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LA RECHERCHE AGRONOMIQUE POUR LE DÉVELOPPEMENT

INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE

2nd World Irrigation Forum

6th – 8th November 2016, Chiang Mai, Thailand

Side Event on

Environmental performances of paddy rice systems in the context of climate change: approaches and case studies - Towards climate-smart and sustainable paddy rice systems"

DRAFT Concept Note

BACKGROUND

Awareness on the multifaceted challenges posed by climate change (CC) keeps growing. High level, international, political and societal benchmarks have materialized in 2015 and demonstrate such awareness: an international agreement (within COP21), multiple national-level INDCs and United Nations' Sustainable Development Goals pave the way to more concrete actions to come.

Land use, and more specifically agriculture, is intended to play a key role in mitigating and adapting to climate change. Particularly in least developed countries, such role is not only related to climate as a global common good which alterations causes trouble, but refers to food security, rural development, environmental protection, and well-being of populations, among other key societal concerns.

With regards to CC, the role of agriculture is twofold: on the one hand, agriculture contributes to 10-12% of all GHG emissions worldwide, and to about half of all anthropogenic methane emissions. On the other hand, land use and agricultural practice have great mitigation potential through alleviating emissions and carbon storage. Agriculture is also very vulnerable to CC, especially in most tropical areas, and must continuously adapt in a context of food insecurity, demographic growth and the need to increase production hence food availability. International development agencies and donors pay increasing attention to these issues.

SPECIFIC ISSUES RELATED TO PADDY RICE SYSTEMS

Paddy rice systems cover 165 million hectares (10% of all cropped areas). Compared to other agrifood systems, they show very specific and intense relationships with all three

environmental compartments (soil, atmosphere, water). In rice cropping systems, water is both a resource that may be depleted qualitatively (pollution) and quantitatively, and a production factor which full costs include supply and opportunity costs. Paddy rice systems ought to be scrutinized more acutely in the context of climate change; indeed, they contribute to 12-15% of all anthropogenic methane emissions which favor global warming; on the other hand, paddy fields provide multiple ecosystem services, including carbon sequestration, wildlife habitat, hydrological regulation and flood mitigation, among others.

OBJECTIVES

On the occasion of the Second World Irrigation Forum and with regards to the above-listed challenges and issues, ICID wishes to take stock of **recent advances in research and development on the environmental performances of paddy rice systems in the context of climate change**. The objective is to disseminate up-to-date knowledge and methodologies towards international agencies, and the national irrigation technical and policy spheres, to draw lessons from multiple case studies, and to highlight key findings, solutions, approaches, and knowledge frontiers, in order to fuel policy dialogue, to help planning and decision making, to orientate further research and development activities.

Much research and development activities have tried to address these issues and challenges, to find solutions towards more adapted, climate-smart and sustainable paddy rice cropping systems. They often bump into several barriers. The event would also provide a rare opportunity to investigate research and policy frontiers, and unsolved issues, such as:

- Assessing the risks facing paddy rice production in the context of climate change;
- Innovation in adapting paddy rice cropping system to climate change, in increasing environmental performances of rice systems;
- Novel and robust methodologies and approaches to assess the environmental performances of paddy rice cropping systems;
- The links between rice cropping practices (e.g. field water management, organic fertilization) and environmental impacts;
- The actual carbon storage capacity of paddy fields, and carbon footprint approaches;
- The links between carbon sequestration, GHG emissions, water footprint, and other environmental impacts;
- The possible trade-offs between CC mitigation through lower GHG emissions and land productivity through high chemical fertilization;
- The scarcity of actual measurements of GHG emissions, leading to modeling emissions based upon uncertain or ill-adapted emission factors, which in turn lead to inaccurate results on environmental performances and impacts;
- More specifically, the lack of base knowledge on N_2O emissions, and on their relationships with CH_4 emissions (in the case of antagonistic effects in alternate dry-wet paddy systems, for instance);
- The potential for, and hindrances to massive adoption and scaling up of SRA-SRI techniques;
- Paddy farmers' perceptions on climate change, adaptation, innovation in paddy rice systems;
- Novel policies for accompanying rice farmers in adaptation to CC

CALL FOR CONTRIBUTIONS: TOR

Contributors are welcome to submit abstracts, and ideas for short contributions on the above-listed topics and on other possible topics related to the environmental performances of paddy rice cropping systems, preferably taking account of climate change.

Abstracts must include 500 to 800 words max. (About 2 pages), possibly with one illustration or figure, and several key citations. Novel and original contributions are preferred. They may originate from research projects, experiments, research-development activities in all disciplines. Text format must be in recent versions of Microsoft Word.Other media may be submitted, such as **short videos** (10mn max. duration) in most common video formats.

Intended contributions shall be submitted **before 31 August, 2016** to:

POTENTIAL PARTNERS

ICID / WG-ENV; French National Committee AFEID

COORDINATOR

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Tentative Program of Side Event SE- (4 hours)

SECOND WORLD IRRIGATION FORUM

TIME	TITLE	PROPOSED SPEAKER	DURATION
Session I (09:00-10:30)	Introduction about objective of workshop		10 mins
		Key Note Speaker	20 mins
		To be decided	30 mins
		To be decided	30 mins
10:30-11:00	Tea/Coffee break		30 mins
Session II (11:00-13:00)		To be decided	4x15mins = 60 mins
		To be decided	
		To be decided	
		To be decided	
	Panel Discussion, Recommendations and Way Forward		60 mins
13:00–14:00	Lunch		60 min