AEGIS

A Multinational Consortium for Managing GHG emissions in Asia

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&
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AEGIS aims to reduce GHG emissions during increased rice production by researching the best production based mitigation strategies, monitor GHG outputs under these conditions, form international quality training networks and embed policy specialists.
Multiscale Discovery Science

Evidence Based Policy Development

Training Networks for the Next Generation
Reducing emissions and enhancing sinks: Addressing climate mitigation and monitoring challenges in S.E. Asia

AEGIS (Action on Emission of GHGs for Integrated Sustainability) Research Consortium

Developing strategic research collaboration

Preliminary meeting 6th and 7th March 2018 Bangkok
Action On Emissions of GHGs for Integrated Sustainability

China
Chinese Academy of Sciences

Lao
National Agriculture & Forestry Research Institute

Cambodia
Ministry of Agriculture, Forestry & Fisheries

Vietnam
Institute of Policy and Strategy for Agricultural and Rural Development

Japan
MAFF

Thailand
King Mongkut’s University of Technology

Myanmar
National Agriculture & Forestry Research Institute

Indonesia
Lambung Mangkurat University

China
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Myanmar
National Agriculture & Forestry Research Institute

Indonesia
Lambung Mangkurat University
AEGIS aims to fill knowledge gaps for accurately quantifying GHG emissions when implementing some of the most promising mitigation options.
Generate evidence based outcomes for policy

Interact with global, regional & country initiatives

AEGIS and climate smart agriculture

Private Public Participation

Technology transfer data sharing

Options for outreach and upscaling

Large consortium projects

Identify knowledge gaps to prioritise research

Capacity building
Position paper aimed at stock-taking of literature for understanding gaps in knowledge, prioritise research, funding investment for maximum mitigation gain, interpreting barriers and probable solutions in science, research and outreach.

Target audience:
- Government, Institutes, politicians, policy makers, global climate change initiatives, global/regional/national agencies, donors and funding bodies, outreach personnel, farming communities, educationist, researchers.
Timeline

- Aug 2018: Position paper start
- Nov: Framework for circulation
- Dec: Finalising the position paper framework
- Nov: Delegation of tasks
- Nov: Draft version for circulation
- Dec: Jan 2019: Position paper completion
Collect-Earth & SEPAL

Open-Source, Free Tools for Land Cover Data Collection, Analysis and Reporting

Food and Agriculture Organization of the United Nations
IPCC Equation for Estimating Emissions & Removals

Area change data from satellite remote sensing

GHG stock change data from field-based inventory

Inventory of GHG emissions

ACTIVITY DATA

EMISSION FACTOR

EMISSIONS ESTIMATE
SEPAL: Automatic class’n is faster

- Automatically classifies the image
- Faster
- Consistent
Proof of concept
Australian land use classification
Watershed in SE Asia

Australian Research Council Funding
APN Funding

Centre for Ecology & Hydrology
Natural Environment Research Council
Food and Agriculture Organization of the United Nations
Deciphering GHG emissions from rice fields on an ecosystem to molecular scale for sustainable GHG mitigation
Evaluating spatial variation in CH$_4$, N$_2$O, CO$_2$ flux on real time basis
High Molecular Throughput analysis
Training Network

3 students RICE DEPARTMENT

Institutional & National Funding Support

International Funding Support

THE UNIVERSITY OF WESTERN AUSTRALIA

KMUTT

UNIVERSITIES

FUNDING
a citizen science project where crowd-sourced science is building a state-wide map detailing the biodiversity and health of our environment using DNA sequencing to identify the biodiversity and abundance of microbes in our soils.
Topsoil microbial diversity

United Kingdom

Western Australia
using the power of citizen science to build a region-wide map detailing the biodiversity and health of the environment using soil microbial DNA sequencing

Soil microbial mapping in SOUTH EAST ASIA

Open Labs in IRRI, UWA, RD
LARGE CONSORTIUM PROJECTS

Funding Network

Country  Regional
CLIMATE SMART RESEARCH PROJECTS
International  Corporate

THE UNIVERSITY OF WESTERN AUSTRALIA

PARIS 2015
UN CLIMATE CHANGE CONFERENCE
TIMELINE of ACTIVITY

- **Nov 2018**: SEA MONITORING PROJECT (APN)
- **JAN 2019**: MONITORING PROJECT (ARC+FAO)
- **Jun 2019**: ACIAR POSITION PAPER
- **NOV 2019**: SEA REGIONAL PROJECT
- **JAN 2020**: CITIZEN SCIENCE PROJECT

RD + FAO + KMUTT

Landscape Project
Combined real-time monitoring systems CH$_4$, N$_2$O, CO$_2$

Citizen science for local deployment

Monitoring accuracy will be key to check country-wide/regional implementation of emission targets

Please contact suman.george@uwa.edu.au
For further discussions and collaborations