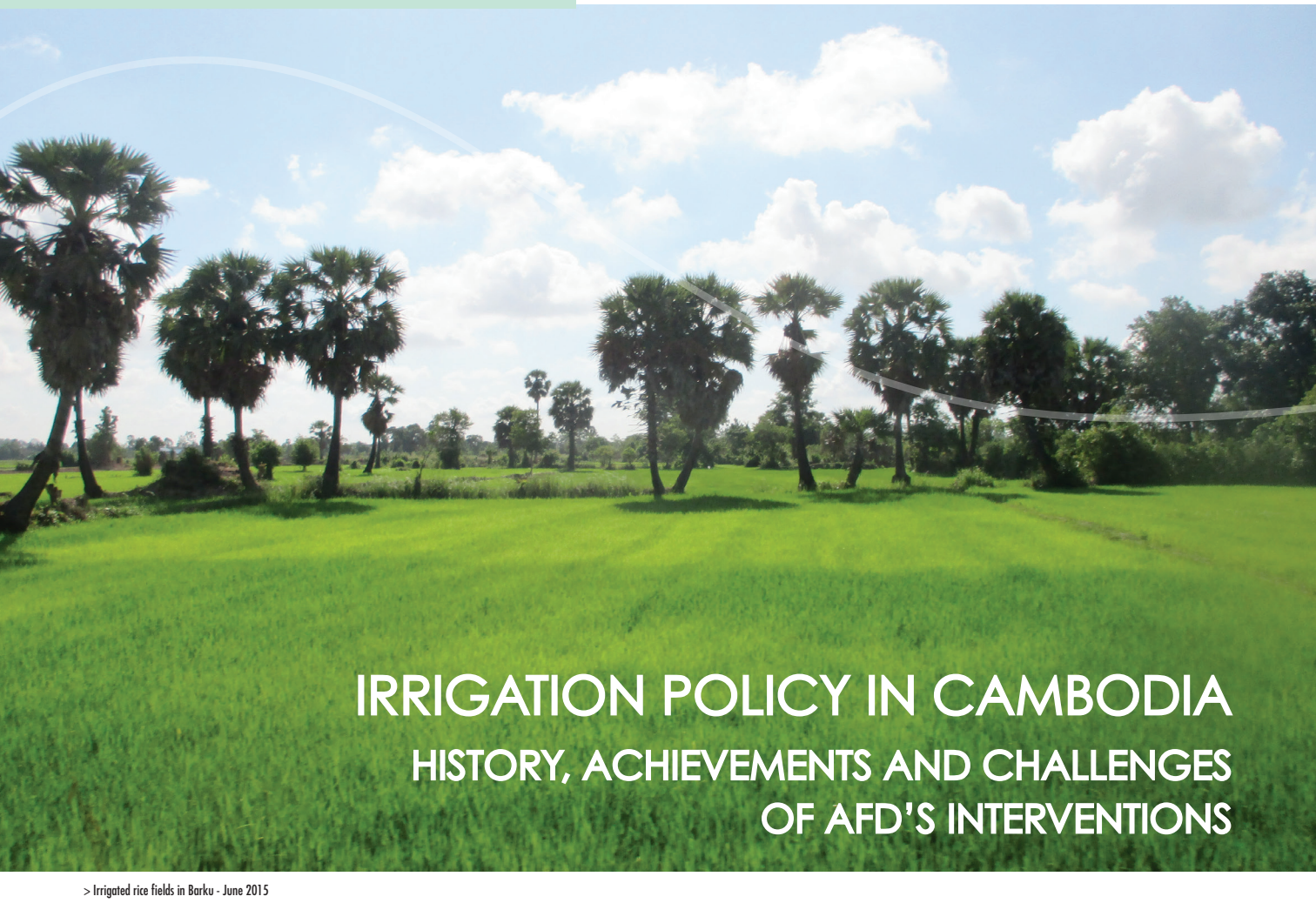

IRRIGATION POLICY IN CAMBODIA

HISTORY, ACHIEVEMENTS AND CHALLENGES OF AFD'S INTERVENTIONS

> Irrigated rice fields in Barku - June 2015

AUTHOR: Jean-Philippe Venot & Jean-Philippe Fontenelle
(IRD, UMR G-EAU and Bordeaux Sciences Agro)
REVIEWERS: Jean-Marie Brun (IRAM),
Stéphane Brun (Independant consultant),
Alexia Hoffman, Sideth Muong, et Vatché Papazian (AFD),
Frédéric Larbaigt et Patricia Toelen (GRET)

COSTEA
Pour une irrigation durable

IRRIGATION POLICY IN CAMBODIA
HISTORY, ACHIEVEMENTS AND CHALLENGES OF AFD'S INTERVENTIONS

ADB	Asian Development Bank
AFD	French Development Agency
CICID	Interministerial International Cooperation and Development Committee
CISIS	Cambodian Information System on Irrigation Schemes
DPIC	Department of Planning and International Cooperation
ED	Engineering Department
Fonds FSP	FSP Funds: priority solidarity funds
FWN	Farmer Water network
FWUC	Farmer Water User Committees
GDIMH	General Directorate of Irrigation, Meteorology and Hydrology
IAD	Department of Irrigated Agriculture
ISC	Irrigation Service Center
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEF	Ministry of Economy and Finance (Ministère cambodgien de l'Economie et des Finances)
MoWRAM	Ministry of Water Resources and Meteorology
NWISP	Northwest Irrigation Sector Project
PCU	Polder Users' Community
Projet ASiRRI	ASIrri Project: Irrigators and Services for Irrigators Support Project
PSEA	Projet Sectoriel Eau et Agriculture = WASP : Water and Agriculture Sector Project
WRMSDP	Water Resources Management Sector Development Program

SUMMARY

The French Development Agency (AFD) has been involved in supporting the development of the irrigation sector in Cambodia since the mid-1990s. This involvement began with the Prey Nup polders rehabilitation projects, which swiftly became iconic given the extension of irrigated areas, the production and productivity gains, and the strengthening of the farmers' association that the project entailed.

The types and modalities of AFD's interventions are now multifaceted, with the explicit aim to contribute to the development of a sector-wise public policy framework based on one principle, that of sharing responsibilities between the Ministry in charge of the irrigation portfolio (Ministry of Water Resources and Meteorology of Cambodia (MoWRAM)) and water users (organised in Farmer Water Users Groups (FWUC)). AFD's intervention strategy was progressively built 'en route' by a core group of people sharing a specific vision of what irrigation in Cambodia should be. This largely happened on an ad-hoc basis, and over time, in response to emerging needs (compared to an approach that would have been defined a priori). Besides the rehabilitation of various irrigated schemes and building the capacity of irrigators to help manage these schemes, the interventions carried out by the AFD and its partners have contributed to (1) the implementation of various tools and schemes (information system on irrigation schemes, maintenance fund, 'apex committees'), (2) the creation of organisations (FWUC, ISC, FWN), and (3) the development of the Cambodian policy framework (FWUC sub-decree, rehabilitation policy and maintenance of irrigated systems), which could be a starting point for a sustainable irrigation development policy.

The influence that AFD has had on the evolution of the Cambodian irrigation policy framework is due to (1) the co-existence of 'project' and 'institutional support' activities which strengthened each other and (2) partnership strategies, particularly with the Asian Development Bank (ADB), to instil principles and methods of action that could be taken up by other donors with greater financial resources. This leverage effect was especially pronounced in the second half of the 2000s when a thematic working group on water and agriculture was established as an exchange platform for donors and the ministries in charge of agriculture and irrigation. Following a period of partial withdrawal (2009-2013) as well as the increasing influence of new donors in the sector (particularly the Chinese Cooperation Agency), AFD, whose priority is still to ensure the sustainability of investments by strengthening FWUCs and a 'rational' use of cross-cutting tools developed for the monitoring and management of irrigated systems, seems, today, to be rather isolated.

Monitoring and management tools and policy frameworks do exist - which is a highly significant result in itself - but they are still seen in very different ways by AFD, its partners and MoWRAM. Terminology aside, the FWUC sub-decree promulgated in 2015 after many vicissitudes clearly reflects MoWRAM's desire to tighten its control over irrigation management; the decree is not really about sharing responsibilities even though MoWRAM recognises that development projects generally strengthen the capacities of the FWUCs. The organisations that can help the FWUC to gain a technical (ISC) and political (FWN) legitimacy are still vulnerable and need to be further strengthened to establish themselves as credible partners of MoWRAM. It is clear that cross-cutting tools and mechanisms (the Cambodia Irrigation Scheme Information System (CISIS) and the maintenance fund) have been internalised by MoWRAM, which is in charge of their elaboration, implementation and monitoring. For the moment, however, they are still mostly used to support a political priority, that of building further infrastructure and extending irrigated areas (a priority supported by some Cooperation Agencies with very large financial resources such as China) rather than as a tool serving a policy whose objective would be to maintain already existing infrastructures, even if there seems to be a recent effort to streamline investments based on criteria that have long been put forward by the AFD.

Most recent events seem to indicate an increased involvement of the Ministry of Economy and Finance (MEF), notably regarding the elaboration and monitoring of the recent 'rehabilitation and maintenance of irrigation systems policy'. The MEF is indeed well aware of the very large amounts committed (and borrowed) to support the development of the irrigation sector, and seems to be willing to ensure the sustainability of the investments made. However, the MEF is still reluctant to commit the government to borrowing money for institutional support activities (whether at the local level - FWUCs - or national level - MoWRAM) even though sustaining the progress made over the last 20 years is crucial to make sure current investment are sustainably.

Finally, in methodological terms, this study highlights the fact that public policy trajectories (and donor intervention strategies) can only be assessed over the long term, which is a challenge in itself within a sector that is characterised by rather short project cycles and changes in strategies and priorities, often linked to geostrategic decisions that have little to do with irrigation dynamics.

A draft version of this report was given to the members of COSTEA whose comments helped to improve it. Specifically, we thank Jean-Marie Brun, Stéphane Brun, Alexia Hoffman, Frédéric Larbaigt, Sideth Muong, Vatché Papazian and Patricia Toelen for their remarks and for making the necessary information, reports and data available in order to properly carry out this study.
This is a translation by Sara Mullin (Trad8) of a report published in the last quarter of 2016 in French.
Graphic design and Layout by Nathalie Lyon-Caen.

STUDY CONTEXT

This study makes a contribution to an on-going discussion under way within the governance group of COSTEA and which focuses on the elaboration of irrigation policies. This study comes at a time when the French Development Agency (AFD) is significantly re-investing in the agricultural water sector in Cambodia.

AFD started investing in the Cambodian irrigation sector with the Prey Nup polder rehabilitation project, a flagship initiate whose achievements framed subsequent intervention; AFD cooperated with the Asian Development Bank (ADB) during the 2000s. Then, between 2009 and 2013, AFD temporarily downsized its intervention, which had major consequences (during this period, other donors assumed an increasing role: the Australian, Japanese, and Chinese Cooperation Agencies). The year 2014 marked AFD's return via the Water and Agriculture Sector Project (WASP), implemented in connection with ADB's Water Resources Management Sector Development Program (WRMSDP). Because discussions regarding the potential co-financing of the ADB's Uplands Irrigation project came to a standstill, AFD began preparing a second phase of the WASP project in 2015/2016, which it intends to finance independently.

The beginning of 2015 marked a significant evolution of the Cambodian Government's policy to support the agricultural water sector with the promulgation of the sub-decree formalising the FWUCs (Farmer Water User Communities), which had been awaited for nearly ten years. That same year, MoWRAM (Ministry of Water Resources and Meteorology) also developed its first programme aiming at maintaining existing irrigation infrastructures, a program funded by the MEF (Ministry of Economy and Finance). Until then, the 'maintenance fund', created in 2008, had been used on an ad-hoc basis without much planning. This study consists of an historical analysis of AFD interventions in Cambodia, and how it relates to those of other international actors involved in the sector, and to the trajectory of public policy making in the field of agricultural water and the role of MoWRAM.

The information generated comes from (1) discussions with AFD rural development project managers in Cambodia and Paris, (2) a study of the grey literature available from development agencies (particularly AFD and ADB; appraisal documents and aide-mémoires), as well as (3) interviews with other actors involved in the sector, during the two missions that took place from 23 April to 2 May 2015 and from 9-23 April 2016 in Phnom Penh.

The report is structured in four sections. The first part briefly describes the irrigation sector in Cambodia on the basis of commonly used indicators (number and size of irrigated areas) as well as the evolution of the institutional landscape over the last 20 years. Based on two figures, the second part of the report presents the history of AFD's interventions and identifies the tools and mechanisms that the agency attempted to establish and how they relate to each other.

The two final sections provide a critical analysis of the challenges faced by AFD to promote tools and approaches it deemed necessary to support a sustainable Cambodian irrigation sector.

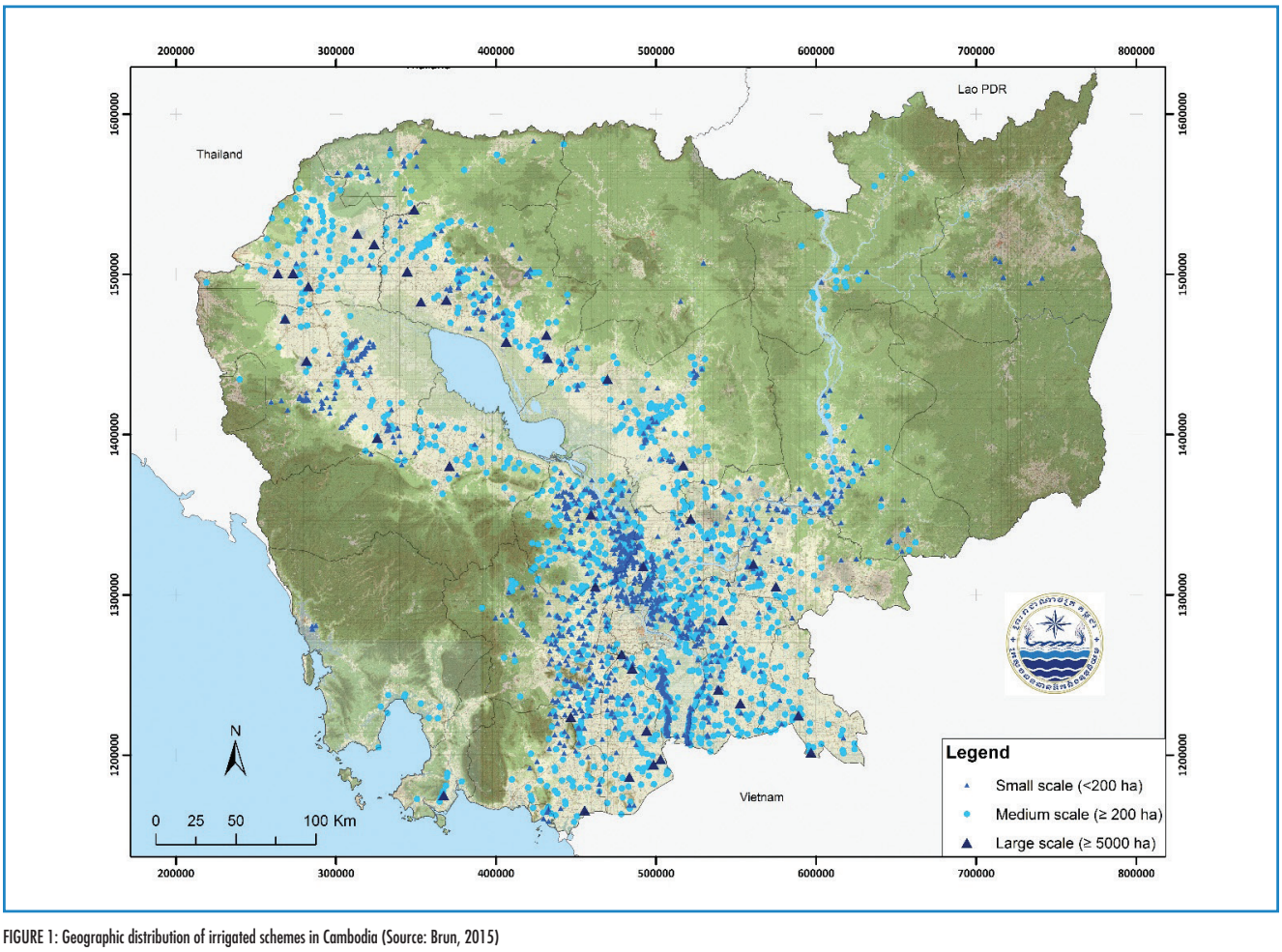

FIGURE 1: Geographic distribution of irrigated schemes in Cambodia (Source: Brun, 2015)

Finally, this report goes together with two 'field' studies on (1) the functioning of a sample of 4 FWUC and (2) an economic analysis of a variety of irrigation projects, both of which were carried out by Masters students.

THE IRRIGATION SECTOR IN CAMBODIA IN THE MID-2010s

As can be observed in many countries, particularly in those where irrigation takes the form of partial water control during the rainy season, it is a challenge to identify, map and evaluate irrigated schemes.

According to the Cambodian Information System On Irrigation Schemes (CISIS) being developed at MoWRAM, there are presently more than 2300 irrigated schemes in Cambodia, which can theoretically be used to irrigate nearly one million hectares in the rainy season and half this area in the dry season (it is possible to grow two rice crops in more than 600 schemes)[1]. One fifth of these schemes (~450) are said to be highly degraded, nearly half (~900) degraded, one quarter (~600) partially functional, and the rest (~350) is said to be in good condition following recent rehabilitations.

Most irrigation schemes are located in the south-eastern provinces of the Mekong floodplain (the Preks of the Kandal province, and the Kampong Chhnang, Kampong Cham, Prey Veng, and Takeo provinces); the north-western part of the country, around the Tonle Sap Lake, is another area of concentration (Siem Reap, Kampong Thom, Battambang, Banteay Meanchey, and Pursat provinces) (Figure 1). Close to half of the existing schemes irrigate between 50 and 200 ha; the other half irrigating between 200 and 5000 ha (only a few dozen large schemes with a theoretical control area of more than 5000 hectares are identified).

HISTORY, VISION AND TOOLS OF THE AFD'S INTERVENTIONS

Figure 3 provides an overview of the history of AFD's interventions in the agricultural water sector in Cambodia since 1997 and the initiation of the Prey Nup project (which was implemented in three phases and ended in mid-2008). In broad terms, AFD support has two main components. The first consists of **development projects**, first financed through grants during the 1990s and 2000s, then through loans when Cambodia became eligible to them starting in 2012. These projects aim at rehabilitating irrigated schemes (shown in yellow in Figure 3). The second component takes the form of **institutional support**, financed through grants and aimed at capacity building, the development of a regulatory framework and of a geographic information system on irrigated systems in the country. This support takes the form of technical assistance (independent French experts within MoWRAM, in blue in Figure 3). One of the characteristics of AFD's intervention modalities in Cambodia is the **partnership established with the ADB**, which began in 2000 as part of the Stung Chinit project (we will discuss this in further detail

1 - Data are from a progress report on CISIS submitted to the AFD in November 2015 (Brun, 2015) and may not reflect the most recent data available.

The changing institutional landscape of the irrigation sector in Cambodia

In the early 1990s, at the end of a long period of civil war, the UNDP and the European Union are the major donors supporting the irrigation sector. Irrigation investments take place as part of multi-sectoral and multiple-objective projects. AFD, which opened its office in Phnom Penh in 1993, quickly become a major donor in the sector - alongside the ADB, the World Bank and FAO- through dedicated projects. The beginning of the 2000s marks a turning point from a logic centred on emergency responses to one of "development" and the establishment of a strong partnership between AFD and ADB, which will be the two main actors in the sector throughout the decade. Things changed drastically in the early 2010s; the Australian (AusAid) and Japanese (JICA) Cooperation Agencies increase their contributions while new actors (the Chinese cooperation and, shortly afterwards, the Korean Collaboration Agency) emerge and invest unprecedented amounts in the development of major infrastructures. The chart below clearly illustrates the sharp increase in the amounts invested in the irrigation sector - managed by MoWRAM - from close to $100 million USD for the period 1998-2005 to more than $800 million USD in 2011-2015, more than half of which is coming from China. The boom in Chinese investments (at concessionary rates of 2% or less) is linked to the Cambodian government's diplomatic relationships with China, and notably ongoing discussions regarding rice-trade agreements. There are no social or environmental conditionalities attached to these loans, unlike loans from the 'historical' donors - however, they do have very clear geopolitical dimensions.

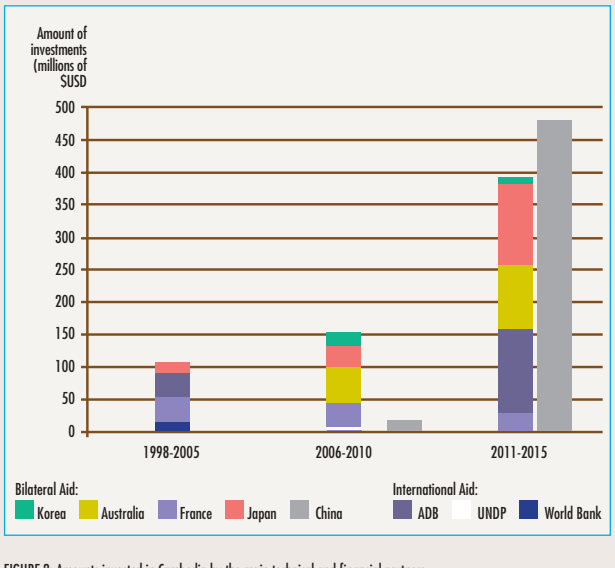

FIGURE 2: Amounts invested in Cambodia by the main technical and financial partners
Source - From the CDC: http://cdc.khmer.biz and Ivars (2015)
(Note: For China and the 2006-2010 period, only the figures for 2010 are available)

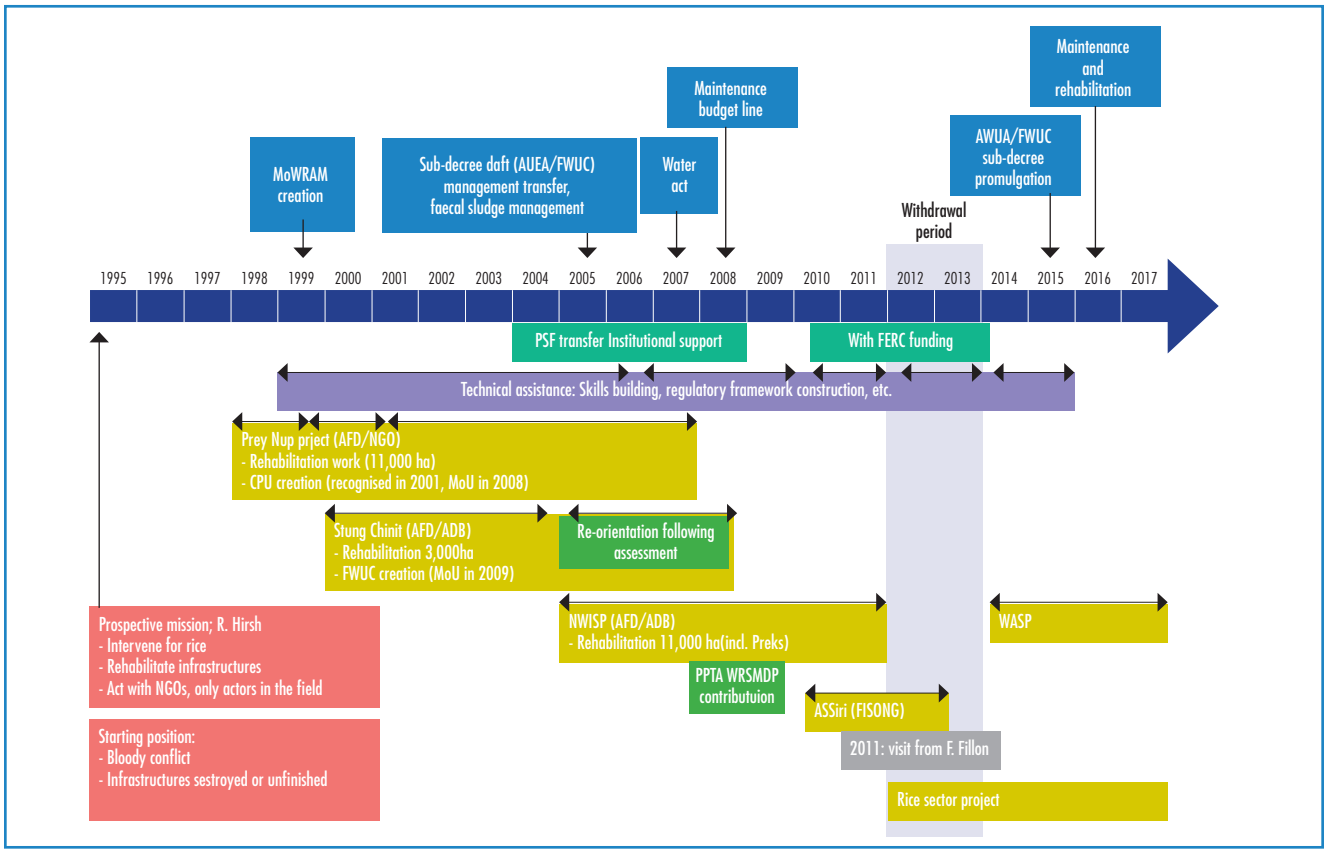

FIGURE 3: History of the AFD's interventions in the agricultural water sector in Cambodia

in the last part of the report discussing the evolution of this partnership over time). The intensity with which the AFD has intervened in the sector has evolved over time, often **as a result of political and strategic decisions that were not directly related to its activities in Cambodia.**

The mid-2000s marked a period of intense activity with several ongoing projects (Prey Nup, Stung Chinit, NWISP) and the transfer of the Priority Solidarity Funds devoted to institutional support from the Ministry of Foreign Affairs to AFD (in 2006). Starting in 2008, the situation changes as AFD cannot finance new projects through grants anymore following a decision by the Interministerial International Cooperation and Development Committee (CICID) that decides to concentrate these grants on priority countries in Africa, whereas, in the meanwhile Cambodia will only become eligible for sovereign loans in 2012[2] onwards. This inability to finance projects will result in the AFD withdrawing from the WRSMDP project (which started in 2012) even though AFD contributed to its formulation (in 2007-2008) and was meant to fund the institutional component to support the development of the irrigation policy framework. However, AFD will maintain **a minimum presence** through a technical assistance to MoWRAM[3] aimed at consolidating an irrigation system database (CISIS, see below) and a FISONG[4] project supporting NGOs.

The aim of this FISONG project, called ASIrri and led by the French NGO GRET, was to create an Irrigation Service Center (ISC) to build the capacities of the FWUCs set up under previously funded projects (to which GRET had also contributed). In 2012, and following the visit of French Prime Minister François Fillon, which resulted in the opening of a specific budget line, AFD initiates a project to strengthen the rice sector (through a grant), in line with the Cambodian government's new political priority to export rice[5].

Therefore, the 2009-2013 period is a period of **partial and relative withdrawal** as far as the involvement of AFD in the irrigation sector is concerned. The result of this withdrawal is that AFD will lose **its influence over the process of irrigation policy making** as new donors (Chinese cooperation) enter the institutional landscape (see Box 1); in addition, the strengthening of Cambodia's irrigation policy framework, as thought within the framework of the WRMSDP, is led by ADB consultants who do not seem to be well integrated within MoWRAM. During this period, the NWISP and ASIrri projects are being implemented (in 2009-2011), but no significant new projects are being prepared due to a lack of budget visibility in France, whereas these periods when new projects are formulated (and during which there are very intense interactions between donors and MoWRAM) are crucial in the sense that they determine the direction of future projects - and therefore, in part, the policy framework. **It is in 2014**, while Cambodia is eligible for sovereign loans, then AFD takes up again the feasibility studies

2 - Only countries with a 'low risk' of public over-indebtedness according to the IMF are eligible for sovereign loans from AFD (see www.imf.org/external/np/exr/facts/fre/jdsff.htm; and www.afd.fr/home/outils-de-financement-du-developpement/prets for more information).

3 - Through a financing mechanism called FERC: *Fonds d'Expertise et de Renforcement des Capacités*.

4 - FISONG is a financial mechanism created by AFD in March 2007, allowing AFD to finance innovative projects carried out by NGOs in the sectors jointly defined by AFD and NGOs.

5 - The Supreme National Economic Council (SNEC), which is operating under the Ministry of Economy and Finance (MEF), is leading this project which primary objective is to structure the Cambodian rice sector. Links with the irrigation sub-sector are weak, but still exist, through support provided to some FWUCs to help them market their rice production (although the legal framework governing the FWUCs does not identify marketing as a potential responsibility of the FWUC, it does not forbid it either).

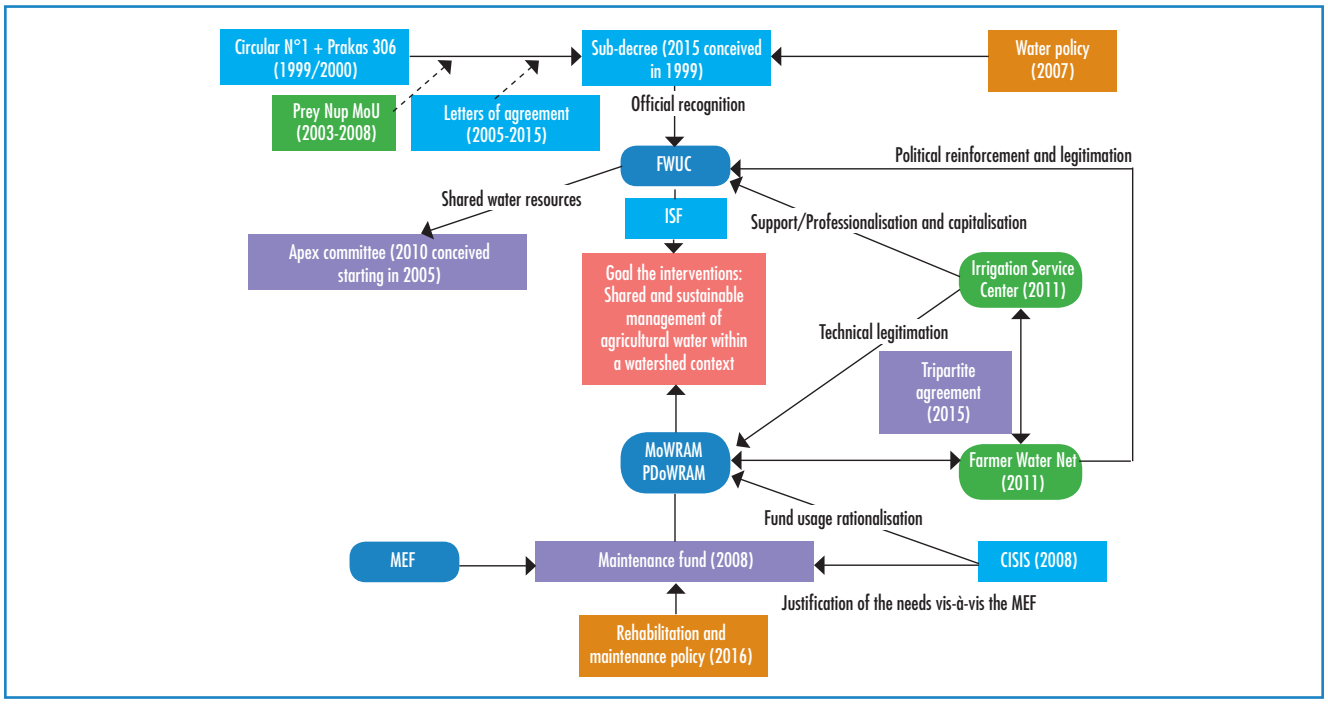

FIGURE 4: Tools, schemes, and organisations of the irrigation sector policy for Cambodia

Note: The tools are represnted by sky-blue rectangles; the schemes are shown as purple rectangles. The orange rectangles represent the 'policies' that the tools and schemes follow. Only the existing tools, schemes and organisations and their current interdependencies are represented (and not the joint actions that may have been planned over time). The oval shapes represent the organisations, the shapes with a green background were created as part ok the AFD projects but can now receive support from other actors. The remainder of the elements in the figure are not specific to the AFD but have been co-sonstructed with other actors, in particular the ADB and the Government of Cambodia. In black, with a withe background, the rationales/objectives pursued by the tools and schemes. The dotted arrows indicate the partial consideration of certain tools/schemes in the development of the national institutional and political framework.

on 13 small irrigation schemes (studies that were carried out in 2008/2009 to prepare the WRSMDP project)[6] and **initiates the WASP project (Water and Agriculture Sector Project)** in which Preks rehabilitation activities in the Kandal Province (based on prior positive experiences obtained under the NWISP project)[7] and technical assistance from GRET to strengthen the capacities of the FWUCs through support to ISC are also planned (see below). In 2015, the ADB tried to renew its historic partnership with AFD by exploring possibilities of co-financing its Uplands Irrigation project. The negotiations were not successful due to differing views on the approach to be adopted (specifically in terms of land management and strengthening of the FWUCs) and the type of irrigated schemes to be rehabilitated (ADB wanted to focus on large systems). **AFD is now planning a second phase of the WASP project** that it will fund independently while exploring possible synergies with the Australian Cooperation Agency (AusAID), which itself is initiating the second phase of its CAVAC (Cambodia Agricultural Value Chain) project.

A brief historical review of AFD's interventions makes it clear that, in addition to the rehabilitation of irrigation infrastructures, the objective of AFD was the **development and long-term viability of a number of cross-cutting tools and mechanisms**. How these tools and mechanisms related to each other has been thought progressively (rather than a priori) in relation to a global goal of **sharing responsibilities over irrigation management** (since the mid-1990s), then **within a context of integrated water resource management at the basin scale (starting from the mid-2000s)**.

Figure 4 presents these tools and mechanisms as well as their relationships to each other. In connection with international discussions and dynamics stressing participatory irrigation management and management transfer, the cornerstone of the first interventions carried out by AFD is **the establishment of FWUCs** (water users' associations) and their sustainability through the implementation of an **Irrigation Service Fee (ISF)** used to finance the Operation and Maintenance (O&M) of rehabilitated irrigation infrastructures. In addition to projects experiences, such as Prey Nup and Stung Chinit, the overall question is that of the operational, institutional and financial sustainability of the rehabilitated schemes. In addition to long-term support for the establishment and functioning of FWUCs within the framework of projects, AFD supported the creation of an **Irrigation Service Centre (ISC)** to train and build the capacity of the FWUCs, as well as a federation to represent them the **Farmer and Water Net (FWN)**. One of the idea underpinning the creation of the ISC was to test the benefits of pooling resources for small FWUCs that may not have the capacity or the need to internalise all the costs and services to be provided to farmers (particularly in terms of human resources: accountant, technicians, etc.). In regions where several FWUCs are interdependent (because they use related infrastructures), AFD has supported the creation of **Apex Committees** within an integrated water resources management perspective.

Finally, at the national level, institutional support (through technical assistants to the Ministry) aimed at elaborating a **sub-decree** to institutionalise the **sharing of responsibilities** over irrigation management between the FWUCs and MoWRAM and at establishing a **maintenance fund** so that MoWRAM could effectively assume its financial responsibilities in terms of infrastructure maintenance.

6. - Following an increase in construction costs, and characteristics rated as average by the ADB team (in particular in terms of the expected cost-investment-benefit ratio), the ADB decided that these schemes would not be rehabilitated under the WRMSDP project.

7. - Preks are low lying lands with high soil fertility due to the accumulation of silt, separated from rivers by dikes in more or less good conditions. Rehabilitation work mainly involves (1) upgrading dikes and (2) over-deepening the drainage network for better flood control (in the rainy season) while maintaining a sufficient water level for a flood-recession crop, even in the dry season.

AFD, aware of the fact that the Cambodian government has limited (but growing) financial resources, is also supporting the creation of a **Cambodian Information System on Irrigation Schemes (specifically based on a database, CISIS)**. This information system is thought of as a means to justify MoWRAM's financial needs towards MEF and to both prioritise and rationalise the uses of the maintenance fund and future investments in new rehabilitations. Finally, the drafting of a **tripartite agreement** between MoWRAM, FWN and ISC is seen as another way to sustain and increase the legitimacy of the FWUCs by increasing their 'political' weight.

The **tools and mechanisms developed during AFD's interventions**, and their respective role within a global vision of what the development of irrigation could be like in Cambodia, **have been thought out in a coherent manner**. This consistency is largely **pragmatic**, i.e. it has been built 'as time goes by', and has been **adapted** to respond to empirical situations and needs, rather than having been based on an approach definied 'a priori'. However, tools and mechanisms are still being integrated in a very 'theoretical' way. Implementing what can be termed the 'AFD vision' is challenging (1) due to differences in perceptions between actors regarding the place and purpose of the various tools and (2) the modalities of functioning of donors and the Cambodian government. These challenges are described in the next two sections.

CHALLENGES OF IMPLEMENTING AND COORDINATING AFD'S INTERVENTIONS

Creation of Farmer Water User Communities (FWUC)

FWUCs, water users' associations, governed by Circular No. 1 of the Office of the Prime Minister (11/01/1999), have been established in line with the international context that dominated the irrigation sector in the 1990s. As in many countries, the choice to strengthen the role of users that would be organised into an association was based on numerous assumptions and motivations: irrigated schemes would be better managed (as the government is considered to be little involved in maintenance and users directly involved more inclined to mobilise themselves); the government would also recover investment capacities (the operating and maintenance expenses of these schemes being partly or entirely transferred to the users). But this choice of making users responsible for maintenance was also a **pragmatic** one in a country that was by the near absence of any irrigation administration after a turbulent period lasting more than 20 years[8]. Unlike many countries where actual 'hydraulic bureaucracies' can be found, MoWRAM, in the late 1990s-early 2000s, did not have the means to play a key role in building and managing irrigation system. At the time, MoWRAM sees in rehabilitation projects an adhesion (at least in theory) to international debates, references and standards, a means of strengthening itself and acquiring some legitimacy, even though some of these projects explicitly aim at supporting water users associations.

Although the objective of Circular No. 1 (the development of which was supported by many donors: FAO, the European Union via the PRASAC project, ADB, AFD and APS - an Italian NGO) was clear: facilitating the establishment of FWUCs, it did not provide information about their composition, their statutes and relationships with MoWRAM's departments (apart from an explanation on how MOWRAM should financially support the FWUCs for 5 years after their establishment). This lack of a regulatory framework will be partly covered by the promulgation of the Directive, or Prakas 306, on July 20, 2000. This Directive specifies general implementation and operation principles as well as the statutes of the FWUCs and the principles to be followed to calculate the irrigation service fee. The Prakas is very explicit and directive regarding the steps to be followed in order to create FWUCs and how they should be organised. It reflects a top-down approach to participation, remains vague in terms of the responsibilities and mandates of the FWUCs, and does not mention the idea of sharing responsibilities between MoWRAM's departments and the users at all. This lack of references partly explains why there were so many different procedures for the establishment, support and governance of the FWUCs during the 2000s.

In this context, and from the outset, AFD is giving an important, if not central, place to users in the creation of FWUCs. The projects, such as the Prey Nup polder rehabilitation project which began in 1997 and the Stung Chinit irrigation scheme

8 - MoWRAM was only formally established in 1999; its provincial directorates (PDoWRAM) were only set up in the second half of the 2000s.

Various experiences in establishing and supporting FWUCs

Under the Prey Nup and Stung Chinit projects, the establishment of and support provided to FWUCs was piloted by a French NGO (in partnership with Cambodian NGOs). This took place over several years contrary to other projects where PDoWRAM and MoWRAM provide training to the FWUCs over a very short period time (several months or even weeks). One significant difference in the approach deals with the composition of the executive committee of the FWUCs: elected volunteers at Prey Nup and Stung Chinit; individuals appointed by the administration and who generally have responsibilities at the village and/or municipal level at other sites such as Sbov Andev and Kandal Stung (projects supported by the Australian and Japanese Cooperation Agencies, respectively). Another difference is the support provided following the creation of the FWUCs. In the case of Prey Nup and Stung Chinit, this happened through a continuous presence and in-situ learning; in other cases, it most often takes the form of short, one-time, and generic training courses that do not necessarily reflect local needs and expectations. Over time, these differences result in more frequent meetings and higher participation rates, as in the cases of Prey Nup and Stung Chinit –guaranteeing that farmers see these FWUCs as being key players in irrigation management.

Source: adapted from Ivars (2015)

which began in 2001 and was co-financed with the ADB, are designed with a component specifically focused on user participation. One of the assumptions justifying this choice is that user involvement and mobilisation in the initial definition and implementation phases of infrastructure works are essential in order for the FWUC to succeed. This involvement makes it possible to ensure an adequacy between infrastructures and the needs of the users and contributes to the social acceptability of the new management methods proposed. A second assumption, linked to the first, is that in order to set up efficient FWUCs to manage irrigation schemes, members of the FWUC will progressively learn and, in addition to **their farming skills**, will acquire new skills in hydraulics, accounting, organisation, as well as develop their capabilities in terms of taking collective responsibility and making decisions. Finally, a third idea relates to the need to take the local context of the intervention into account (type of infrastructural works, the size and type of the network, the number of villages involved, irrigated land ownership organisation, types of crops, etc.) when establishing FWUCs (organisation chart, job types, activity schedule, etc.) and developing management tools to support its activities (land use plan, water management plan, maintenance schedule, fees management accounting system, as well as procedures for collection, recovery, of the fee, election of representatives, etc.). AFD's approach, which aspires to be adaptable and flexible, is in sharp contrast with the modalities outlined in Prakas 306 which will be followed as part of projects financed by other donors such as FAO.

The establishment of FWUCs under the Prey Nup and Stung Chinit projects will be entrusted to a French development NGO, GRET, and will be the object of multiple reports aiming at drawing generic lessons. The two FWUCs created were of different sizes and were organised in different ways, yet they both respected the general principles set out in Prakas 306, a prerequisite for being seen as legitimate by MoWRAM[9]. The FWUCs are the result of two experimental processes that, in addition to their primary management function, aim to provide AFD and MoWRAM with the references needed to replicate the process in other systems. The ADB/AFD partnership within the framework of the NWISP project reflects AFD's desire to influence the practices of other donors regarding the creation of and support to FWUCs whereas Prakas 306, and its technocratic approach to participation, remained the reference for other donors in the sector.

The NWISP project, which was initiated in 2005, is a large national-scale program that combines support for MoWRAM's central offices in Phnom Penh and the rehabilitation of several irrigation schemes in four provinces in the north-western part of the country. Based on the lessons drawn from Prey Nup and Stung Chinit, FWUC are meant to been established, but the methods followed changes significantly (for the sake of replication). A decision is made to rely on MoWRAM's provincial departments, PDoWRAM, to create the FWUCs. By doing so, the project-activities tend to move 'closer' to the initiatives for which MoWRAM acts as project manager and for which the Ministry's FWUC department, at the central level, provides support to PDoWRAMs. Unlike the projects led by MoWRAM, the NWISP pays particular attention to training and monitoring the FWUCs and PDoWRAM staff as well as the elected representatives of the FWUCs who are receiving training support from private national NGO-type service providers or consultancy firms (ISC, Aruna, Buddhism for Development, Cadtis, KCC).

9 - It should be noted here that the Prey Nup Polder Users' Community (PCU) was first registered by MoWRAM before the promulgation of Prakas 306. In 2002, MoWRAM requested a revision of the Community statutes to reflect the new regulatory framework - it is through the addition of annexes to the statutes that the adaptability of the Community within the polders context could be partially maintained.

Therefore, the methodology gives a bigger role to government departments in order to build and sustain their capacities and to save time and resources. This approach of relying on PDoWRAMs to create the FWUCs, and on external service providers to train them by providing ad-hoc training sessions over a period of time ranging from several days to several weeks, is currently the norm in most of the interventions whose goal is to establish FWUCs. This applies to the ADB, as well as to JICA and AusAid, and also MoWRAM for its own interventions, via its FWUC department. Under the WASP project, the AFD continues to entrust the creation of, and support for, the FWUCs to service providers (in this case the Irrigation Service Center - ISC- created as part of the ASIrri project). This approach has institutional legitimacy as it is part of a tripartite agreement between MoWRAM, ISC and FWN (see below for the challenges related to this mechanism). Although all actors in the sector recognise that the **Prey Nup and Stung Chinit experiences have paved the way for the emergence of the two most dynamic FWUCs in the country, AFD seems to have had only a limited knockon effect on other donors** regarding the approach to be followed to establish FWUCs. This can be explained in various ways.

First, it seems that the majority of donors consider that the steering of the FWUC creation process must be done by the PDoWRAMs (which follows the technocratic process of Directive 306); this is seen as a necessary condition for their official recognition by the ministry (specifically in the form of a Letter of Agreement, see the section below), and therefore for their sustainability. Furthermore, most actors feel that the duration of the first two projects carried out by AFD (and their high cost as far as Stung Chinit is concerned) appears difficult to reproduce across the country. Last, many actors are highlighting the lack of capacity of Cambodian actors to coordinate such a process (and therefore the need to simplify it) and are questioning the fact of having to depend on foreign expertise (a French NGO in this case) to lead it (it must be noted, however, that the objective of GRET is to strengthen the capacity of ISC and FWN as part of WASP - see below). Even though decreased cost of actions and striving for the sustainability of the actors involved are legitimate objectives, the solution provided (simplification and shortening the approach) undoubtedly comes with its own weaknesses that contradict its objective.

The creation of a FWUC within a few days and the provision of support for several weeks, via theoretical and generic training sessions designed in a technocratic and disembodied manner (as may be the case for the WRMSDP project), cannot yield the same results as long-term training based on farmers' requests. Moreover, up to now, MoWRAM and PDoWRAM staff are mostly engineers specialised in rural hydraulics and civil engineering, and do not have the skills of local development agents accustomed to social dynamics and mobilization processes. Finally, the consulting firms mobilised to train the FWUCs also seem to lack capacity.

Beyond their formal existence (recognised by the signing of a document establishing their creation), the FWUCs first and foremost constitute a platform through which the role of different actors in the shaping of public policies can evolve; they can also serve as triggers for collective irrigation management. **However, today, it seems that the issue of establishing operational FWUC is only secondary vis-à-vis the objectives of infrastructure development or rehabilitation on the one hand, and formal FWUC establishment** on the other hand –regardless of the capacity. Therefore, despite significant institutional progress (signature of the FWUC sub-decree in 2015; see below) and the fact that some high level officials from MoWRAM recognise the need to envision FWUCs in the long-term and that this requires clarifying the sharing of responsibilities between the administration and users, the latter has not yet been done. MoWRAM guidelines seem to have changed little since the late 1990s whereas the administration of the Ministry has grown over time.

Support and political legitimisation of the FWUCs

All actors, decision-makers and donors acknowledge the widespread weakness of FWUCs which can hardly operate, due to a lack of both resources and capacities.

Consequently, the representatives of the FWUCs have a very hard time recovering the irrigation service fee (ISF) that is supposed to cover the costs operating and maintaining the systems. They are also at a loss as to how to manage conflicts between users, especially when water is scarce and access must be strongly regulated. Only the Prey Nup and Stung Chinit FWUCs seem to demonstrate the genuine capacity to manage water provision and fee collection. However, they are also having problems with strengthening and improving their functioning. They point out that they need outside support for this; in other words, they still see themselves as beneficiaries and the focus of interventions rather than as being responsible for their own development.

Aware of the difficulties to get other donors to adopt a similar approach in terms of creating FWUCs, of the weak capacities of the FWUCs, and of the needs that would quickly emerge in a landscape whereby multiple interventions led to the creation of new, AFD decided, in 2009, to finance a specific project to support and provide services to irrigators (ASIrri; see section 1). ASIrri will be implemented in Cambodia by GRET and CEDAC (a Cambodian NGO, a historic partner of GRET which was also involved in the Stung Chinit project), to ensure continuity of their past actions. Thus, the objective of ASIrri was to develop, test and promote the sustainability of cross-cutting support and service delivery methods to irrigators for the sustainable use of irrigated schemes.

The project enabled the creation of an Irrigation Service Center (ISC), structured around former Cambodian staff from GRET and CEDAC who worked on the Stung Chinit project. ISC was originally conceived by AFD to be the 'technical department' of a FWUC federation, the Farmer and Water Network (FWN). The FWN, conceived by AFD for 'political representation' purposes was also implemented as part of the ASIrri project. The project team will eventually choose to establish ISC with a Cambodian association status based on the desire to be independent from AFD and MoWRAM and the observation that the newly created FWN was still weak. The ISC is currently working with several donors (AFD, ADB, AusAid, JICA and USAID) as a service provider to support the FWUCs that have been set up through their interventions as well as to provide broader support for agricultural development. However, many problems still exist: the ISC face classic constraints associated with this kind of small structure that relies on a limited number of highly qualified individuals with heavy responsibilities. ISC was

able to recruit field agents via the various projects in which it is involved[10]; their training is still a crucial issue especially given the diversification of ISC activities; a diversification that seems necessary for the economic sustainability of ISC given the current capacities of the FWUCs. Moreover, ISC must work in parallel with its internal structuring, otherwise it will be unable to report on the actions it carries out (this is one of the objectives of the tripartite agreement; see below). Currently, the Farmer and Water Network (FWN) groups together 20 or so members, represented by the presidents of each FWUC. For a long time, it was chaired by the president of the Prey Nup FWUC, and the president of the Stung Chinit FWUC was the vice-president (today the president). ISC carries out the secretariat function. However the FWN, like the FWUCs that are members, remains weak due to a lack of resources (to meet, to communicate, to solicit new members, to enter into dialogue with the authorities, etc.) as well as a lack of capacities (the weaknesses observed within the FWUCs will specifically be reported in the federation).

All actors now recognise the need to strengthen the capacities of FWUCs and all are financing training sessions for the FWUCs through their respective projects. These are generally carried out by a growing number of small consulting firms with variable capacities (KCC, CADTIS, SDC, SPC, ISC, etc.). However, how these training courses are designed and implemented is quite different depending on the actors. Whereas the ISC was created and could draw its legitimacy from projects emphasising long-term support, depending on user demands, a majority of the calls for tenders for FWUC training consist of ad-hoc support on topics predefined by MoWRAM, PDoWRAM, or donors who rarely take the realities and demands of the FWUCs into account even though these training sessions are intended for them.

Once again, the choices and recommendations of AFD and its historical partners to put the FWUCs at the centre of capacity building initiatives intended to help them (definition of the objectives and issues to be addressed, selection of the service providers, etc.), and to design these training sessions in an adaptive manner, have had very little traction with other donors who have their own cultures, approaches and constraints. This is a challenging situation to deal with for ISC, which needs the funds linked to these projects to exist but may be ideologically at odds with some of the activities it implements. The Australian Cooperation Agency, under the CAVAC project, seems to have internalised the need for providing long-term support to FWUCs. This is less clear as far as ADB is concerned: although it followed the recommendations of a study carried out under the NWISP project (to include a capacity building component for the previously created FWUCs in the WRSMDP project), it did not adopt the key idea that these training sessions should be long-term, based on needs assessments rather than a top-down initiative designed a-priori.

Besides their internal weaknesses, the ISC and FWN also face two major external constraints. First, MoWRAM, through its FWUC department, its Technical Service Center (TSC, supported by the Japanese Cooperation Agency) and PDoWRAM, sees these structures as potential competitors in terms of accessing resources generated by international aid agencies, and therefore is not doing anything to facilitate their integration into the FWUC support scheme currently being structured (discussions on the potential uses of the maintenance fund that we describe in detail below illustrate the willingness of MoWRAM and the PDoWRAMs to position themselves as central support structures for the FWUCs). Secondly, MoWRAM does not consider the ISC and FWN as legitimate for dealing with these issues (it considers itself to be the sole official interlocutor on irrigation issues). Irrigation management, although theoretically transferred to local organisations, continues to be a crucial tool in Government policy interventions in rural Cambodia.

Capacities and management autonomy of the FWUCs

The Prey Nup PUC and the Stung Chinit FWUC both have management tools that have been developed with the support of NGOs such as GRET and CEDAC. They manage and update an information database on the owners of parcels in their respective areas (who are subject to the ISF), and calculate the ISF amount based on the assessed maintenance needs (however the amount chosen cannot be used to cover all of the maintenance needs). Responsible for collecting the fee, they deposit the amounts collected into a bank account and the receipt and disbursement procedures are formalised and monitored. Each year, they also draft an annual plan that lists the amounts collected and proposes how to use the budget (1) to PDoWRAM in an annual report and (2) to farmers during an annual meeting. This level of formalisation has not yet been reached for the other FWUCs studied (Kandal Stung and Sbov Andev): there is no budget plan, the initial ISF amounts were set in a somewhat arbitrary manner, the lists of operators (who are subject to the ISF) have not been updated since the creation of the FWUCs, and financial transactions are not recorded in the banks partly because of a very low (even zero) fee collection rate, compared to Stung Chinit (90% since 2012) or Prey Nup (60% in 2015 with a downward trend since 2011).

Due to their respective sizes, the Prey Nup PUC (10,500 ha, more than 15,000 farmers) and the Stung Chinit FWUC (2,800 ha, close to 2,500 farmers) have been able to employ full-time staff (Director, accountant, technicians, etc.), which the other FWUCs (Sbov Andev and Kandal Stung) have not (yet) done. This results in significant operating expenditures (stipends and salaries representing between 40 and 60% of the total budget), which are obviously needed from a professionalisation perspective but which must be made transparent – this is not a problem in Sbov Andev or Kandal Stung where, instead, access to water itself is informally negotiated between farmers and PDoWRAM. As mentioned above, the ISF amounts and collection rates do not cover the financial needs, not even in the cases of Prey Nup and Stung Chinit. MoWRAM - through AFD projects - made a contribution toward covering these needs through a 'balancing subsidy' (which is not the case in Sbov Andev and Kandal Stung).

Source: taken from Ivars (2015)

10 - In 2016, ISC staff counted more than 20 people. However, this increase in the number of employees is conjectural and not structural as it depends on the numbers of contracts obtained, which is not stabilized.

The FWN, which has established a network of more than twenty FWUCs, derives its legitimacy from the fact that it represents tens of thousands of farmers and, by its very existence, sends a strong signal to MoWRAM that the FWUCs would like to fully assume the responsibilities entrusted to them, in close consultation with MoWRAM. However, the FWN is still fragile and does not have the same technical legitimacy as MoWRAM and its departments. For the ISC, this is evidently another matter. Registered as an association with the Ministry of the Interior, the ISC is seen as a service provider 'like any another' for MoWRAM which (still?) does not appear to recognise the FWN as having a particular expertise (i.e. providing support to the FWUCs over the long term). Furthermore, the ISC appears to be strongly oriented politically speaking (several members of its board of directors have strong ties with the Cambodian political opposition), which may be an additional challenge in terms of institutional legitimacy. Faced with the challenges posed by the economic sustainability, institutionalisation, and limited capacities of ISC and FWN, AFD decided to include these two organisations as beneficiary partners of the WASP project. GRET, which was recruited by AFD, provides technical assistance for one of the components of the project, which consists of establishing and implementing a tripartite agreement between MoWRAM, the FWN and the ISC. The goal of this agreement is to include the FWUCs that will be created under the WASP project within the FWN[11] and to provide them with specific support from ISC. It is also a way for AFD to establish ISC as MoWRAM's preferred partner in terms of providing support to FWUCs, by emphasising the specificity of its approach inspired by the activities carried out as part of the Prey Nup and Stung Chinit projects. Given that the negotiations on the content of this tripartite agreement lasted a long time (nearly one year; the WASP project agreement was signed in March 2013; the work carried out by ISC to support the FWUCs began in January 2015 and the agreement was signed in October 2015), it had to be partly financed by the WASP project loan, whereas initially it should have been fully financed through a subsidy[12].

The duration of the negotiations illustrates MoWRAM's reluctance to accept an agreement that places one operator at the forefront; not everyone (yet) agrees with this approach that puts farmers at the centre of the management of irrigated schemes and to have civil society support these farmers. However, the fact that the MEF is agreeing to finance institutional support via a loan (thereby committing the government), which is significantly used to fund a civil society actor, is a 'first' in Cambodia. It remains unclear to what extent this funding reflects support for the idea behind the tripartite agreement (i.e. the need to invest in a mechanism to sustain the FWUCs and thus the investments made) or if it is solely related to negotiations over the conditions of the financing agreement for the WASP project.

11 - At the same time, AFD is also encouraging the FWUCs created under the NWISP and WRMSDP projects to join the FWN in order to increase its 'political' weight. Up to now, the FWN has only been accepting FWUCs that 'work well' (the assessment criteria do not seem to be clearly defined), based on an 'audit' carried out by ISC. In the middle of 2016, the FWN had 24 members.

12 - Contracts for other technical assistance supporting MoWRAM, also financed via a subsidy, were awarded earlier; following an unfavourable change in the exchange rate, it was no longer possible to fully finance (100%) the 'tripartite agreement' component of the WASP project through the subsidy line.

Official Recognition, Institutionalisation and Sub-Decree

The topic of officially recognising the FWUCs emerged very quickly in the debate once the Prey Nup FWUC (called PUC: Polder Users' Community) was formalised in the late 1990s. More broadly, the challenge for donors and the Cambodian government was then to elaborate a legal framework for a process that was just emerging; MoWRAM, which was formerly the General Directorate of Irrigation, Meteorology and Hydrology (GDIMH) under the Ministry of Agriculture, Forestry and Fisheries (MAFF), in charge of the irrigation portfolio, was itself a very young ministry (it was officially created on 23 June 1999).

At that time, the legal underpinnings for the actions undertaken were very thin, being framed by article 59 of the 1993 Constitution of the Kingdom of Cambodia, the law on Environmental Protection and Natural Resource Management adopted in 1996, sub-decree No. 58 for the Organisation and Functioning of MoWRAM adopted in 1999 and Circular No. 1 issued by the Office of the Prime Minister in 1999. Article 59 of the Constitution stipulates, in a very general manner, that:
'The Government [must] protect the environment and the balance of natural resources and [must] clearly organise and plan the management, in particular, of soil, water, air, geological and ecological systems, mines, energy, oil and gas, quarries and sand pits, precious stones, woods and forests and forestry by-products, wild animals, fish farming and aquatic resources'.

In order to clarify the situation, the Cambodian government, quickly began drafting proposal law on water resources management with the support of the World Bank and ADB in the late 1990s (through the APIP project: Agricultural Productivity Improvement Project). Planned to be enacted in the early 2000s, the official ratification would take nearly 10 years, and it would only be promulgated on 29 June 2007.

This delay in enacting the law on water resources affected the implementation of the agricultural water management policy[13], because its ratification was the necessary prerequisite for issuing the decrees and then sub-decrees related to agricultural water management. The topics that had been identified in the early 2000s and were meant to be the topic of decrees and sub-decrees related to (1) integrated water resources management, (2) the granting of private licences for water use, and (3) participatory irrigation development and management[14]. With support from technical assistants financed by the French Ministry of Foreign Affairs (FSP funds), a proposal for a decree on the latter topic was drafted in 2003 as well as several proposals for sub-decrees specifically relating to the 'FWUCs', 'Irrigation Management Transfer and

13 - Strictly speaking, there is no 'water policy' in Cambodia in the sense of a single text that would clarify the government's position on the sector. We use the term 'policy' in a broader sense of the government's priorities and strategy (explicit or implicit), supported by its technical and financial partners, and the principles that underpin its interventions. Certain elements of this 'policy' are not explained, others may be explained in different documents that are often drafted under projects with support from donors (e.g.: Policy and Implementation Guidelines for Sustainable FWUCs; Policy and Implementation Manual (incl. Guidelines) for Operations and Maintenance of Irrigation Schemes) and which, otherwise, do not always serve as a guide for Government interventions.

14 - In turn, the 2007 law identifies 4 priorities for which sub-decrees must be prepared: (i) water licensing and water allocation, (ii) river basin management, (iii) farmer water user community (FWUC) establishment, and (iv) water quality management.

Certification of Management Authority of the Farmer Water Users' Community', and last, 'Irrigation Sector Regulation and Provision of Support Services'[15].

However prior to that, MoWRAM issued Directive 306 in July 2000 (described above in this document) to overcome delays in the drafting and promulgation of the water law and related sub-decrees. Building on Circular No. 1, upon which it was based, the primary interest of this directive was to provide a regulatory framework, however tenuous it may have been, to make it possible to formally establish and provide a status to FWUCs and to clarify the principles governing the calculation of the irrigation service fee. It resulted in the establishment of numerous FWUCs, under various initiatives grouped together under the title of Participatory Irrigation Management and Development (PIMD) policy. In 2015, there were over 1,000 FWUCs in Cambodia; 400 of these were registered at the MoWRAM and/or PDoWRAM level.

However, the primary weakness of Directive 306 was that it was too restrictive and did not allow the establishment of a system and principles for shared responsibilities between MoWRAM and the FWUCs. As Directive 306 was the only reference of MoWRAM's positioning, other modalities for establishing FWUCs (such as those adopted in Prey Nup and Stung Chinit) did not receive much attention from the PDoWRAMs or MOWRAM's FWUC department at the central level and in charge of creating FWUCs. In that respect, the 'spirit' of Circular No. 1 and Prakas 306 was not the same for AFD/GRET and MoWRAM; the latter strictly complying with the principles set out within these two documents, which do not account for the diversity of the local conditions encountered.

In the mind of AFD and some of its allies in MoWRAM, this void (on the principles of shared management) was meant to be addressed by the Participatory Irrigation Management and Development (PIMD) decree, which would then constitute MoWRAM's official strategy for developing and managing irrigated systems. The PIMD draft decree, formulated in 2003 and partly inspired by the Prey Nup Polder Users' Community (PUC) experience, (1) placed the FWUCs at the centre of irrigation schemes management, (2) envisioned the government would play a regulatory role and provide support to FWUCs and (3) proposed a gradual shift in responsibility and authority over the from government to the users. This draft decree will never be ratified and seemed to no longer be on the agenda in 2016. Indeed, none of the people met during the two missions referred to this draft decree or the strategy justifying the draft, or the principles that underpinned activities implemented 10 years beforehand. In addition, no mention was made of a draft sub-decree for Irrigation Management Transfer and Certification of Management Authority of the Farmer Water Users' Community, which, together with the PIMD draft decree, strongly influenced the direction of the activities undertaken in the early 2000s as demonstrated by the Memorandum of Understanding (MoU) for the Prey Nup PUC (validated in 2008 by MoWRAM after 5 years of negotiation) or the Letter of Agreement for the Stung Chinit FWUCs and certain schemes rehabilitated under the NWISP project. The main goal of these documents was to stipulate the terms and conditions for sharing responsibilities between MoWRAM and the FWUCs, depending on the specific conditions encountered in each of these irrigated schemes. This degree of formalisation between the users and MoWRAM seems to have taken place only within the context of projects co-financed by the AFD and ADB; the number of FWUCs having such agreement is low and most are simply 'registered' with MoWRAM or PDoWRAMs. However, it should be noted that the ADB's technical assistance, as part of the WRMSDP project, has developed a model document entitled *'Agreement on the division of responsibilities for management and maintenance between PDoWRAM and FWUC'*, the status of which the status remains unclear.

The PIMD 'policy' no longer seems to be on MoWRAM's agenda, neither is the formalisation of the transfer of responsibility from MoWRAM to the FWUCs via the delivery of a Certificate granting the FWUCs with some management authority (this formalisation was probably never on the Ministry's agenda). With the promulgation of the Water Resources Management Act in 2007, and following pressure from donors, discussions seem to have recently focused on finalising one of the originally planned sub-decrees, that of the FWUCs. After long negotiations that revolved around the very principle of payment for an irrigation service, perceived by some as politically unacceptable[16], the sub-decree was officially promulgated on 12 March 2015.

Although the title of the sub-decree reflects the goal of regulating the conditions for the creation, organisation, functions and functioning of the FWUCs, its content seems to signal a change in the trajectory of Cambodia's agricultural water management policy.

It is important to note that even though the goal of effective and sustainable irrigation management is still put forth, and that it is meant to happen by establishing FWUCs, the first article of this sub-decree (Article 5, Chapter 2) acknowledges that MoWRAM has full competences to manage the FWUCs, with the responsibilities broken down as follows:

1 - Administer the FWUCs and all irrigation schemes
2 - Endorse the application for registration of a FWUC
3 - Refuse or dissolve a FWUC
4 - Provide guidance on the FWUC's statute and its internal regulations
5 - Facilitate with concerned institutions and stakeholders on the implementation and development of FWUC management
6 - Coordinate and facilitate the elections of the FWUC Committees
7 - Settle disputes within the FWUC context
8 - Seek other funding sources to support the FWUCs
9 - Provide training to enhance the capacity of FWUCs

The first of the responsibilities placed on MoWRAM (to administer the FWUCs and all irrigation schemes) is a clear shift away from the principle that, up until then, had guided donor support for the development of a regulatory framework

15 - Respectively the Irrigation Management Transfer and Certification of Management Authority of the Farmers 'Water Users' Community and Irrigation Sector Regulation and Provision of Support Services sub-decrees.

16 - The term Irrigation Service Fee (ISF) has been replaced by the term Irrigation Service Contribution (ISC) which, in the Cambodian context, seems to be less associated with the concept of 'tax'. Repeated calls for FWUC transparency and accountability in fee collection and use (expressed by farmers and FWUC officials themselves) clearly illustrate the 'suspicions' that are still widely associated with levying fees by any form of authority.

Institutionalisation and realities of shared responsibilities

The Prey Nup PCU (with its Memorandum of Understanding signed in 2008), the Stung Chinit FWUC (with its Letter of Agreement signed in 2009) and the FWUCs created within the NWISP and WRMSDP projects (some of which have Letters of Agreement), are different from other FWUCs (such as Sbov Andev and Kandal Stung) because they have been given an official document that clarifies the respective roles of MoWRAM, PDoWRAM, the local authorities (communes) and the FWUC.

In Prey Nup and Stung Chinit, this results in shared operating and maintenance responsibilities which, broadly speaking, correspond to the various infrastructure levels. PDoWRAM is responsible for the core infrastructures (dam or main breakwater, primary canal in Stung Chinit). In Prey Nup, a polder system, the FWUC is responsible for operating and renewing the flap doors found on the main dike and which are used to control the water level in the rice fields. In Stung Chinit, the doors on the main canal that determine the water availability in the various secondary canals are under the responsibility of PDoWRAM. In both cases, this sharing of responsibilities was negotiated and the negotiations were formalised in a document. In both cases, the PCU and FWUC must also develop, communicate about and implement an irrigation schedule that specifically focuses on the issue of drainage, given the nature of the systems. Implementing the irrigation schedule (that was discussed with PDoWRAM and the users) depends on enforcing water rotation at the secondary level – a task under the responsibility of the FWUCs. At the level of tertiary and field channels, water management is the responsibility of the users. In Sbov Andev and Kandal Stung, the 'intermediate' level, on which the FWUC can exert its authority, does not really exist: PDoWRAM controls the core infrastructures and the farmers directly negotiate (or not) their access to irrigation water with the PDoWRAM. It should be noted that in the 4 cases, the construction and maintenance of field channels (tertiary or quaternary depending on the networks) are the responsibility of the users who seem reluctant to build them as they will lose land (in certain cases, this results in a decrease in the surface area that can be irrigated - unless the water is pumped from primary canals). This relatively clear allocation of responsibilities for Prey Nup and Stung Chinit led to investments in maintenance and repairs by MoWRAM and FWUC for the infrastructures for which they were responsible (this is not the case at the two other sites studied where infrastructures were rehabilitated more recently).

Although local authorities (municipalities) are not directly involved in irrigation management, they play a crucial role in Prey Nup and Stung Chinit. First, they 'accept' and legitimise the collection of the ISF directly by the FWUC (whereas this fee is often seen as a form of local tax, for which they may be held accountable by the population) and they also play a role as 'water police', supporting the FWUCs by helping it collect unpaid fees. Last, they help steer the activities of these FWUCs alongside PDoWRAM. Local authorities are also present in Sbov Andev and Kandal Stung, however there is no clear division of roles and responsibilities as the representatives of the FWUC are often also village or community representatives.

Source: Ivars (2015)

for agricultural water in Cambodia, i.e. the creation of autonomous and accountable organisations, supported by MoWRAM and to whom the management of and authority over irrigation systems would be transferred, under sharing agreements signed by MoWRAM, local communities and representatives of the FWUCs.

The two key ideas identified by AFD and its partners, i.e. the principle of an irrigation service payment and the transfer of responsibilities, are not being ignored but are 'postponed'. The principles underpinning fee calculation are meant to be defined in another joint directive between MoWRAM and the MEF (Article 35, Chapter 8) with the risk of creating a generic formula that will not account for the very diverse types of irrigation schemes. Management transfer (Chapter 9) is contingent on building the capacities of the FWUCs and development of a specific agreement, both of which are the responsibility of MoWRAM.

As a result, the finally ratified sub-decree consolidates MoWRAM's power over existing FWUCs, de facto shifting away from the process of sharing responsibilities as it was perceived/hoped for by AFD and its partners. In doing so, the sub-decree is in line with the official documents that, until then, had guided MoWRAM's departments, i.e. Circular No. 1 and Prakas 306. The recent sub-decree seems to reflect a determination to regain control over the FWUCs with the definition of a very rigid operating and organisation and governance framework for the FWUCs, going as far as to set the number and functions of each of the representatives they will be entitled to choose, independently of the local reality and specific conditions for each irrigation scheme. Finally, the sub-decree states that all existing FWUCs must register with the PDoWRAMs and MoWRAM again within six months following the promulgation of the decree (i.e. before 12 September 2015). The PDoWRAMs are responsible for identifying the FWUCs that need to register again. For this re-registration to happen, these FWUCs must revise their statutes so that they are in compliance with the new sub-decree (as it had been the case for the Prey Nup PCU in the late 1990s). This raises questions regarding revising the content of the Memorandum of Understanding for Prey Nup, the Letters of Agreement for Stung Chinit and irrigated schemes rehabilitated as part of the NWIWP and WRMSDP projects, and how this may affect the functioning of the FWUCs and their relationships with the local authorities and PDoWRAMs. Therefore the new sub-decree is more in line with Directive 306, which it duplicates rather than complements, rather than the draft decrees that were developed with the support of AFD and the Ministry of Foreign Affairs during the 2000s. It has the same implementation weaknesses as Directive 306. But it also goes further by clarifying the respective roles of MoWRAM and the FWUCs, and putting forth principles of administrative management. Given the sensitivity of certain issues (especially the Irrigation Service Contribution), it can

nevertheless be used by the FWUCs to hold MoWRAM accountable, particularly if the local authorities put their weight behind FWUCs. However, this sub-decree appears to be an exception within a political and regulatory framework that is still in its infancy. Further the conditions of its promulgation raise questions regarding MoWRAM's priorities, which we will discuss in part three of this report.

It appears that this sub-decree has come about following strong pressure exerted by ADB, which financially supported MoWRAM to elaborate the water resources management policy framework. As this technical assistance project was about to end in January 2015 without significant outcomes, it was extended until June 2015; MoWRAM was notified that the second and final instalment would only be paid if tangible results could be demonstrated before this deadline (the first payment was made when the project was signed). The promulgation of the sub-decree is the result of this strong arm tactic and, as of yet, we do not know if its existence and its content are more due to negotiations over fund disbursement than related to a real willingness of MoWRAM to develop a structured policy framework. Finally, it is clear that the sub-decree formalises MoWRAM's role towards the FWUCs, hence paves the way for specific budget requests to support this – which is also to the advantage of MoWRAM.

Cross-cutting tools: Maintenance Fund & CISIS

Starting with the Prey-Nup polder rehabilitation project, AFD seems to have preferred an approach that aims at sharing irrigation management responsibilities rather than one that aims at transferring them.

AFD's approach, which converges with GRET's (Prey Nup and Stung Chinit project operator) approach, was that shared management should not be solely limited to transferring the responsibility of financing operation and maintenance of irrigated schemes. As far as AFD and its partners are concerned, building the capacities of the local actors, providing technical assistance (agricultural extension, micro-finance) and securing land tenure (for the purpose of increasing agricultural investments) were prerequisites to any sharing of responsibilities – something that is not mentioned in Circular No. 1.

The low level of collective action among farmers, generalised lack of skills as far as irrigation management is concerned, the extreme vulnerability of agricultural households and the low value-added generated by rice cultivation, as well as the reluctance of MoWRAM to devolving its responsibilities, called sharing rather than transferring responsibilities (and costs).

Furthermore, AFD considered that such sharing should take place progressively as agricultural productivity and FWUC capacity would improve. This principle of sharing responsibilities progressively was clearly internalised in Circular No. 1 (1999), albeit with an unsuitable calculation formula that did not account for local circumstances. Indeed, the circular anticipated that MoWRAM would provide financial support to the newly created FWUCs by contributing to their budget over a five-year period, beyond which the FWUCs were supposed to have acquired the financial and technical capacities needed to fulfil their operation and maintenance obligations.

While the vision of AFD has been long focused on shared management, this is less obvious for MoWRAM, which seems to oscillate between two positions, as had been the case in the early 2000s. Supporters of the first position, who led the implementation of Circular No. 1 as part of the government's PIMD initiative, find it unrealistic to imagine that farmers are capable of assuming responsibilities beyond routine management task: sharing water at tertiary levels, small maintenance work and recovery of a small fee to cover these costs). They see sharing responsibilities initiatives as encroaching on their prerogative. For them, irrigation management is, by essence, a responsibility of MoWRAM; farmers' users groups can be established but they have to operate under the authority of and report to the administration. Supporters of the second position seem to think that it is possible to share responsibilities between users and MoWRAM, or at least, they have decided to support the option defended by the AFD. They, however, long highlighted that, irrespective of how the responsibilities are shared, MoWRAM does not have the means to fund its share of maintenance costs as they do not have dedicated budget for this purpose.

In practical terms, a sharing of the responsibilities should result in sharing operating and maintenance costs between the users and MoWRAM. On the one hand, the ISF reflects a balance between the social acceptability of paying for a service and the operation and maintenance costs specific to each hydraulic scheme; and its level has to be negotiated between users and MoWRAM[17]. On the other hand, MoWRAM's contribution, drawn from the national budget, is meant to ensure that the main infrastructures (dams, main canals and dikes), which are potentially strategic and multifunctional (communication channels, habitat protection, drinking water, fishing, etc.), are kept in good condition. Until now, this principle of sharing costs has not been implemented for two self-reinforcing reasons. The first is the lack of real responsibility-sharing agreements (and thus costs) between the FWUCs and MoWRAM (with the exception of Prey Nup and Stung Chinit). The second is the lack of a dedicated fund for maintenance, which is often put forward by ministry officials as one of the reasons why it is not possible to transfer any management responsibilities (because the ministry would not be able to fulfil its obligations)[18].

This observation would lead AFD to initiate, from 2001 onwards, a discussion with and MEF to create a new budget line called the 'maintenance fund' within the MoWRAM budget. The maintenance fund quickly appeared to be a boundary object uniting individuals who both supported and opposed the sharing of responsibilities, as it provided the ministry with additional funds to maintain schemes under its responsibility, regardless of the distribution of responsibilities between users and MoWRAM. Although MoWRAM is still very cautious about formalising responsibility-sharing agreements (see above), the Ministry of Economy and Finance (MEF) sent a Development Policy Letter to ADB on 29 June 2010, informing the latter of the creation of a budget line dedicated to the maintenance of hydraulic infrastructures by MoWRAM. However, until 2014, this fund was managed by MoWRAM's Engineering Department (ED) and mainly used to construct/rehabilitate new schemes. Following pressure from the MEF,

17 - For reasons of social acceptability, AFD considers that the ISF must not exceed 30% of the added value brought about by infrastructure rehabilitation. Within a sustainability point of view, this has two major implications: (1) it limits the amount of capital investment and (2) a direct financial contribution from MoWRAM to maintain the infrastructures.

18 - It seems to us that the lack of a maintenance financing scheme is not the main reason why the department refuses genuine management transfer but it is still a 'valid' reason.

the funds would finally be made available to the Irrigated Agriculture Department (IAD) in 2014. The year 2015 was the first year where this fund was actually used to maintain existing infrastructure, on the basis of an annual plan listing the schemes where it had been used. At the same time, a *'Policy and Implementation Manual (incl. Guidelines) for Operations and Maintenance of Irrigation Schemes*[19]*.'* was developed (with technical support from ADB under the WRSMDP project) and validated by an interministerial committee (MoWRAM, MAFF, MEF). Last, a junior Secretary of State in charge of the operation and maintenance of irrigation infrastructures was recently appointed (although it would seem that this is a political appointment more than anything else) and MoWRAM is working on a multi-year maintenance plan for 2016-2020 (the last maintenance plan, drawn up with support from AFD for the 2012-2017 period, had remained a dead letter, and therefore the future and usefulness of this new document remains an open question). In January 2016, these developments were endorsed at the highest level of decision-making in Cambodia (Office of the Prime Minister) via the adoption of a 'policy for programming the maintenance and rehabilitation of irrigation systems', a framework document that identifies two separate budget lines (rehabilitation and maintenance) and sets criteria for their use.

This policy framework, like the O & M guides and manuals developed as part of the technical assistance provided during ADB's WRSDP lists the criteria on the basis of which funds are to be allocated; these criteria partly meet the donors' recommendations (rehabilitation date and the presence of an active FWUC). The policy framework and the IAD agents are stressing the need to prioritise the use of the maintenance fund for small- and medium-size systems (1) with infrastructures that are in a good condition and that have a sufficient water; (2) have high production potential (yield and double cropping) in productive regions/provinces (3) with a registered, functional FWUC, preferably one that is collecting the ISF and has the support of farmers, authorities and donors. The line of thinking is to start with small investments that will lead to significant results for the highest number of systems possible. However, in reality, and given the (still) very broad criteria, the choice of sites to maintain is not very transparent and depends on political decisions taken at the highest level (such as the decision to distribute funds over the whole country). Furthermore, the introduction of concepts such as emergency and backlog maintenance (seen as a priority for the government) to designate important work suggests that part of this maintenance fund will be used to rehabilitate some schemes considered to be strategic (although this may be done under the control of the IAD and not the ED). In concrete terms, the terms "backlog maintenance" is used to designate infrastructure works deemed necessary after five years of no investment so as to avoid the use of the term rehabilitation as donors emphasise the need to maintain systems rather than build/rehabilitate them.

The establishment of a maintenance fund, and the adoption of a rehabilitation and maintenance policy, are significant progress because MoWRAM is now equipped with the tools it needs to be able to assume (a part of) its responsibilities. Since its creation, the amount made available through the maintenance fund has continuously increased (although it remains lower compared to investments made in rehabilitating schemes, and well below the needs)[20] but we have not been able to assess how the MEF or MoWRAM envisioned using the fund: either as an annual allocation to specific schemes, whose number would increase as the fund will increase – and if yes up to which amount per scheme or as a rotating fund whereby specific schemes at a given frequency –and if yes what would this frequency be. The MEF seems ready to make significant funds available but, in return, is asking for guarantees regarding how it is being used. Donors who want to make sure their investments are sustainable through a selective use of the maintenance fund on the schemes they contributed to finance and the formalisation of responsibilities sharing agreements have to face different rationalities within MoWRAM, specifically (1) the priority given to extending irrigated areas and building new infrastructures; (2) redistribution dynamics internal to MoWRAM.

Therefore, the need to build 'complete' irrigation systems, i.e. to build tertiary or even quaternary canals, is currently being presented as a (new) prerequisite for any management transfer and a necessary condition for the ISF to be socially accepted even (1) if farmers do not always request this (as this implies a loss of land that is not compensated by the Cambodian government and that they have to financially contribute to the construction of these canals) and (2) it is at odds with Cambodian irrigation practices based on minimal water control. The second line of thinking that we highlight (that of the redistribution of a fund to the benefit of certain individuals) is illustrated by the intensive discussions on the possible uses of the maintenance fund: infrastructure maintenance, support to the FWUCs and updating the CISIS (see below), which fall under the responsibility of various MoWRAM departments. These discussions acquire a certain legitimacy through schemes clarifying application procedures, justification of the needs, and validation of the expenditures, which, in turn, serves as guarantees of transparency but are actually at odds from the daily practices observed in the sector.

For the AFD, rationalizing investment could happen via the elaboration of a database. It would be the CISIS (Cambodian Information System on Irrigation Schemes); gradually elaborated from 2004 with the support of various donors (JICA, AFD, ADB, NDF, AusAid). Initially thought as an inventory of irrigations schemes, the CISIS database gradually evolved into a geo-referenced database. Data collected over a 10-year period, under various projects as well as the information on the various systems (structured into 7 major components)[21], is still very heterogeneous and of varying quaility. In addition to supporting the development of the database, the AFD also financed various trainings geared at staff from MoWRAM head office and PDoWRAMs[22]; the objective was to set up

19 - Policy and Implementation Manual (incl. Guidelines) for Operations and Maintenance of Irrigation Schemes.

20 - In 2015, the budget line for rehabilitation (approximately $31.5 million) was more than 3 times higher than that for maintenance, reflecting a clear political priority to the development and rehabilitation of new infrastructures.

21 - The CISIS database is structured into 7 sections: general data; construction and rehabilitation history; type of water control and irrigated surface area; FWUC existence and characteristics; financial management; mode and level of use and maintenance; types of crops, yield and income; physical characteristics of the water supply system; physical characteristics of the distribution network.

22 - The subjects of these training courses were Geographical Information Systems (GIS), spatial analysis (remote sensing, field surveys, use of GPS), management of the database itself (data entry and verification, carrying out requests), as well as the maintenance of irrigated schemes.

a database and GIS management team with representatives from MoWRAM's various technical departments (IAD, FWUC, DPIC). This is yet to happen (see below).

CISIS core data is complemented by two dynamic modules. The first is a 'maintenance' module (Budgeting and Maintenance Module) that can be used to budget the maintenance needs based on simple infrastructure degradation scenarios. This module, which is still fairly general, was developed (in 2008) by a former member of Handicap International who was the technical supervisor of the Prey Nup rehabilitation project in the late 1990s[23]. The second module is a 'socio-economic' module, developed under the NWISP project, which makes it possible to compare rehabilitation-related gains and costs. Despite the existence of these modules, it appears that MoWRAM officials do not consider the CISIS database as a decision support tool to prioritise and justify choices made in terms of how the maintenance fund is to be used.

As far as MoWRAM is concerned, the CISIS database **seems to be a planning tool for new investments rather than a tool for managing existing ones**. The information used most often, and emphasised for political purposes, is (1) the number of systems; (2) the irrigated surface areas (3) the condition of the infrastructures (functional or non-functional). This reflects what is still the priority for the Ministry, i.e. the extension of irrigated areas rather than the maintenance and sustainable management of investments that have been made in the past. Moreover; the CISIS database is still under the authority of the Department of Planning and International Cooperation (DPIC), which appears to be under the direct supervision of the Minister; other technical departments seem to have difficulties accessing this database[24]. Therefore, the Irrigated Agriculture Department (IAD), whose primary mandate is to ensure the operation and maintenance of irrigated schemes and to steer the Policy for Operation and Maintenance of Irrigation Systems (developed with support from the ADB under the WRSMDP project), is conducting its own studies on the status of irrigated schemes and assessing maintenance financial needs. Thus, IAD agents work with PDoWRAMs and do not use the CISIS database as they consider it to be filled with useless "dead data" (i.e. not valid anymore given that much data has been collected several years ago). This lack of regular data updates, highlighted by everyone within MoWRAM, is the cornerstone of repeated requests for support, even though no one in MoWRAM seems to be able to explain how these updates would be helpful – beyond having an up-to-date database. As in numerous countries, the very existence of a database, with quantitative and geolocalised data, seems to be a sensitive issue: the question of 'who has access to the data and for what purposes?' is an unresolved central issue.

Completely unlike the other cross-cutting tools discussed above, the CISIS database has clearly been appropriated by MoWRAM - maybe even too much as this appropriation is limited to a very small number of individuals, thus raising transparency and sustainability issues. This database, with its 2790 sites listed (as the moment of writing this paper, close to half of them are mostly ruins), fascinates all actors involved in the sector. It acts as a 'modern proof' of the special historical relationship the Khmer people have with their territory through hydraulic management, and for which the ancient Khmer civilization is the founding reference, something that has also been criticised by some authors.

In addition to the quality and updating of the data, including the number of systems, discussions on the CISIS database, the maintenance fund and their respective uses reflect the power play between thevarious MoWRAM departments (in relation to their respective allies in PDoWRAM). The rehabilitation of irrigated schemes, and to a lesser extent the collection and updating of data for feeding CISIS (which has a real cost and is not at the core with the mandate of MoWRAM's agents), are indeed an annuity for underpaid civil servants.

PERPECTIVES: STRATEGIC CHALLENGES

The specific challenges faced during the implementation of certain tools and schemes as part of broader development or institutional projects are often a reflection of more 'critical' issues related to the complex relationships between governments and donors, their respective strategies and priorities, and their everyday working practices.

A discrepancy between government priorities and donors directions

The above story regarding the implementation of infrastructural and institutional projects aimed at establishing sustainable irrigated systems clearly shows that there is a discrepancy – and potentially ideological differences- between the aspirations of MoWRAM and of AFD and its partners. Our work clearly shows that, until now, MoWRAM has not really subscribed to the political agenda of sharing irrigation management responsibilities beyond well demarcated projects. The latter projects are generally regarded as exemplary and even have a 'pilot' or 'model' status, however this is not really to use them as an example but rather to highlight their outstanding nature and, as a result, the impossibility to replicate the experience or develop an institutional and policy framework inspired by these interventions. The first indicator of MoWRAM's (and the government as a whole) reluctance to formulate a coherent policy to share the responsibility of irrigation management is its unwillingness to borrow money for 'institutional support' activities that it only, at best, appropriates partially.

In the early 2000s, the observed discrepancy seemed to be related to the range of topics to be discussed and the organisational efforts they required for a young Ministry whose internal capacity were still weak and evolving. However, this discrepancy seems to have gradually shifted, which resulted in diverging opinions on the content and modalities of the reforms to be carried out. The PIMD, hence, quickly became a way for MoWRAM to strengthen its internal capacities and to affirm its willingness to play a pivotal role in the definition and implementation of the policy framework

23 - Infrastructure degradation scenarios (and thus maintenance needs) are characterised by the beauty of their simplicity. 'Routine maintenance' investments, to be done annually, would therefore correspond to 10% of the investments made for the construction and/or initial rehabilitation and would increase with each passing year (therefore, if no maintenance is carried out for 3 years, the amount required for the maintenance would rise to 30% of the investments made). The IAD introduced the concept of backlog maintenance to designate the maintenance work as necessary after 5 years of no interventions so as to avoid using the term rehabilitation (the donors emphasised the need to maintain the investments made rather than to rehabilitate the land).

24 - Another example of compartmentalisation is the fact that various donors are funding specific activities to complement the CISIS database at the same time as rehabilitation projects. However, they only very rarely send the data that they are able to collect and create within these rehabilitation projects (e.g. via feasibility studies or detailed preliminary studies, etc.) to the persons in charge of the CISIS database.

for agricultural water management. **In short, MoWRAM used the PIMD to strengthen and position itself as the key player in the irrigation sector** while some individuals acquire their legitimacy and influence within MOWRAM through this program. This growing involvement of MoWRAM in the PIMD could be interpreted as an appropriation of the issues and questions raised by donors, while, what is at play is in fact very different. Such involvement of MoWRAM in initiatives aimed at sharing/transferring management responsibilities was first positively perceived by donors as it was one of the conditions required for institutionalising, and therefore the sustainability of management transfer processes at work in a number of pilot projects. However, this desire for internal strengthening, something that is fundamentally legitimate on the part of MoWRAM, quickly appeared to be at odds with the building of local water management capacities, which took the form of supporting and institutionalising FWUCs and their institutionalisation.

The dual objective of strengthening MoWRAM and the FWUCs was supported by donors, e.g. through the NWISP and WRMSDP projects. However, the imbalance between MoWRAM's internal objectives (to strengthen itself) and donors objectives to contribute to the formulation of policy framework on sustainable irrigation management, clearly impacted the role and place that FWUC would actually be given in that framework . MoWRAM viewed the FWUCs as a way to strengthen its position, rather than future partners. Thus, whereas early projects (Prey Nup/Stung Chinit project) centred on the issues of irrigation management and capacity building of all actors involved (users as well as MoWRAM staff), the priorities have now shifted toward developing new infrastructures and MoWRAM's capacities. This trend is not only related to MoWRAM internal dynamics and priorities but is also linked to a change in the institutional landscape which led to the watering down of the role of certain historical players such as the AFD and GRET and the growing influence of other actors that are less socially conscious (private consulting firms, development agencies with a focus on developing infrastructures: JICA, Chinese Cooperation and Korean Cooperation Agency). Such tendency is confirmed today as MoWRAM appears to adopt a stronger stance asserting its authority and capacity to directly manage irrigated systems, as illustrated by the recent sub-decree on FWUCs. Today, the objective of MoWRAM no longer appear (have they ever been?) to be the elaboration of a policy framework in which responsibilities would be shared between an administration responsible for planning, supporting and controlling the development of an irrigation systems and empowered FWUC that would be responsible for their local management.

It seems that MoWRAM continues its rush forward towards the construction and rehabilitation of areas an ever increasing number of schemes that it will directly manage through its PDoWRAMs (which have been significantly strengthened over the past 10 years), while maintaining very close supervision over FWUCs, many of which only exist on paper while construction still offers scope for misappropriation of funds. There is a dual tension between MoWRAM's managers (from the national level to the local level) who are fully engaged in international discussions and references, but for the purposes of strengthening their institution and their position within it, and external observers/actors who are stretched between condemning such practices and their desire to strengthen Government institutions in order to sustain the progress that has been made.

Structural reasons for this discrepancy and possible consequences

The discrepancy that exists despite the energy and resources mobilised as well as the results achieved, seems to be partly due to the choices made by the Minister who, since taking office when MoWRAM was created, has gradually moved away from the priorities of the donors that had been historically engaged in this sector. Moreover, the influx of new financial partners such as China has contributed to the widening of this discrepancy as it provided MoWRAM with the resources needed to develop new infrastructures without the social (land security) and environmental conditionalities attached to AFD and ADB projects. However, it should be noted that not everyone agrees with this strategy. Former Secretary of State, Veng Sakhon (currently the Minister of Agriculture, Forestry and Fisheries), who has long been a 'focal point' of AFD's interventions within MoWRAM, is saying to anyone who wants to hear it that if new schemes are built without ensuring their sustainability, this will have a negative impact on public confidence and that there is a need to improve the collaboration between MoWRAM, the MEF, the historical donors of the sector, civil society organisations, and the FWUCs (whose existence can no longer be ignored).

Also, it seems artificial to think that the focus placed on the construction of hydraulic infrastructures is due to one man's personality rather than a necessity for MoWRAM to adopt the policy of a government and party for which the development of irrigated schemes is both a tangible sign of the State's presence in the Cambodian countryside and a way to buy in support in the perspective of various upcoming elections that are increasingly disputed. This phenomenon is widely accepted and seen as legitimate given the affiliation made between present-day Cambodia and the kingdom of Angkor whose development and past greatness is said to have been built through irrigation development by a powerful centralised government. As such, the 'prince' could legitimately exerts power over his subjects by controlling land and water which would ensure the sustainability of the ties uniting them.

Partnership strategies and challenging daily practices

Apart from the questions raised when analysing the discrepancy between MoWRAM and the donors' priorities, the intervention modalities and daily practices of donors, and specifically AFD, can also be further scrutinised.

From this point of view, it seems to us that one of the greatest strengths shown by AFD, and its main partner for nearly one decade (the ADB), was the establishment of complementary initiatives (which involve e.g. projects and cross-cutting institutional support initiatives) so as to address the different components of what "makes" a policy framework, as presented in the first part of this work. Even though it is difficult to know if it is projects (such as Prey Nup and Stung Chinit) that made it possible to initiate a policy process such as the PIMD and to elaborate cross-cutting tools such as the maintenance fund, or if it is institutional support initiatives that guided the projects, the fact is that the interaction between

> Water control structures carried out by PUC - May 2015

the two approaches allowed each component, project and institutional support, that is at the basis of their respective legitimacy and achievement.

Questions arise when looking (1) at the culture and specific practices of each donor vis-à-vis projects and institutional support, and (2) at the evolution in available financing mechanisms, and lastly, (3) at the ability of donors to maintain (or not) a balance between these components in what aimed at being a comprehensive approach. It is clear that ADB and AFD do not have the same expertise and technical skills regarding capacity building and social support. The ADB is, above all, a development bank whose interventions largely consist of tangible financial investments via the granting of loans (the ADB was directly involved in institutional matters within the framework of the WRSMDP primarily because it AFD could not co-finance the project when it was with the government). AFD, on the other hand, is the main actor of the French development cooperation, and as such, aims at investing both in infrastructure investments but also in supporting the development of public policies and building the capacity of stakeholders.

ADB and AFD combined their resources in the early 2000s to develop an integrated approach. The ties between AFD and ADB grew stronger as they shifted from financing parallel activities at the same site (Stung Chinit project) toward actual co-financing of joint activities (NWISP project); the two organisations following their own procedures but carrying out joint monitoring and evaluation missions. At the time, AFD had a clear comparative advantage which was the use of grants to fund its projects. This gave AFD greater flexibility when negotiating with MoWRAM the financing of activities geared at institutional support and development. For AFD, the objective was to influence ADB's approaches and practices by working, on a daily basis, with ADB agents, while acquiring more weight vis-à-vis MoWRAM. Beyond organisational official agreements, this type of partnership, and this is significant, was also based on trust relationships between specific individuals (e.g. ADB and AFD project/mission managers) who shared a certain vision of what were the objectives of their interventions and how they could be achieved[25]. This personal component characterises the relationships that AFD has with MoWRAM too, and transpires in AFD's desire to work with specific individuals with whom the agency has been able to establish a trust relationship built over time[26]. Following the 2005 Paris Declaration that stressed the need for a programmatic approach to international development aid, the existence of an 'Agriculture and Water Working Group' (TWGAW), acting as a coordination platform between sector donors and the Ministries of Agriculture and Irrigation, also enabled ideas and approaches to be shared, which already yielded results in the second half of the 2000s[27].

These days are now partially over, particularly after the temporary and partial withdrawal of AFD between 2009 and 2013. The interviews we held with people involved in the institutional component of the WRMSDP project clearly

25 - As may be the case between AFD and the operators that are involved in the project it funds (GRET, Handicap International, Canal de Provence, BRLi).

26 - This position is opposite to the one of ADB, for example, which considers (officially) that it does not have to intervene or express any preference in the choice of the agents who will be piloting ADB's projects for MoWRAM and that this in an internal decision to the ministry.

27 - Although it still exists officially, it appears that this group has no longer been active for several years due to a change in the overall institutional landscape and the lack of a leader/driving force. Furthermore, the fact that MoWRAM manages project in silos (specific individuals manage the projects of specific donors) probably impedes the exchange of ideas and approaches (especially as project's portfolio is a source of capital, both financial and in terms of legitimacy and internal influence, for the person managing it).

highlighted that AFD only slightly influenced the practices and views of the 'ADB institution' in terms of the 'soft' dimensions of irrigation projects. This is somewhat normal because such cultural changes and organisational practices are only possible over much longer time steps. Under the WRMSDP project, it appears that (1) institutional support activities were limited in scope; (2) the ADB's lack of culture, experience or even interest in this matter meant that, such activities were not optimally implemented. Although the individual skills of the deployed consultants are not a priori the issue, it seems to us that the team has largely operated in a 'vacuum', conducting multiple missions and producing long reports (barely appropriated by MoWRAM's agents) that do not, alone, lay the ground for elaborating a coherent policy framework. This is especially true given the discrepancy between MoWRAM and donors' priorities, as described above for the sub-decree on the FWUCs and the use of the 'maintenance fund'.

Currently, even though AFD presents the WASP project as a contribution to the WRMSDP project, which it helped prepare (see above)[28], the two projects are carried out in a completely independent manner. In addition, the ADB/AFD partnership seems to have come to a halt, following a change in project officer within ADB. The new ADB program officer seems to prioritise investments in infrastructures, and to devolve institutional activities to external consultants whose integration in and legitimacy vis-à-vis MoWRAM is limited - a somewhat common modus-operandi in the sector. Moreover, recent discussions over a possible partnership have mostly revolved around financial aspects without any opportunity for AFD to provide input in terms of contents. The failure to take into account what are key criteria for AFD to decide financing a project (e.g. strengthening of the FWUCs, ensuring land security) in the development of the Upland Irrigation project (financed exclusively by the ADB) led AFD (1) to withdraw from the project (despite the fact that it was initially keen to co-finance it), (2) to propose the development of an ethical framework to oversee future partnerships, and (3) to accelerate the appraisal of a second phase of the WASP project which should be financed independently and based on AFD's past experience.

Within AFD, some recent developments also go against the stated ambitions of building a shared irrigation management policy framework. In particular, there has been a shift in the internal balance between the share of investments dedicated to infrastructures and the share dedicated to capacity building and institutional aspects. This is due notably to the fact that, today, AFD primarily intervenes through loans, in a context where the Cambodian government does not want to contract loans for institutional activities and limits amounts devoted to technical assistance to approximately 10 to 15% of the loan amounts. This new modus-operandi means that AFD is increasingly concerned with a specific indicator, governing the operation of development banks, i.e. disbursement rates and the need to disburse funds following rigid schedules, something that is incompatible with capacity building or institutional support, which can also be long-term objectives. Such constraints may lead AFD to disregard certain principles that had guided its activities over the past decade (for example, ensuring that users are involved in the infrastructure design phase), in order to meet its disbursement obligations for infrastructure works (as has been the case under the WASP project). In a context where MoWRAM (and certain major donors) do not seem to prioritise the institutional empowerment of users, these signals will only weaken the position of AFD and its partners.

This raises question regarding the ability of AFD to steer, via the financial mechanisms at its disposal, a process that would lead to redirecting the current trajectory towards a better balance between, (1) the rehabilitation of infrastructures and the management of existing schemes on the one hand, and (2) reinforcing the tools and skills of MoWRAM and local actors (FWUC, ISC, FWN) on the other hand. It seems that the financial mechanisms used by AFD are not really in line with this ambition. However, ironically, it seems that there is a change of direction within MoWRAM itself. Currently, internal tensions are clearly visible between the proponents of an administered and managerial policy (represented by the Minister and his followers), and the proponents of policy based on shared responsibilities. The former Secretary of State Veng Sakhon, now Minister for Agriculture, Forestry and Fisheries (MAFF), seemed to be the representative of the latter policy, even though it is difficult to obtain an accurate picture of his position and legacy. The relationships between the MAFF and MoWRAM have always been complex and often strained with regard to the irrigation sub-sector, however the appointment of Veng Sakhon as Minister of Agriculture may, possibly, if allies can be found within MoWRAM, offer new opportunities to support the FWUCs via specific work on agricultural development (as tested under the rice sector project). Finally, the striking entry of the Ministry of Economy and Finance (particularly through the budget lines for the rehabilitation and maintenance of infrastructures) into the sectoral policy process may, possibly, provide some opportunities that are yet to be identified. MEF is a central and powerful actor, undoubtedly sympathetic to the argument of (economic) sustainability of the investments; however the links still need to be made between economic sustainability and strengthening the role of the FWUCs in the management of irrigated systems.

CONCLUSION

The strategy developed by AFD over the last 20 years, in a largely ad-hoc and adaptive manner, to support the elaboration of an irrigation policy framework in Cambodia appears to be both relevant and well thought. A key element of this strategy has been to successfully associate actions in the field, demonstrating that specific preferred choices are working, with cross-cutting national level institutional support, aimed at strengthening the administrative and regulatory framework. Similarly, the choice to develop a long term partnership with ADB, so as to be able to overcome its financial limits has create leverage allowed for extending the scope of operations beyond the sole "AFD project", at least during the first decade of AFD's intervention.

From an operational point of view, the almost uninterrupted involvement of GRET (Prey Nup project, Stung Chinit, ASIrri with the creation of the ISC and the FWN, and lastly, the ongoing WASP project), meant that a methodology to create

28 - One of the components of the WASP project includes the rehabilitation of small systems (500 to 3,000 ha) included in the feasibility of the WRSMDP project but which have not been financed by the ADB due to a significant rise in costs during the project appraisal stage.

and support local operational actors (FWUC, ISC, FWN) could be developed, something that still needs to be further strengthened. In particular, this was possible thanks to a major effort to capitalise on prior experience, facilitated by the long-term involvement of certain individuals. Lastly, it is important to note that the overall consistency of the choices in terms of partnerships and operational modalities was made possible and strengthened by a convergence of views between motivated and committed individuals, from each of the main organisations (AFD, ADB, MoWRAM, GRET, etc.); this convergence underlies the creation of an informal but very effective network of individuals supporting the elaboration of a collective strategy. The 'ephemeral' nature of this network is now being counterbalanced by the existence of institutionalised tools and mechanisms, at both local and national levels.

The cohesiveness of this network of individuals was such that it was possible to both limit the influence of opponents to this strategy for more than 10 years. However, the current situation in MoWRAM shows that the opposing voices that were silenced for a while may once again become heard and even dominant as soon as the power relations within and between organisations change, as already happened when AFD withdrew between 2009 and 2013, and Chinese funds devoted to the sector increased dramatically. Moreover, the turnover of the individuals involved, something that is inevitable over such a long period of time, means that it is impossible to guarantee the continuity of the strategic framework that has been carefully crafted, as each newcomer has his or her own convictions and objectives. Therefore, the intervention strategy of AFD is difficult to put 'into practice' and does not seem to have the leverage it seemed to have in the mid-2000s.

Specifically, MoWRAM is no longer a new organisation, eager to build its legitimacy through its first major interventions. Several senior managers from MoWRAM have made speeches that show that the ministry is now a real 'hydraulic bureaucracy' that intends to set the priorities and rules of the game. This discrepancy between government priorities and a model that has long been put forth by AFD only amplifies the operational constraints that AFD faces and that have multiplied over the last 10 years, making implementation of tools and mechanisms a challenge. However, these exist and it is already a significant achievement and they could lay the ground for strategy for the sustainable development of irrigated agriculture in Cambodia.

It seems as though the vision –and the related tools- proposed by AFD and the complex interplay between actors it implies is difficult to envision in a Cambodian society whose financial resources[29], economy[30] and aspirations[31] have changed considerably since the 1990s. Admittedly, the agricultural sector still supports the existence of 60% of the population, food self-sufficiency is recent and agricultural productivity is low compared to other countries in the sub-region. However, it seems that the supporting further agricultural growth, which is both complex and long-term, is not a central concern of the Cambodian society and its government which is looking for, more than anything, a quick return on investment, based on short-term interests[32]. The country wants to enrich itself and individuals want to quickly benefit from the current economic boom, with the result that the issue of developing the agricultural water sector is being seen from a different point of view that it may have been until now. Therefore, whether this is out of the personal interest of MoWRAM's managers or linked to broader political interests, the direction that has clearly been taken up - and is sustained or reinforced by donors- is to increase the number of projects focused on building infrastructures, paying little attention to questions of equity, sustainability and to the environment, as well as to the increasing debt.

But the evolution of the Cambodian society may also be an opportunity for AFD to regain its legitimacy and ability to influence MoWRAM. Opposition and civil society forces have emerged, calling into question the primacy of the party that has governed the country for the past 30 years. Elections are increasingly contested and the dysfunctions and mismanagements observed and denounced in the agricultural water sector are starting to weaken the rural base of the government in place. Some people within MoWRAM are aware of this and are advocating for a readjustment of the direction in favour of what AFD has been promoting. Their message is becoming louder and could well set the basis for a new phase that would be better balanced than the participatory management (1995-2005) and the bureaucratic management (2005-2015) phases. For this reason, the outcome of the internal struggle within the ministry will be crucial for guiding the future of the collaboration between AFD and MoWRAM and the future of the sectoral agricultural water management policy that is still in its infancy. In view of this, it will be instructive to observe the actions that the new Minister for Agriculture, Forestry and Fisheries (the AFD's former contact within MoWRAM) will take to develop the Cambodian agricultural sector (primarily based on rice and irrigated land). Last, the fact that the MEF is becoming increasingly involved in debates is also a trend that can have significant effects and needs to be better assessed.

29 - Cambodia's Gross National Income increased from 300 to 1,000 USD/person between 1995 and 2015.

30 - The contribution of agriculture decreased from 49.6% to 29.8% during the same period, while the weight of industry (primarily the textile industry) and tourism have sharply increase.

31 - Most of the population seems to place a priority on personal enrichment, after decades of restrictions and poverty, as luxury car fleets and luxury residences are increasing in number every day.

32 - As demonstrated by the very strong activity of the land and real estate markets.

SELECTED BIBLIOGRAPHY

Note: The aim here is not to present an extensive bibliography of the irrigation policy framework in Cambodia, but to list the key documents (often grey literature) that clarify the AFD's interventions over the last 20 years in Cambodia and upon which this work is based.

- AFD. (2004). Note de Présentation de Projet Sectoriel Hydro agricole.
- AFD. (2012). Note de Présentation de Projet Sectoriel Agriculture et Eau.
- Balmisse, S. (2009). Assistance Technique auprès du Ministère des Ressources en Eau au Cambodge: réflexions autour d'une expérience de 5 ans. Rapport de mission.
- Brun, J.M.; Fontenelle, J.P. (non daté). Retour sur un pari : Acquis et questionnements du projet de réhabilitation des polders de Prey Nup, au Cambodge. Documentation de capitalisation interne GRET.
- Brun, J.M. (2011). Mainstreaming of actions in support to FWUC under NWISP (Cambodia): Statement, lessons learnt and follow-up support. Rapport au MoWRAM.
- Brun, J.M.; Sophanna, K. (2012). Ex-post evaluation - CKH-6002: Technical Assistance to Agriculture and Water Resources Sector Policies. Rapport à l'AFD.
- Brun, S. (2015). Note sur l'état d'avancement actuel du CISIS. Note de projet PSEA soumis à l'AFD, Novembre 2015. Non publié.
- Calas, J. (2006). Le Cambodge rural face à la pauvreté : contribution à la réflexion sur les dynamiques agraires et le changement social. Document de Travail AFD.
- Deligne, A. (2014). Développer des services pour les associations d'usagers de l'eau. Analyse d'un processus d'innovation, le projet Asirri au Cambodge. GRET, Études et Travaux en ligne n°43
- François, G. (2003). Appui institutionnel au processus de transfert de gestion des polders de Prey Nup (mission n°3, mai 2013). Rapport au MoWRAM.
- Gouvernement du Cambodge (Goc). (2000). Prakas 306 (Circular nr. 1): The Implementation Policy for Sustainable Irrigation Systems.
- Gouvernement du Cambodge (Goc). (2014). Policy and Implementation Manual (incl. Guidelines) for Operations and Maintenance of Irrigation Schemes. Version préliminaire.
- Gouvernement du Cambodge (Goc). (2015). Sub-Decree on the Procedures for the Establishment, Dissolution, Roles and Duties of FWUC.
- Gouvernement du Cambodge (Goc). (2015). Policy and Implementation Guidelines for Sustainable FWUCs. Version préliminaire.
- Ivars, B. (2015). Trajectoires et variation(s) des transferts de gestion des périmètres irrigués au Cambodge : une approche de political ecology. Agro Paris Tech, MNHN, Mémoire de master.
- Lagandré, D. (2007). Étude d'impact du projet de réhabilitation des polders de Prey Nup. GRET, Études et Travaux en ligne n° 15
- Papazian, V. (2008, 2009, 2011, 2013, 2014). Compte rendus de mission de supervision des projets du secteur hydro agricole.
- Rosner, P.M. (2008). Les collaborations opérationnelles entre l'AFD et les ONG : Analyse et réflexions à partir d'un échantillon de 13 projets. Rapport à l'AFD.
- Rousseau, P. ; Balmisse, S. ; Toelen, P. ; Castellenet C. ; Fontenelle, J.P. (2014). La gestion de l'eau est l'affaire de tous ! Stung Chinit, la difficile coordination de l'ingénierie sociale et technique sur un grand périmètre irrigué au Cambodge. GRET, Études et Travaux en ligne n° 42.
- Senechal, T. (2010). Addressing Development Challenges in Emerging Asia: A Strategic Review of the AFD-BAD Partnership Final Report, Period covered: 1997-2009. Evaluation and Capitalisation Series.
- Sinath, C. (2001). Investment in land and water in Cambodia.
Disponible en ligne http://www.fao.org/docrep/005/ac623e/ac623e0c.htm
- Technical Working Group on Agriculture and Water (TWGAW) (2010). Strategy for Agriculture and Water 2010-2013 -Program design document.
Rapport au MoWRAM et MAFF.