



Food and Agriculture  
Organization of the  
United Nations



# Analysis of new and updated Asian NDCs

*How is rice cultivation represented in the mitigation component of Asian NDCs?*

*How do Asian NDCs compare to global trends?*

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FAO Office of Climate Change, Biodiversity and Environment,  
Lapo Roffredi

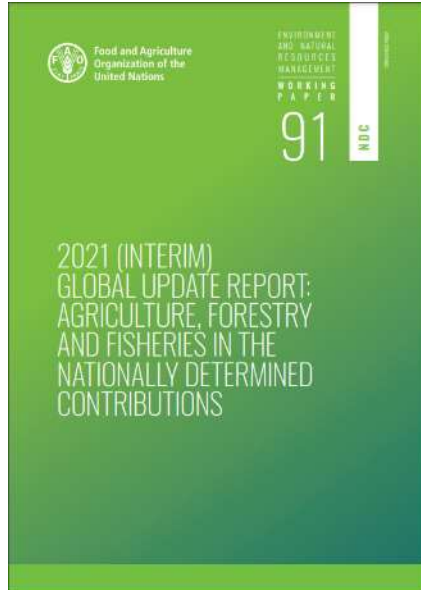


## OUTLINE

1. FAO 2022 NDC analysis: context
2. NDCs submissions in Asia
3. GHG Emission profiles of Asian countries
4. Rice in NDCs mitigation actions – overview
5. Rice in NDCs mitigation actions – content analysis

## FAO 2022 NDC Analysis

- Data and reference of this presentation from upcoming NDC analysis
- Includes new or updated NDCs submitted until 31 May 2022
- Focus of the presentation: mitigation component of NDCs



**COMING SOON!**

## 2022 Global Update Report: Agriculture, Forestry and Fisheries in the NDCs

**IMPORTANT:**

- The data shared in this presentation are updated but work is still in progress. The results shared in final publication may slightly differ.
- The data shared in this presentation are based exclusively on most recent NDCs content. Countries may prioritise other crops/actions under other policy documents programmes.



## NDC Updates submission status in Asia

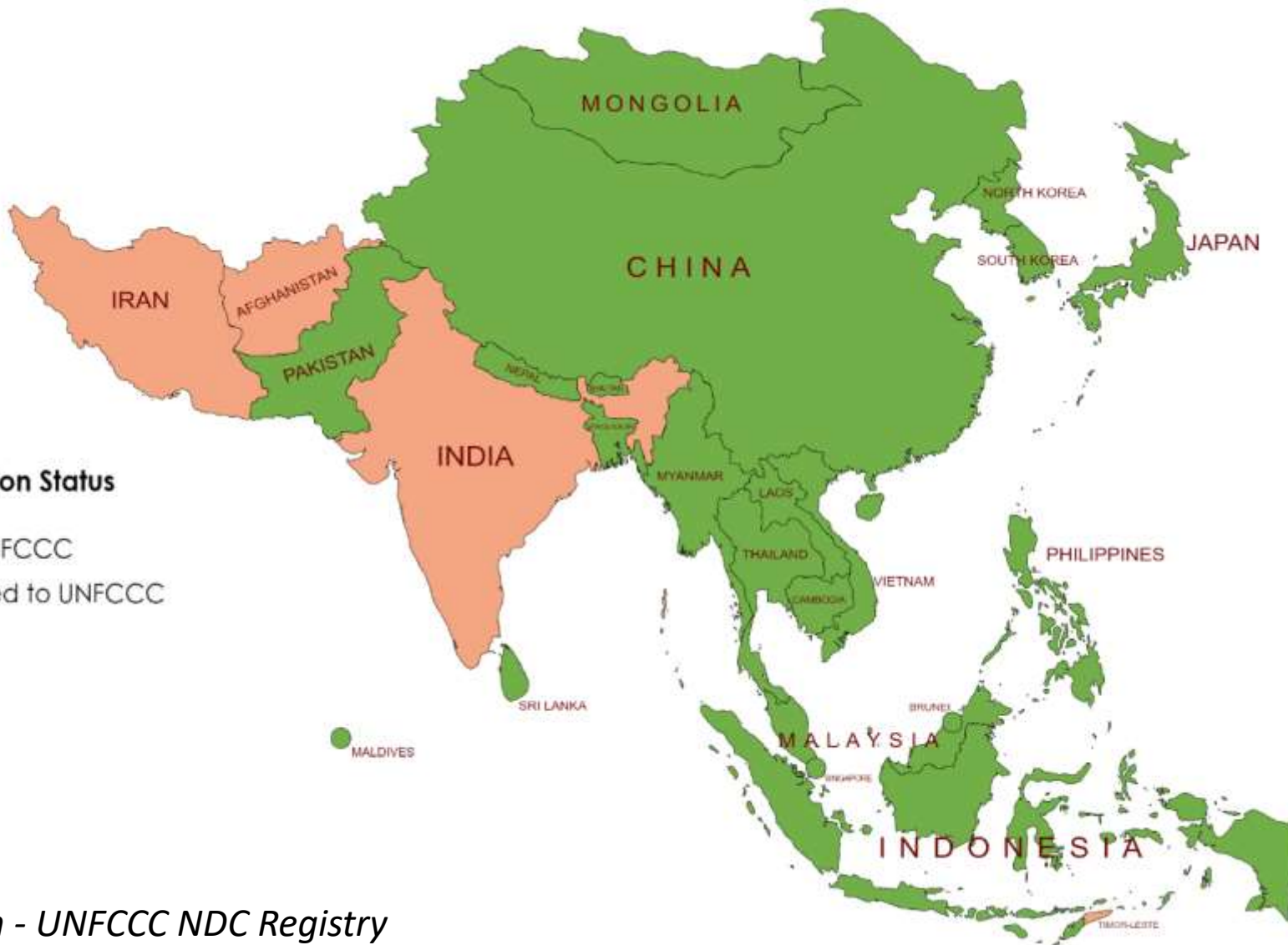
21/25 Asian countries (84%)  
submitted a new or updated  
NDC.

135/166 new or  
updated NDCs  
were submitted  
by PA parties  
globally (81%)

Focus on UN M49 sub-regions: Southern,  
South-Eastern and Eastern Asia

### New NDC Submission Status

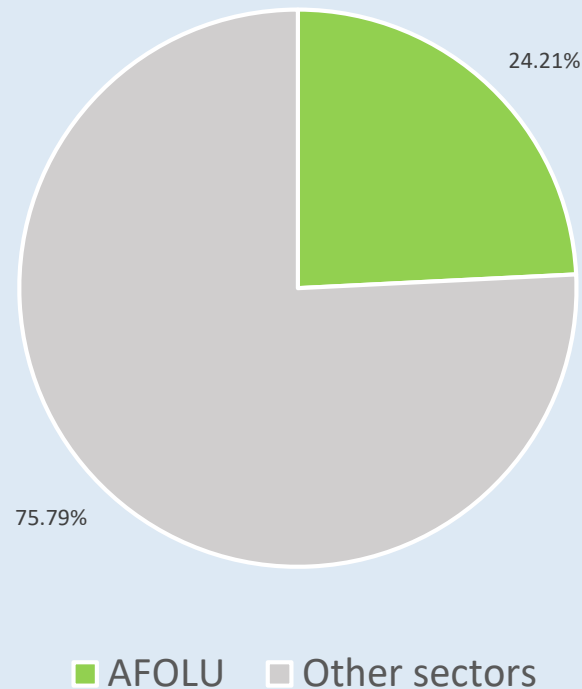
- Submitted to UNFCCC
- Not yet submitted to UNFCCC



# GHG Emission Profiles of Asian Countries

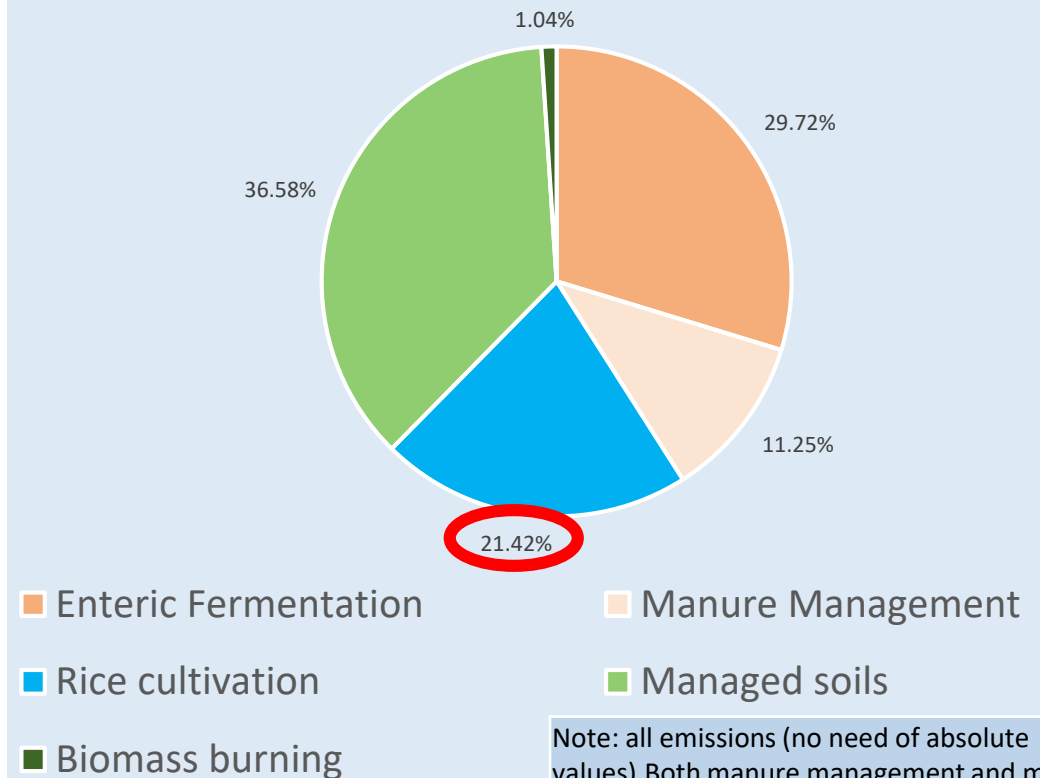
Focus UN M49 sub-regions: Southern,  
South-Eastern and Eastern Asia

AFOLU contribution of absolute emissions/removals



Note: In terms of absolute values both for emissions and removals

Agriculture subsector emissions distribution by activity



Note: all emissions (no need of absolute values). Both manure management and managed soils include the direct and indirect emissions



## Rice cultivation globally:

- Uses **40%** of world's **irrigation** water
- **10%** of global **methane** emissions

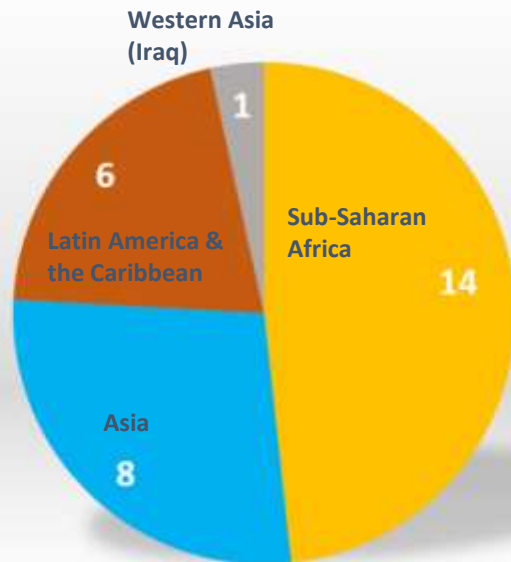


## NDCs Mitigation component and rice – Asia vs Global

**Globally, 21 countries** prioritised rice mitigation actions. Of these, 11 were African countries, 5 Asian, 4 American.

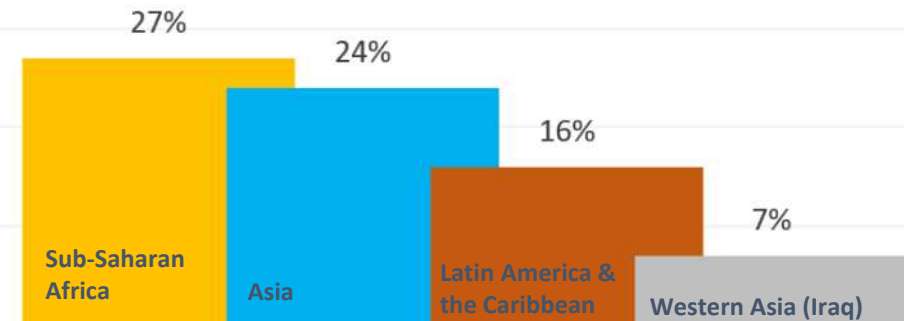
**In Asia, 5 countries:** Bangladesh (x4 actions), Bhutan, Laos, South Korea, Sri Lanka (+ *Pakistan & Cambodia*)

Number of rice cultivation mitigation measures  
distribution per subregion



Share of countries including rice mitigation  
measures, per subregion\*

\* = out of total subregional countries with a new NDC

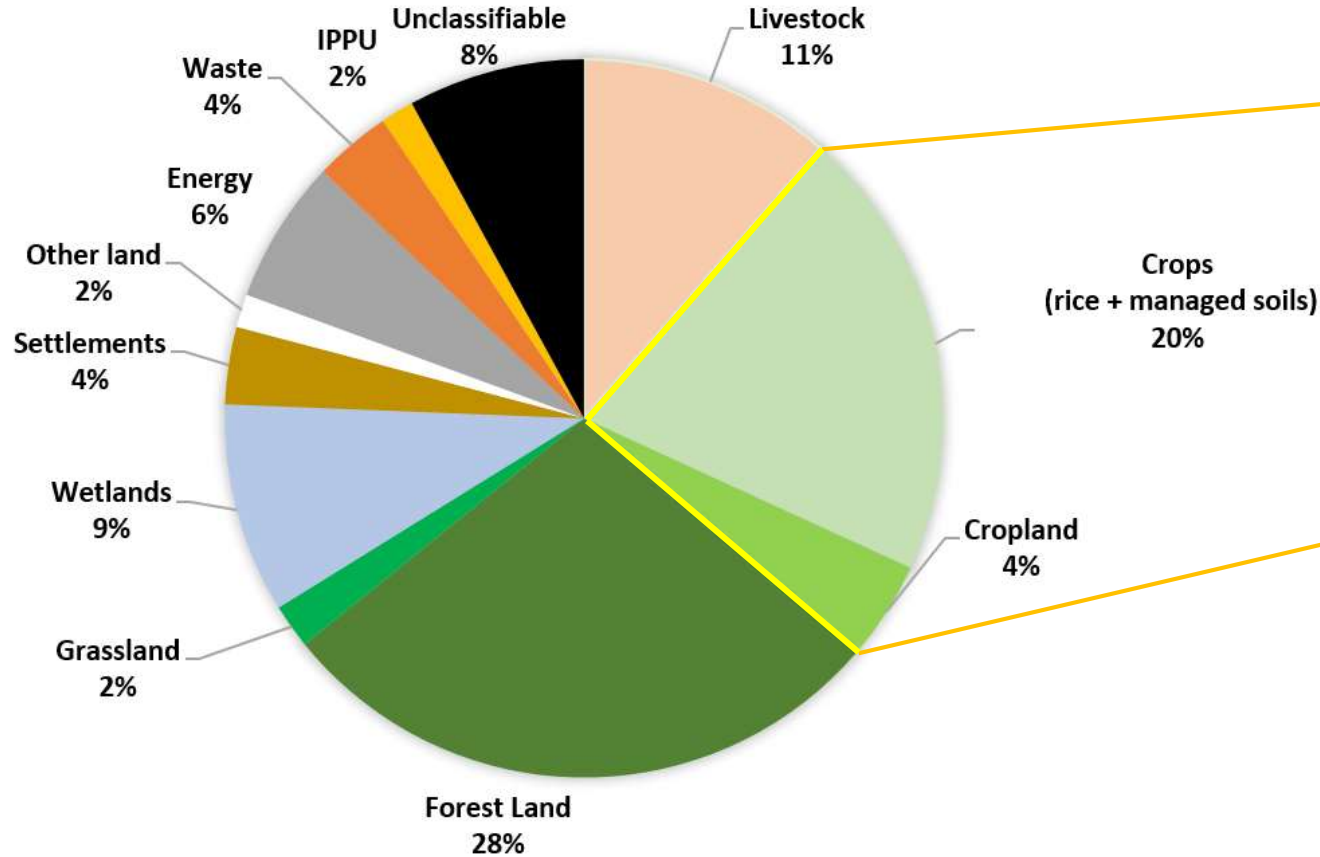


## NDCs Mitigation component and rice – Asia vs Global

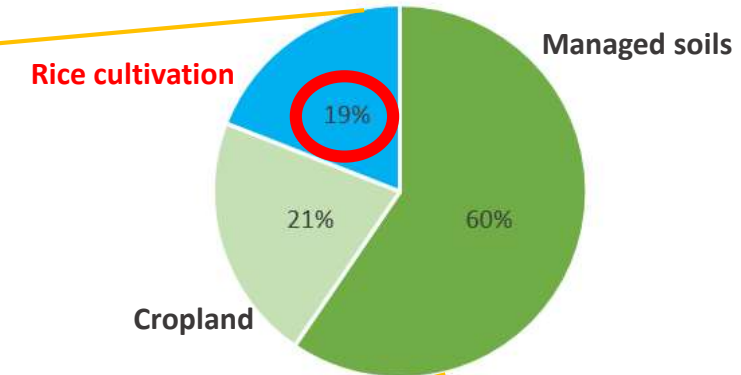
### Global level:

- 1107 mitigation actions in AFOLU individuated
- 273 actions in crops/cropland
- 29 actions in paddy soils/rice cultivation

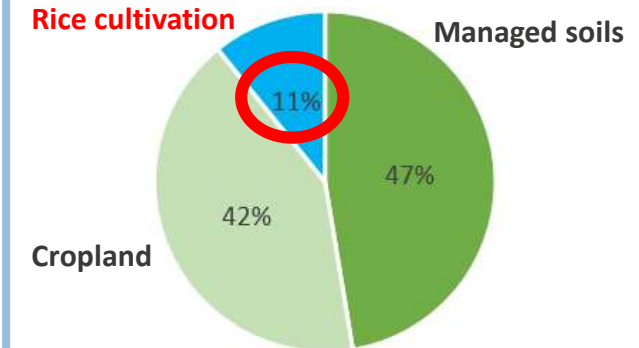
### NDC Mitigation actions in AFOLU and related - Asia



### Activities - Asia



### Crops and Cropland Subsector Activities - Global





## Rice Mitigation actions – global: content details



### 15 Water control measures (5 in Asia)

(e.g. intermitted aeration, irrigation practices improvement of alternate wetting and drying)



### 4 technology or crop varieties improvement measures (2 in Asia)

(e.g. Rice varietal improvement, adoption of new technologies)

- 3 Sustainable intensification measures (e.g. increase productivity, intensive rice cultivation) (1 in Asia)
- 2 use of fertiliser measures (organic fertiliser application, controlled use of fertilisers)
- 1 reduction of waste measure (rice crop residues used for livestock feed)
- 3 general measures (improved lowland rice cultivation, NAMA rice developed, reduction of CH<sub>4</sub>)

## NDCs mitigation and rice – Global level

### 2.2. Rice Mitigation actions: measurement

#### INDICATORS

- **61%** of the 29 rice measures had **indicators** associated, vs 41% of the 1107 total actions
- *Main indicators: hectares* (63% of indicators used) or % of land cultivated, flooding **days**

#### GHG REMOVALS QUANTIFICATION

- **21%** of rice mitigation measures reported expected GHG removals (22% of total measures)

#### FINANCIAL NEEDS

- **27.5%** of rice mitigation measures are unconditional to international finance (17% of total mitigation measures)
- **10%** reported detailed estimated cost needs (18% overall)



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SUSTAINABLE  
DEVELOPMENT  
GOALS



Thank you!

THANK YOU!







## Core References

- Crumpler, K., Abi Khalil, R., Tanganelli, E., Rai, N., Roffredi, L., Meybeck, A., Umulisa, V., Wolf, J. and Bernoux, M. 2021. *2021 (Interim) Global update report – Agriculture, Forestry and Fisheries in the Nationally Determined Contributions*. Environment and Natural Resources Management Working Paper No. 91. Rome, <https://www.fao.org/fishery/en/publications/283396>
- UNFCCC, NDC Registry (Official NDC Submission Portal) (Online). Accessible at: <https://unfccc.int/NDCREG>
- UN Stats, UNSD Methodology: Standard country or area codes (UNM49) (Online). Accessible at: <https://unstats.un.org/unsd/methodology/m49/>
- Transparency Assessment Navigator, *FAO Transparency Team with financial support of the GEF Capacity Building Initiative on Transparency fund* (CBIT).
- Global data and facts on rice cultivation impact made available by FAO RAP Team

**COMING SOON!**

2022 Global Update Report: Agriculture, Forestry and Fisheries in the NDCs



## **Extra slide: Why Rice?**

- Produced on **160 million hectares**
- **15%** of world's **wetlands**
- Uses **40%** of world's **irrigation** water
- 10% of global **methane emissions**

### **By 2050:**

- 🌾 **Production** needs to increase by 25% to meet demand
- 🌾 **15-20 million hectares** may suffer **water scarcity**







## ***Extra slide: NDCs Adaptation actions and rice – Asia vs Global***

### **DISTRIBUTION OF RICE ADAPTATION ACTIONS**

- 17 countries globally prioritised rice in their adaptation actions (21 actions in total)
- Of these, 9 were in Africa, 3 in Latin America/Caribbean, 3 in Middle East/Central Asia
- In Asia, 2 countries (Cambodia and South Korea)

### **MITIGATION CO-BENEFIT EXAMPLE**

**Cambodia example:** Development of rice crops for increased production, improved quality safety; harvesting and post harvesting technique and agro-business enhancement.

*Co-benefit:* mitigating impact of rice farming on environment