AGATE

Overview of requirements for Asia & Question Time

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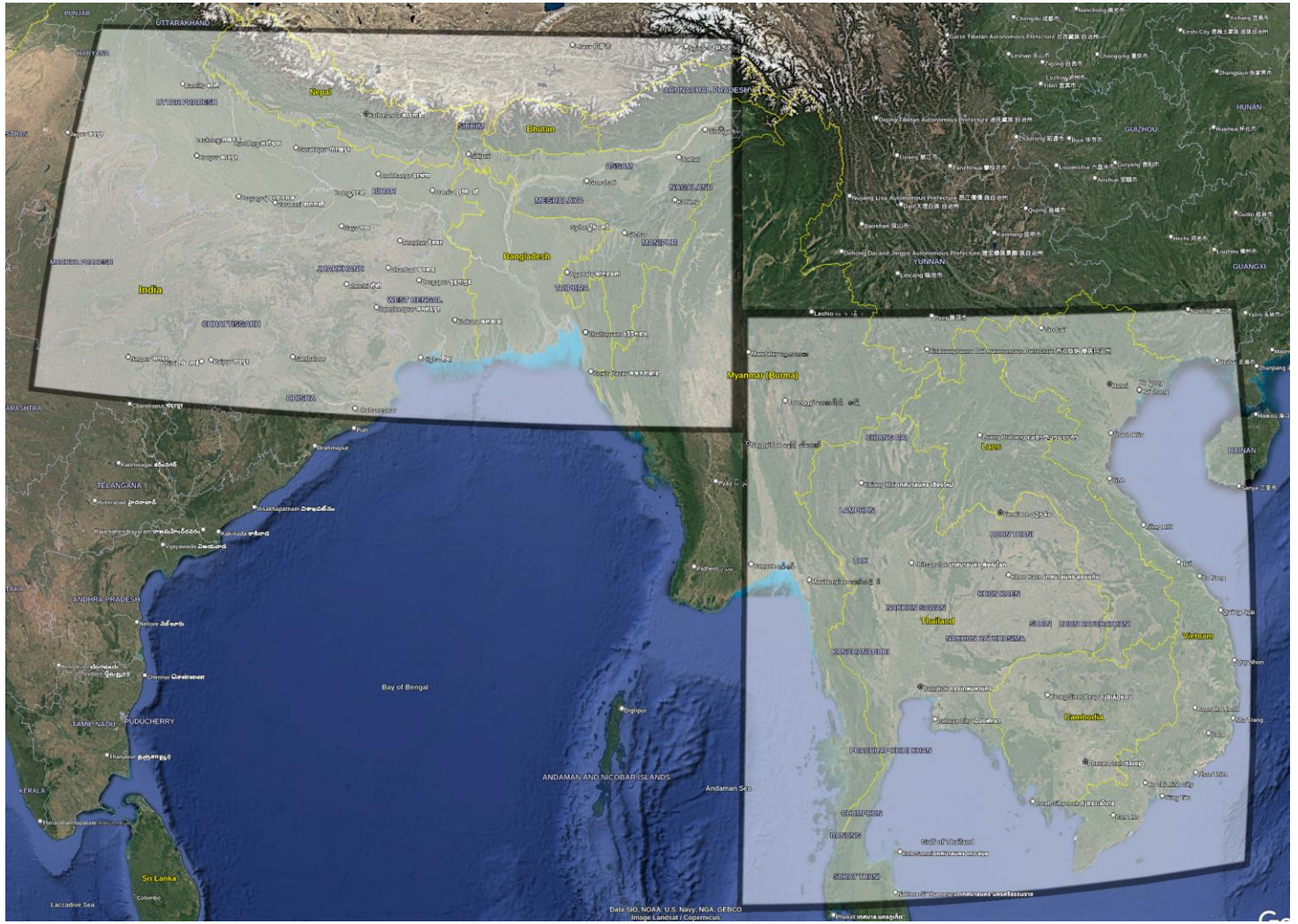
Overview - Asian User Community

Core Users	Other Stakeholders
TERI: The Energy and Resources Institute (**India**) **AIT:** Asian Institute of Technology **(Thailand**)	**IMEO:** The International Methane Emissions Observatory (UNEP) **NIWA**: The National Institute of Water and Atmospheric Research (NZ)
End users of the data for their own users/projects in the regions (studies, R&D, hotspots, policy, capacity building, knowledge sharing)	**Involved in similar initiatives/projects** **Produce CH_4 emissions data**
Key Interests: • **NH3, NOx, CH4** emissions to high resolution – crops/livestock (next slide) • Data quality /capacity building (end users) (train the trainer) • Identification of other interested stakeholders & potential users • Collaborate w/ projects – e.g. SAFECH4Rice Project	**Key interests:** products - next slide • **(Open, reliable) Methane** emissions to high resolution (step 2) • Technical info/exchanges on the methodology
• Methodological info: model inputs, assumptions, quality, uncertainty = > fit for purpose • High-quality maps and visualizations = > high level messages , user-friendly outputs	• Share technical methodological info (complementary, limitations) • Inform stakeholders what is possible (transparent; agri sector) • Maps; Nice to have: online interactive map • CH4 public data portal
Proxy data TERI & AIT: • EI available literature (TERI; Publicly available (AIT) • India: higher methane = > flooding • India: data challenges – outdated livestock census / fertilizer use • Landcover/Landuse (AIT/CloudSEOS) • Rice maps should be available • Both can assist with spatial analysis; gathering of local data	**Proxy data via** **IRRI:** The International Rice Research Institute **FAO:** The (UN) Food and Agriculture Organization LandSAT based paddy rice map = > possible to apply for this project

Domains for Asia – OK?



1, East of the Indian Subcontinent
[20-30 N, 76-96 E]
Main User: TERI , Others - IMEO?
Utter Pradesh, West Bengal, Bihar..
Bangladesh
Expand 'CH4' domain?

2, Mainland Southeast Asia
[8-23 N, 96-110 E]
Main User: AIT, Others - IMEO?
Thailand, Laos, Cambodia, Vietnam

AGATE baseline products Asia
Data Availability ‘Boundaries/Limitations’

Step 1				
Satellite-derived emissions (10 km scale)		NH3 NE India & South-East Asia 2020-2024 (CrIS, IASI)	Soil-NOx NE India & South-East Asia 2019-2024 (TROPOMI)	CH4 NE India & South-East Asia 2019-2024 (TROPOMI)
Step 2	Priority setting for the high resolution processing.			
High resolution emissions (user-defined)	Crops	Crops-NH3	Soil-NOx	Rice-CH4
	Livestock	Livestock-NH3		Livestock-CH4
Step 3				
High resolution deposition (user-defined)	**Deposition**	**Nitrogen-deposition**		

High resolution emissions (user-defined)
Data Availability 'Boundaries/Limitations'

Downscaling

- Sectors (crops, livestock, rice, soil)
- Spatial resolution (max. 1 x 1 km) ?
- User-provided proxy data = questions? - format? timing?

Crops-NH3	Soil-NOx	Rice-CH4
Livestock-NH3		Livestock-CH4

Temporal resolution vs accuracy

- Monthly data (baseline)
- Seasonal data with higher accuracy
- Annual with highest accuracy

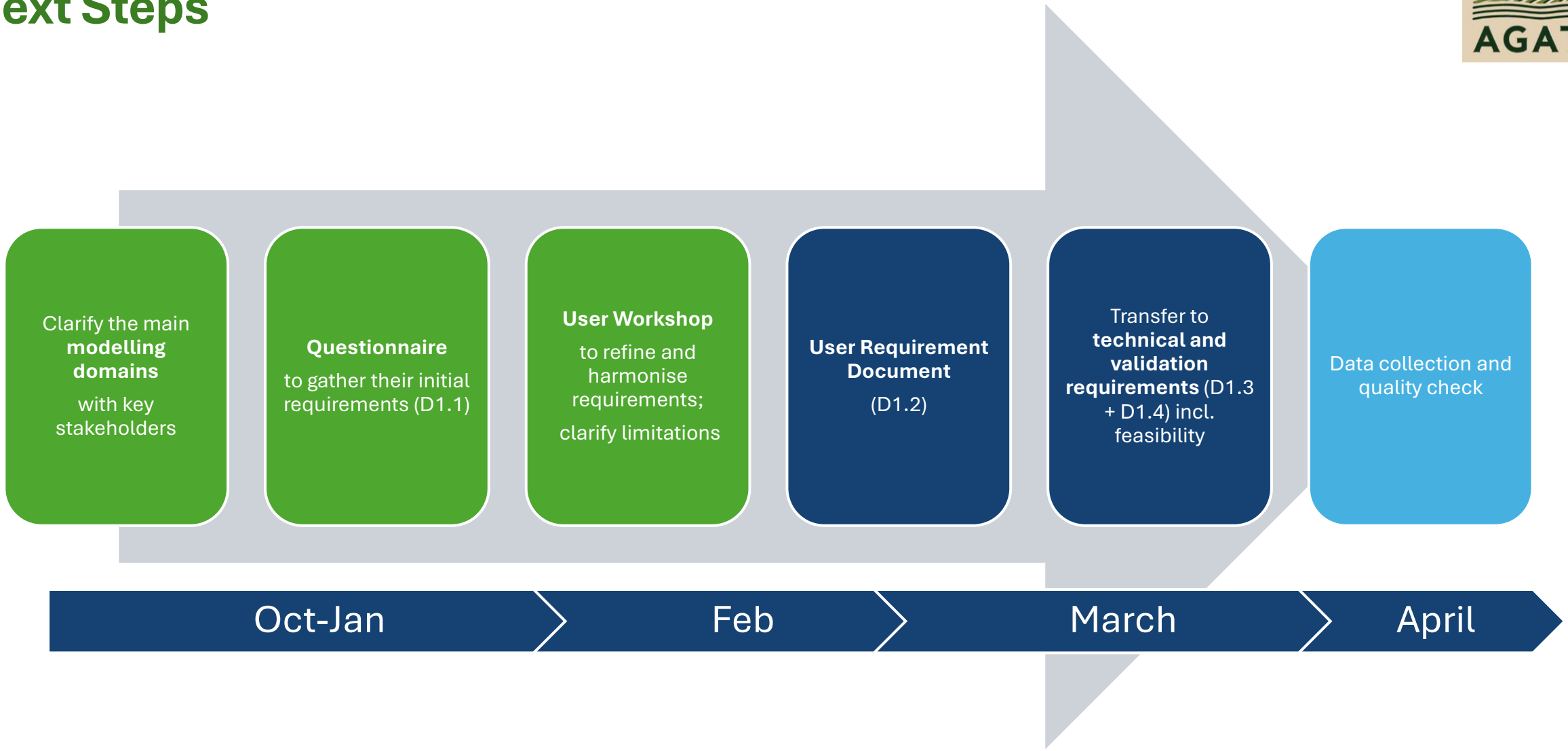
Data Format

- NetCDF
- GeoTiff
- ....

User Validation Data

- TERI - Methane and NOx concentration data
- AIT – NH3, methane and NOx concentration data via regional agencies

Next Steps


Clarify the main **modelling domains** with key stakeholders
Questionnaire to gather their initial requirements (D1.1)
User Workshop to refine and harmonise requirements; clarify limitations
User Requirement Document (D1.2)
Transfer to **technical and validation requirements** (D1.3 + D1.4) incl. feasibility
Data collection and quality check
Oct-Jan
Feb
March
April