Report on the Multi-stakeholder Consultation on Irrigation -- COSTEA-Cambodia Phnom Penh, April 6 2017

Context

The COSTEA (Technical and Scientific Committee for Agricultural Water) is an initiative funded by the French Agency for Development (AFD) and facilitated by the French Association for Water, Irrigation and Drainage (AFEID) since 2013. The COSTEA is both an AFD program but also a network of stakeholders involved in supporting the development and management of irrigation in South-East Asia, sub-Saharan and North Africa.

The primary objective of the COSTEA is to promote exchange of knowledge and experience among stakeholders involved in the irrigation sector (national ministries, nongovernmental organizations, consulting companies, higher education and research institutes, financial and technical partners, etc.) and to generate new knowledge that is useful for decision making. In so doing, the COSTEA aims at supporting the conception and implementation of projects and policies that address current and future agricultural water management challenges.

In 2017, the COSTEA enters in a new phase of 4 years with the ambition of (1) **extending activities** in three main regions: West Africa, North Africa and south-East Asia; (2) **increasing the role** that organizations that operate "in country" (national NGOs and research organizations, ministries) have in the identification of "themes of interest"; (3) **structuring activities** around a limited number of these themes; and (4) **establish regional networks of interested organizations** who will play a pivotal role in implementing activities.

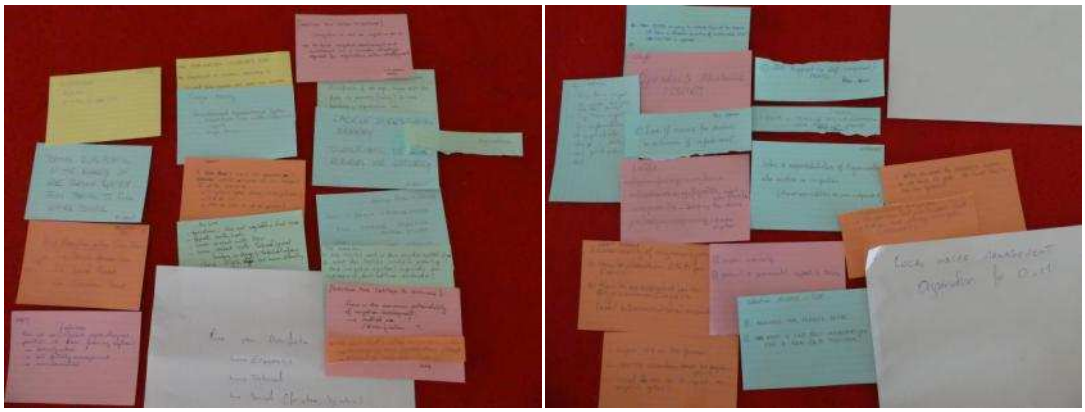
Objectives of the meeting

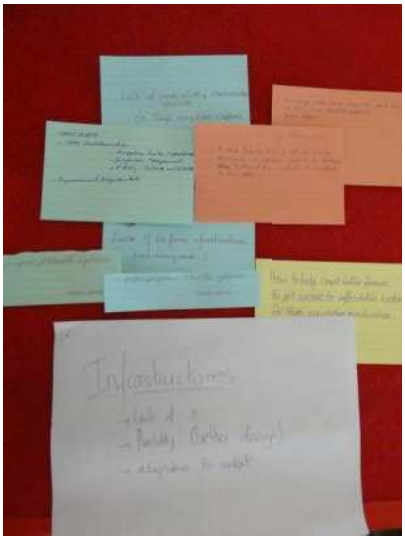
In this context, the multi-stakeholder consultation had three main objectives. The first objective was to present the activities conducted by the COSTEA in South-East Asia, and in Cambodia more specifically, during the first phase of the program (2013-2016). Presentations revolved around three themes: (1) Rice farming and Greenhouses Gas Emissions; (2) Evolution of Irrigation Policy Framework; (3) Local water management in irrigation scheme (see the annexes of this report). The presentations aimed at providing examples of the **type of activities** the COSTEA could implement and **the diversity of topics** it could focus on. The second objective was to identify the major issues faced by the irrigation sector in Cambodia and the stakeholders who needed to be involved to address these. In so doing, the consultation was the first step towards structuring a network of organisations and individuals interested in the issues of agricultural water management broadly speaking (third objective). The meeting was the first in a series of national meetings that will be conducted in Vietnam, Lao PDR and Myanmar over the next few months so as to identify cross-cutting themes that are meaningful at regional (south-East Asia) level.

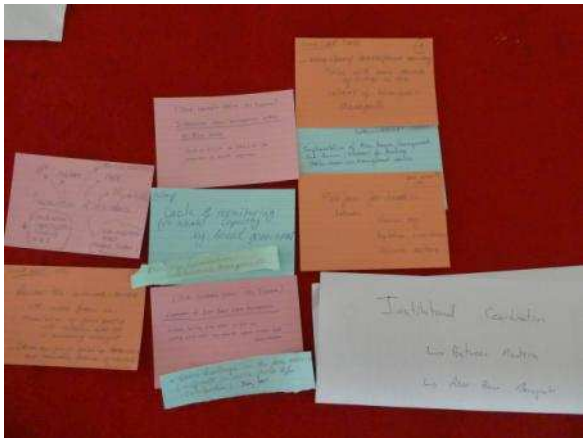
Main results: Main issues faced in the Cambodian irrigation sector

After the COSTEA team presented the COSTEA initiative and activities conducted to date (see annex), individual participants were asked to identify topics they thought could be important for the COSTEA to address in order to support the sustainable development of the irrigation sector in Cambodia. Individuals wrote down their interests on pieces of papers (see picture).

Picture 1: Examples of issues "flagged by" participants







The COSTEA team then grouped these individual answers in 4 main clusters –framed as 'major issues' reflecting the concerns of the participants: (1) the lack of (irrigation) infrastructure; (2) the difficulties faced for their sustainable operation and maintenance; (3) the challenges of institutional coordination across ministries, especially in a river basin perspective and the (4) importance to support the emergence and structuring of an irrigated agriculture that would be both environmentally sustainable and profitable for small farmers – with specific reference to the place of rice cultivation and diversification therein. These clusters were further discussed in parallel groups (see composition of groups below).

Infrastructures: What (type of) irrigation? The group highlighted the existence of a database on irrigation systems in Cambodia (CISIS), which provides a good knowledge base, but also the need to rehabilitate existing infrastructures and to build new ones. This would, however, require further information regarding the relatively unknown state of water resources and meteorology in the country. The group also highlighted that different donors had different approaches regarding the design of irrigation schemes and river basin management and dealt differently with uncertain data/information on water resources. Together, this stresses the need **to take stock of current approaches (capitalization study of irrigation system design and integrated water resources management),** which could serve as a block for improving the existing water resources management master plan. The group also mentions the opportunity to look beyond "irrigation schemes" and **gather information on other types of agricultural water management such as small scale rainwater harvesting or drip irrigation** (technical efficiency and productivity of these systems notably).

Operation and Maintenance: How to manage irrigation (systems)? The group focused on the well known challenge of ensuring the long term sustainability of investments in irrigation infrastructures through farmers' contributions. Participants highlighted that, in many cases, farmers do not consider the payment of a contribution for the rainy season to be legitimate (this happens in a context when many areas have abundant water with or without irrigation). Further, discussions mostly revolved on the need to ensure a service of quality to farmers, whereby quality of service was equated to the existence of tertiary and/or quaternary canals (i.e. the need to have 'complete systems'). In other words, sustainable management of irrigation systems through farmers' contribution (the role of the MoWRAM was not discussed beyond the need to increase the existing O&M fund of the ministry, which does not allow covering needs) would only be possible if complete systems are rehabilitated/built. **This calls for comparing levels and rates of recovery of the irrigation service contribution** across a large sample of schemes (some with, some without on-farm channels) to assess whether this is the prime factor explaining O&M status.

Irrigation and Water Management: what institutions and regulation? The group highlighted institutional challenges and a lack of clarity between MoWRAM and the MAFF regarding the responsibility of developing on-farm irrigation infrastructure in irrigation schemes (tertiary and quaternary canals), as well as the need for increased coordination among the many donors that invest in the sector (Chinese, Korean, Japanese, Australian, French cooperation, Asian Development Bank notably). There is an emerging debate over the institutional set ups that need to be put in place for the management of large scale schemes, which would benefit from international insights and expertise. A second topic is that of recent river basin management initiatives – supported by a new sub-decree-, which are still in their infancy, face multiple challenges (little recognition at national level, limited involvement of water users, lack of communication and absence of data sharing among stakeholders), but could also be supported in different ways notably through capacity building. **This signals a need and an opportunity for an in depth analysis of existing institutional arrangements for large scale irrigation and river basin management, and possibly the establishment of innovative approaches to support on-going initiatives.**

Agriculture: Irrigating what and with which impacts? The group highlighted the diversity of agro-ecosystems in Cambodia and the need to put irrigation in such perspective – notably because a large share of rice cultivation takes place with little or no water control (e.g. in the flood plains of the Tonle Sap). It stressed the need to assess the potentially negative impacts of intensive rice production (around the Tonle Sap or in the Upper Mekong delta) on the environment, fisheries but also human health (through heavy use of pesticides) when rice farming profitability is dwindling and farmers highly vulnerable to price fluctuation. Beyond irrigation, the group highlighted the need to adopt a holistic approach to support sustainable "irrigated agriculture" through: (1) **on farm technical improvement** –to reduce high labour and input costs and improve yields (via the introduction of new more resistant varieties for instance); (2**) alternative cropping practices** based on the principles of agro-ecology; and (3) **value chains approach** (including the development of standards and certification schemes geared towards high value crops (organic production for instance). Together, this signals an interest **to conduct a comparative analysis of the economic performance and the externalities of farming systems with different levels of water control, with the possibility to pilot technical and/or institutional experiments for sustainable intensification.**

Summary: Identification of transversal themes for the COSTEA in Cambodia

Based on the discussions summarized above, a few key topics around which COSTEA activities could be structured emerge. Some are pure knowledge generation activities (*stock taking/capitalization*); others can have a "practical" dimension through "pilot activities". Two main regions of interest have been clearly identified: (1) the intensively irrigated and drained area of the Upper Mekong delta and (2) the flood plains around the Tonle Sap with partial water control.[1] Topics are as follow

1. Assessing water management (irrigation/drainage) modalities in their diversity in the Upper Mekong delta through the dual angle of the (1) trade-offs between the environment and agricultural development and (2) their vulnerability/adaptability to climate change.
2. Assessing current agricultural water management practices in the Tonle Sap Plains and investigating/piloting innovative practices (e.g. agro-ecology in rice farming systems) and institutional approaches to support sustainable intensification and value chain enhancement
3. Assessing the diversity of irrigation engineering designs and how these impact operation and maintenance dynamics: what design choices, what costs, in which regions, with what impacts?
4. Assessing existing institutional frameworks for irrigation system and/or river basin management and piloting innovative approaches to support on-going initiatives (FWUC, PUC, basin committee).

[1] The Cambodian uplands have not been discussed much even though (1) there are on-going irrigation development projects (for instance financed by ADB) and (2) they witness wide-reaching agricultural changes.

Next Steps

The steering committee of the COSTEA will meet in May 2017 in France to finalize the guiding principles and working modalities of the program over the next 4 years. Information on the outcomes of the meeting and notably **about the modalities of funding** (amounts, timeline, and type of activities) will be shared as soon as they become available. It is expected that the COSTEA will fund a wide range of activities, from pure knowledge generation (research) activities to pilot experiments, and from short duration studies to multi-annual initiatives – granted these are proposed by a consortium of members and advance our collective understanding of irrigation dynamics.

The COSTEA aims **at adopting a bottom-up approach** whereby it is shaped by its members. This means members of the COSTEA network who participated in this first consultation are invited to contact the South East Asia regional focal point (jean-philippe.venot@ird.fr) to propose activities that **fit within the four topics** identified above and necessarily **involve several members of the network.** Activities do not need to be focused on Cambodia; ideas that have a comparative dimension and regional relevance (Vietnam, Laos, Myanmar, Thailand) will be particularly welcomed.

After consultation with the South East Asia focal point, a short proposal will need to be submitted to the COSTEA secretariat (a template is currently being drafted and will be shared in the following weeks). Granted a first positive assessment by the regional focal point, the proposal will then be forwarded to the Scientific and Technical Committee (CST) of the COSTEA that will take the final decision to fund the proposal or not (the next meeting of the CST is planned for September 2017).

List of participants

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