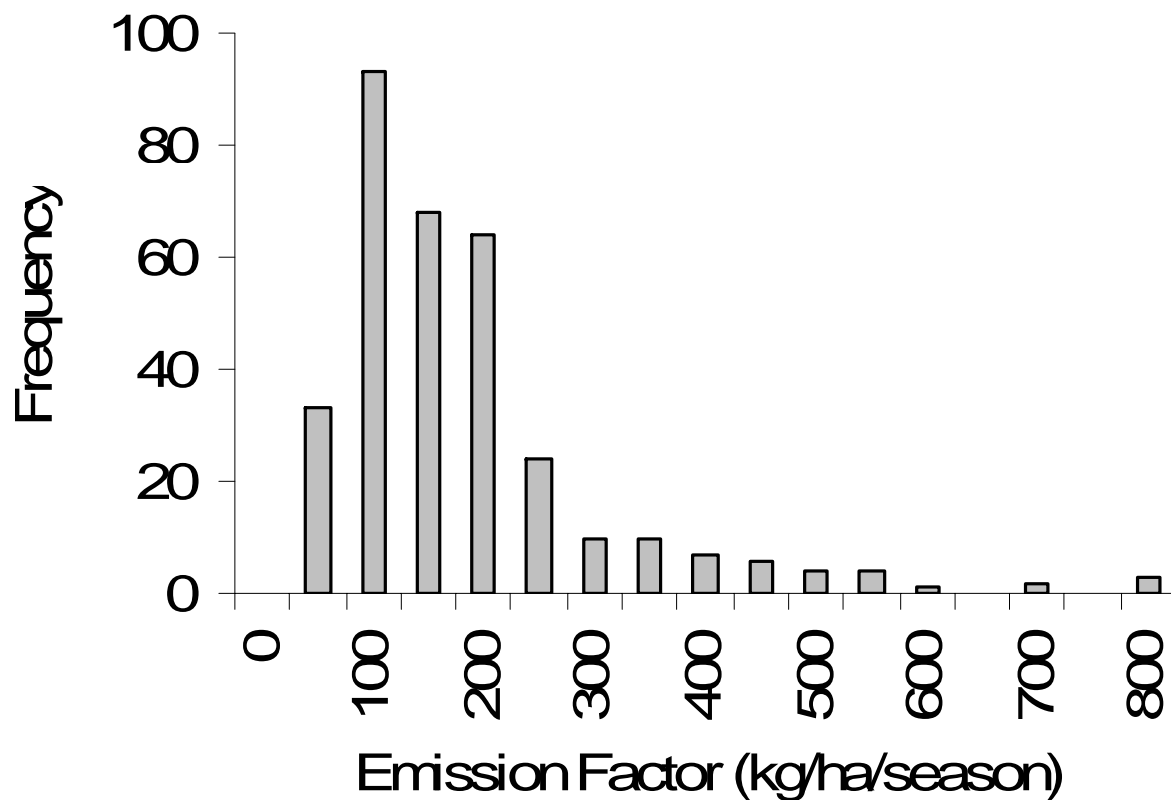
Formula for Estimating Rice

- $CH_4 \text{ Emission}_{rice} = A * CF_{soil} * SF_{water \text{ regime}} * EF_{rice}$
 - $CH_4 \text{ Emission}_{rice}$ = annual methane emission from rice cultivation (Gg CH_4 /year)
 - A = seasonal harvested area (ha/year)
 - CF_{soil} = Correction factor of different soil types
 - $SF_{water \text{ regime}}$ = Scaling factor of different water regime. For continuous flooded is equal to 1
 - EF_{rice} = Methane emission factor from rice (kg CH_4 /ha)

Process of Determining Rice Area by soil types and irrigation

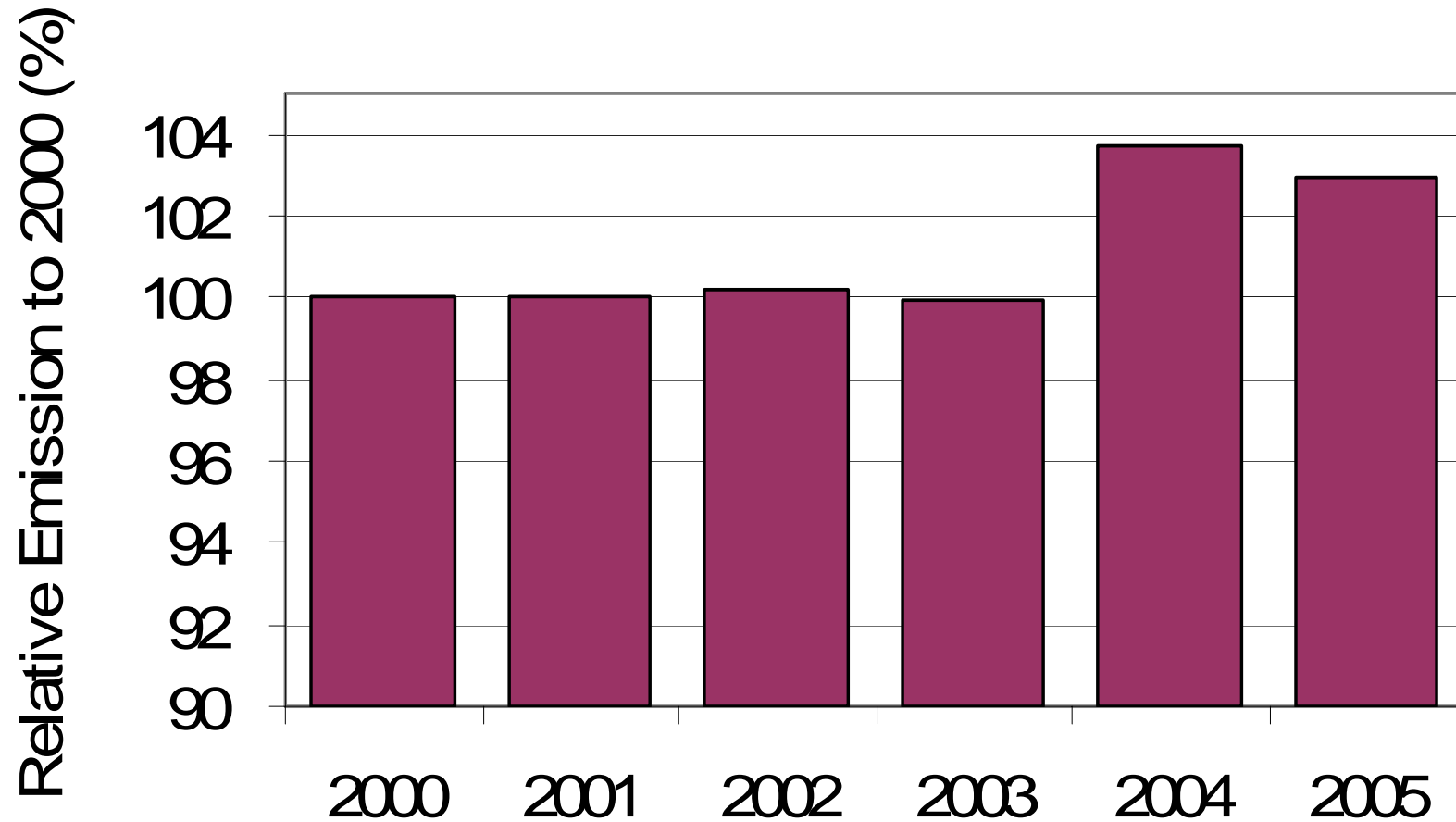


Rice Emission Factors



- Average of emission factor is 169.9 kg/ha/season based on 349 field experiments conducted in 10 different soil types and 3 different water management using 22 rice varieties (all in Java)

Emission Series from Rice

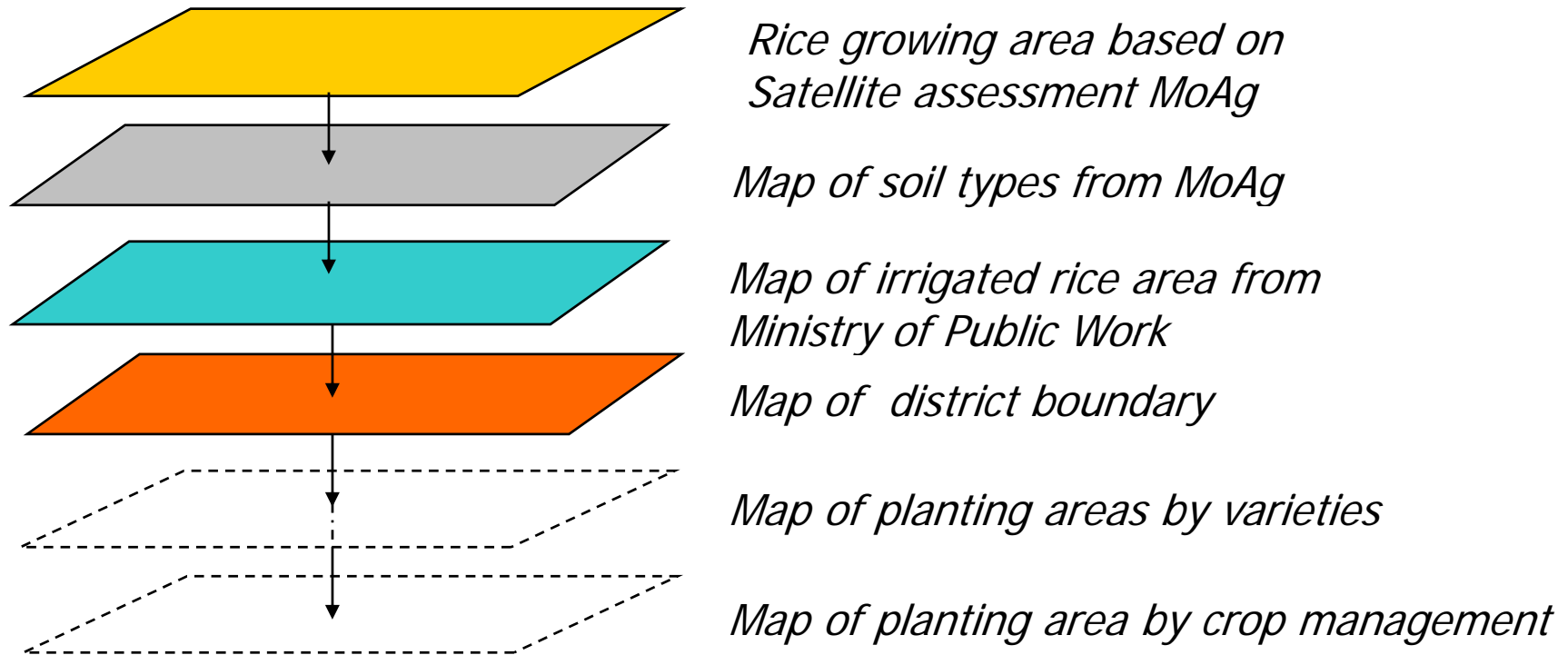


There is no much increase in CH₄ emission from rice cultivation

Next Step

- *Developing new scaling factor for variety (SF_v) and crop management (SF_{cm})*

- $CH_4 \text{ Emission}_{rice} = A * CF_{soil} * SF_{wr} * SF_v * SF_{cm} * EF$



This approach can assist the sector to evaluate the effectiveness of mitigation technologies intervention by district

THANK YOU