

#11- 2023

POLICY BRIEFS

Structuring Action: Services to Irrigators

'Services to Irrigators'

An innovative approach that places irrigators at the heart of development strategies

The reflection on services to irrigators is part of the broader framework of services to men and women farmers, implemented to consolidate their productive capacity and promote the sustainability and development of their farms. They also make it possible to achieve the objectives of agricultural policies and, in particular, the objectives expected from public investment in the irrigation sector.

Services to irrigators include the technical and intellectual services that men and women farmers may need. They relate in particular to the supply of inputs and equipment (e.g. water service, mechanisation services), strengthening their technical capacity to produce (e.g. agricultural extension and advice, training, research) and to manage their farms (e.g. management advice), securing their farms (e.g. land tenure and rights, legal advice, insurance), financing their investments and/or working capital (e.g. loans to farmers), their access to information (e.g. price monitoring), their access to markets (e.g. product aggregation, commercial mediation, certification), their organisational capacity (e.g. integration in a PO, advice to the PO), negotiation capacity (e.g. participation in an interprofessional organisation), and lobbying capacity (e.g. membership of a trade union). These services concern farms as well as farmers' organisations (e.g. cooperatives, water users' associations). They may be provided by the public sector, the private market sector or the farming profession.



KEY MESSAGES

Five main key messages related to the 'services to irrigators' action have been drawn up following work that combined analysis of the existing literature, individual interviews and surveys, focus groups, and feedback and consultation workshops held as part of this project:

- 1/ A package of services is needed that extends far beyond the water service alone, forming a complete ecosystem of services. The absence of an explicit demand from irrigators does not mean that there is no need. The establishment of this ecosystem of services is highly dependent on local dynamics and their logics (commercial, short-termist, even monopolistic). Its balanced implementation, allowing more socially and environmentally sustainable dynamics to emerge, is a real challenge that requires services to be constantly adapted to the changing context and needs, and the ability to intervene in the dynamics that are spontaneously at work.
- 2/ Depending on the services, they can be provided by the public sector, the private (commercial) sector, the agricultural profession and even from farmer to farmer. The services should not be left to the private sector alone; there is a risk that the offer would be incomplete, overly self-serving, that it would only consider short-term objectives, or would only serve individual interests (possibly converging) without integrating objectives pertaining to the common good or the general interest. This underlines the need for public regulation and the reappropriation of certain services by the farmers. However, the private sector, the public sector and the farming profession are all three needed to strike a balance between the quest for growth and the preservation of the common good.

3/ Contrary to what might be presumed, the services in place do not always serve the true interests of irrigators. In particular, depending on the balance of power within value chains, the services may instead be to the advantage of the players upstream or downstream of the chains. When services are steered by a value chain, there is a risk that they will direct and block irrigators' strategies. It is therefore necessary to analyse the interests and resources of irrigators - and of each type of irrigator in an irrigated scheme using a typology - and to decipher the balance of power at work in the scheme, the territory or the value chain in order to check whether the services in place genuinely meet the irrigators' interests.

4/ A service plan for irrigators links the micro, meso and macro level services, with the three levels mutually reinforcing one another. The micro and meso level services are logically more operational while the macro level is more concerned with the public policies in support of these services.

5/ Operational plans to strengthen services should be drawn up on a case-by-case basis and cannot be standardised. They need to be based on full diagnoses: value chain-territory diagnosis, mapping and assessment of existing services (using the 'service rosette' tool), typology of farms and assessment/prioritisation of service needs, assessment of the match between the service offer and the needs. Each operational plan presents a theory of change for the development of services and sets out the operational arrangements (sharing of roles for the main services, funding mechanisms and roadmap).

ISSUES AT STAKE AND OBJECTIVES OF THE STRUCTURING ACTION

The overall challenge identified by COSTEA for this action is to contribute to the economic and social development of irrigated areas, in particular by consolidating the productive capacity of irrigators.

By applying a similar methodology to two different contexts (oasis schemes in Tunisia and rice-growing schemes in Cambodia), COSTEA's structuring action provided food for thought on the issue of strengthening services to irrigators. The action enabled these services to be better identified and defined, provided feedback on different irrigation support programmes in each of the two contexts studied, enabled an operational plan to be drawn up to develop services on each site, drew general conclusions and capitalised on an approach for analysing services to irrigators. Finally, this action has encouraged the emergence of a joint reflection between farmers, researchers, decision-makers and operators on systems of services to irrigating farmers and the place they should be given

in the formulation and implementation of support programmes and development policies for irrigated agriculture, in their various components (development of agricultural production, improvement of services, sustainable management of natural resources and management of negative externalities, territorial economic development, development of agricultural and agri-food value chains, etc.).

In each of the two countries concerned by the action, COSTEA anchored this work institutionally by formally involving the national authorities: in Tunisia, with the Directorate-General for Rural Engineering and Water Usage (Direction Générale du Génie-Rural et de l'Exploitation des Eaux, DGGREE) of the Ministry of Agriculture and Water Resources, which is the focal point for this action, and in Cambodia, with the Ministry of Water Resources and Meteorology (MoWRaM) and the Ministry of Agriculture, Forestry and Fisheries (MAFF).

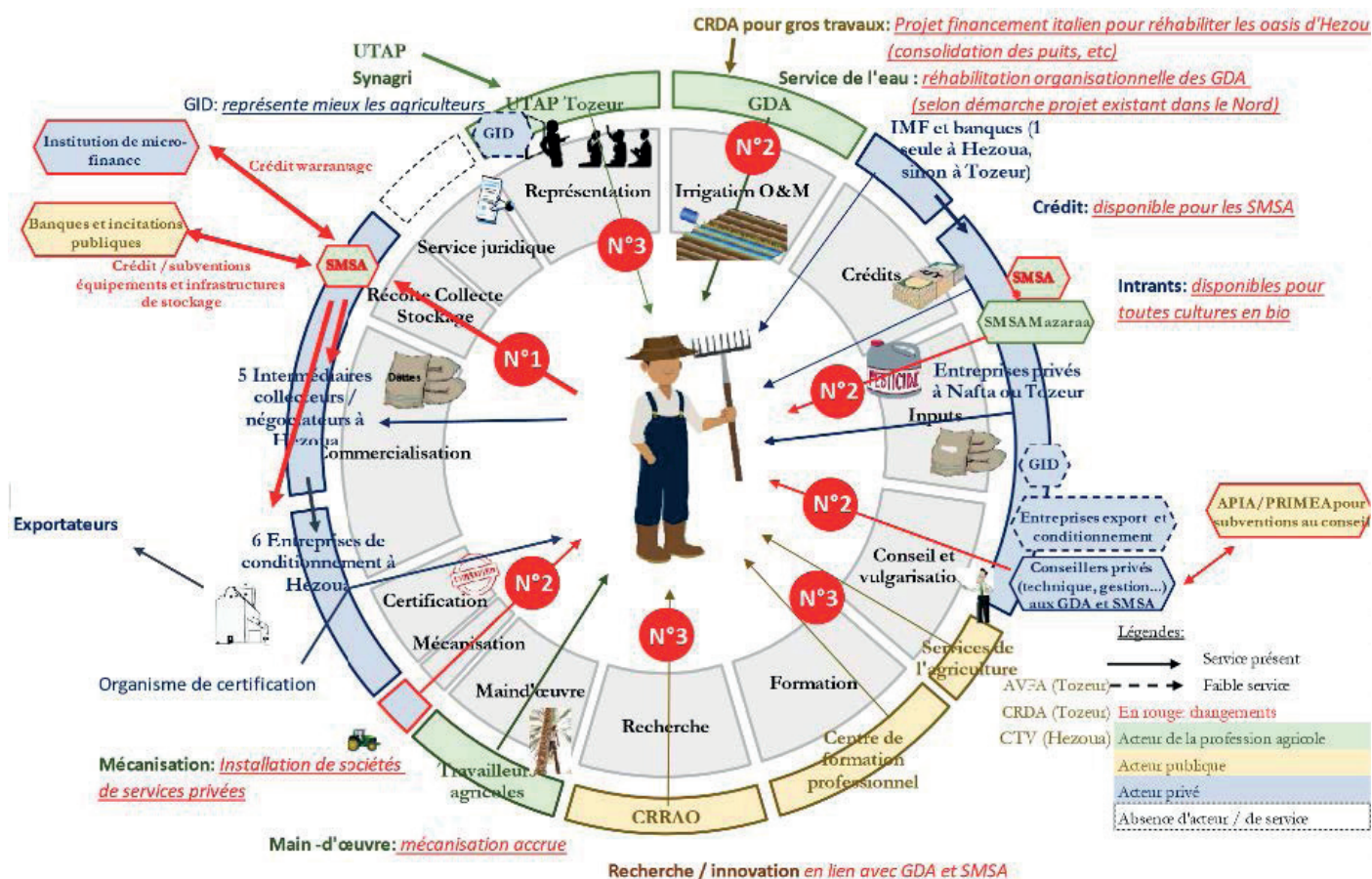
PRESENTATION OF THE METHODOLOGY AND DIAGNOSTIC ELEMENTS FOR SERVICES IN TWO DIFFERENT CONTEXTS

The study was carried out at two sites, one in Tunisia and the other in Cambodia. On each site, the approach focused on three main areas of analysis:

- **value chain-territory: a territorial analysis** was carried out based on a literature review and a number of interviews. In Tunisia, a **rapid diagnosis of the date value chain** was also carried out to gain a better understanding of the marketing issues, which appeared to be particularly crucial.
- **service needs: surveys of farms** were carried out enabling a **typology of farms** and an analysis of **service needs** to be drawn up. These surveys also enabled an assessment to be made of farmers' **current level of satisfaction** with the various services.
- **service offer:** a mapping of the service offer was also carried out. The key (prioritised) services were **evaluated** and the match between service offer and service needs was assessed. In Cambodia, these analyses were supplemented by a **historical analysis of the deployment of services** in Stung Chinit and their correlation with the actual development of the irrigated scheme.

These elements were then combined to formulate an operational plan for strengthening services. The broad outlines of each operational plan were discussed at the consultation workshop and in focus groups. The two operational plans each present a theory of change (vision of services, objectives, path of change) and then describe the operational arrangements (sharing of responsibilities, funding mechanisms, technical elements). A summary roadmap was drawn up for each site to identify the next steps. These operational plans did not cover the entire field of services to irrigators, but a number of aspects considered to be priorities in the light of the diagnoses carried out and the key issues at stake.

Operational plan of services to irrigators proposed for Hezoua 1



Main results for the Hezoua 1 site in Tunisia in the Governorate of Tozeur

The Hezoua 1 site is a modern 72-hectare collective oasis dominated by the production of Deglet Nour dates, which was created in 1962 and rehabilitated in 2018.

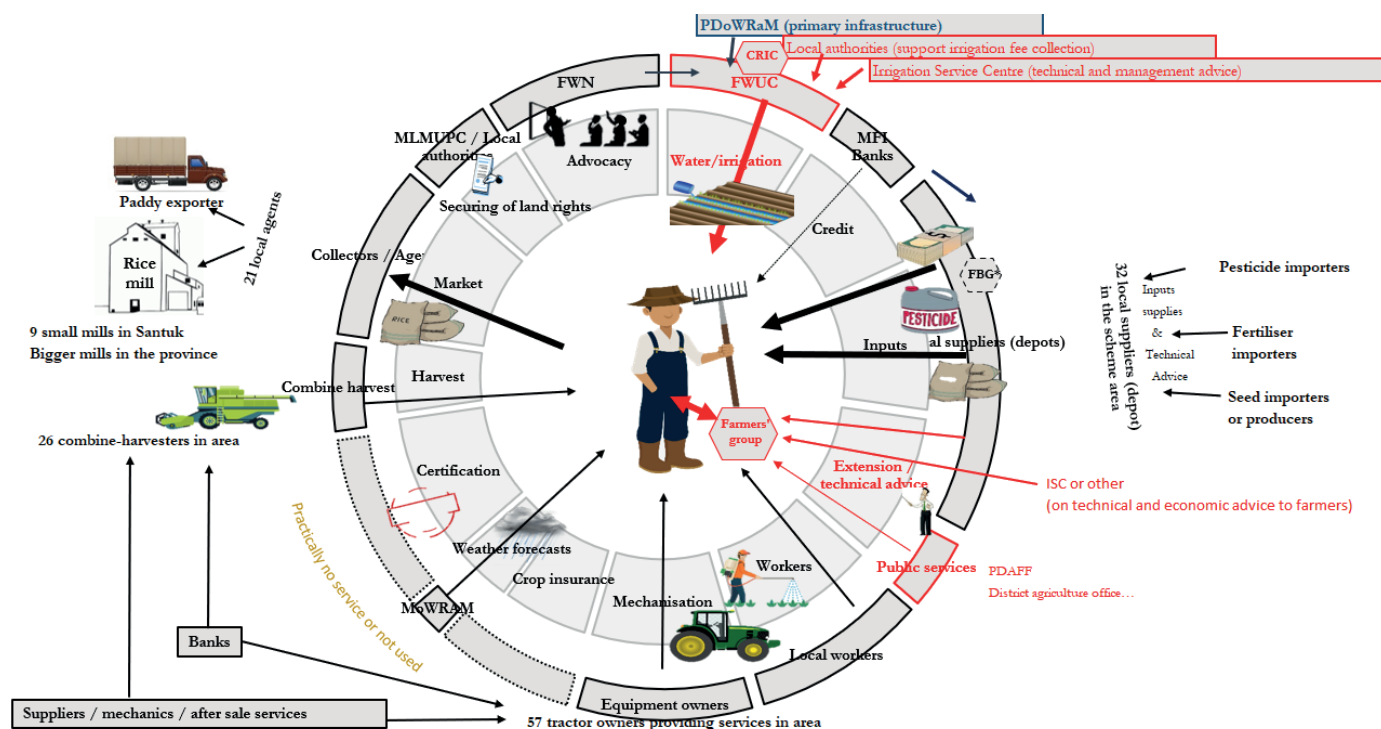
The diagnosis revealed farms in serious difficulty, and in particular, some that are in the process of being abandoned. There are many reasons for this: excessively small farm structures (fragmentation due to inheritance), a lack of labour (linked to cross-border trade), a tendency to specialise in dates, a date sector dominated by a handful of downstream actors (date value chain unregulated, with weak farmers' organisations), and an insufficient service offer which is not always in the irrigators' interests (the services being mainly focused on date production and in the interest of downstream actors in the value chain). Moreover, the new context of overproduction in the sector for the past two years, which has become the 'new normal' in this sector, has aggravated the situation. Finally, the very environmental sustainability of the oases is threatened by the drop in the water table (due to extensions), the specialisation in Deglet Nour (loss of biodiversity and of the functioning of the oases in tiers) and the new trend towards 'deconversion' (transition from organic to conventional). Apart from the water service, which is currently still satisfactory in Hezoua 1, but under threat, this oasis is representative of the situation of modern collective oases in the south. This flagship value chain of Tunisia

(the world's leading exporter) is thus partly based on non-viable family farms and a threatened agroecosystem.

The operational plan defined as part of the COSTEA study recommends 'structuring services based on a new balance between the State, the agricultural profession and the private sector - and in particular, an increase in the power of professional agricultural organisations in response to the specific interests and needs of irrigators in oasis agroecosystems.' The proposed pathway has two stages: (i) start by removing the priority constraint of marketing; (ii) then, in a second phase, set up, or revitalise, the 'ecosystem of services' to deal with problems in a more systemic manner and thus set a virtuous circle of services in motion. An innovative solution - inventory credit, or credit secured on stock, is proposed to enable a fairer integration of farmers in the sector. However, this solution is not sufficient and other proposals are made at the micro, meso and macro levels.

Finally, the study underlines the urgency of the situation. The farmers have just faced two very difficult years and social tensions are rising. In the current context, many farmers will be unable to cope with another similar season. The risk of a socio-economic crisis in the oasis areas is very real and requires emergency measures to be taken now pending more structural measures (such as the implementation of the operational service plan). The road map thus proposes some emergency measures and others that are medium- to long-term.

Operational plan of services to irrigators proposed for Stung Chinit



Main results for the Stung Chinit site in Cambodia in the province of Kampong Thom

The Stung Chinit site is a rice-growing scheme of approximately 2 800 ha, created in 1977 and rehabilitated between 2002 and 2006.

The diagnosis reveals a situation where the gradual implementation of a comprehensive range of services between 2006 and 2020 significantly increased the development of the scheme: transition from single cropping to double cropping, then to triple cropping for some farmers. While the irrigation service has been in place since 2007-2008, it is only between 2015 and 2020 that rice cultivation truly developed, supported in particular by a structured upstream and downstream sector from 2015, and then by the development of mechanisation services in the years that followed. A complete range of services is now therefore in place, essentially based on private service providers.

However, the technical model of agricultural intensification is already showing its limits in terms of environmental (and therefore also economic in the medium and long term) viability: soil degradation, pesticide contamination and impacts on fisheries, etc. Moreover, the water service is also under threat. The evaluation of services and of the match between the offer and the needs therefore shows current satisfaction, but also significant future risks that are not always perceived by the stakeholders.

The operational plan thus recommends: '(i) restoring an efficient and economically viable O&M (operation and maintenance) system, and (ii) adopting more sustainable and profitable agricultural practices on the Stung Chinit irrigation scheme.' To promote environmentally sustainable cropping systems, it proposes to set up technical-economic research-action groups

to test and evaluate other production models (diversification, cover crops – in a concerted manner to avoid conflicts between non-compatible water uses and management methods) and to support the emergence of an advice and service offer allowing sustainable production models to be scaled up. To consolidate the viability of the management of the irrigation service, the service plan proposes to: (i) reactivate the alliance between the irrigators' organisation and the territorial authorities; (ii) restore the principle of calculating users' contributions based on the budget for operation and maintenance services to be paid by the users, and; (iii) put the emphasis back on communication with users.

RESULTS OF THE STUDY, KEY MESSAGES AND LIMITS OF THE APPROACH

The choice of these two sites clearly illustrates the need for a complete range of services for irrigators that extends far beyond the water service alone: a complete 'ecosystem of services' whose systemic dimension is emphasised. The study also shows the link between services, performance and the sustainability of the schemes, and more broadly, of the agricultural practices that are implemented therein.

1/ A package of services is needed that extends far beyond the water service alone, within an ecosystem of services that must adapt over time and to evolving contexts. The sole presence of a water service is not enough to ensure the performance and sustainability of the schemes, which require the effective presence of other types of service (supply, marketing, equipment and labour,

land, producers' organisations, advisory and extension services, social services, etc.). The study shows that the water service must first be secured, then the other services should be deployed more or less synchronously or according to a (chrono)logical sequence specific to each scheme and responding first to priority constraints, then to secondary constraints. In both cases, marketing services appeared to be particularly important levers (second priority after securing water and land services). However, the sustainability of irrigated systems **may be called into question due to the environmental impact of the processes of the homogenisation, simplification and intensification of the cropping and production systems that they engender**. It thus emerged that medium- and long-term issues are not taken into account by the current services and that the environmental dimensions are neglected by the services offered in the two case studies. In addition, not all of the services are necessarily explicitly requested by irrigators, yet the absence of an explicit request does not mean that there is not a need.

2/ Depending on the service, it can be provided by the public sector, the private (commercial) sector, the agricultural profession and even from farmer to farmer. The services should not be left to the private sector alone: there is a risk that the offer would be incomplete, overly self-serving, or that it would only consider short-term objectives, etc. The service cycle might not be virtuous. The study therefore stresses the need for intervention by the State (at national and local authority level), to ensure the general interest and medium- and long-term interests, and to strike the right balance between economic, environmental and social issues. **The private sector, the public sector and the agricultural profession are nevertheless all necessary** to find a balance between the quest for growth and the preservation of the common good. At the two sites studied, the service offer is dominated by private actors, and the services available are not always in the interests of the farmers (depending on the balance of power present, as shown in Tunisia), or become factors that constrain their choices instead of broadening the range of options available to them. Public intervention is therefore also necessary: (i) on the one hand, to provide services that the private sector does not cover or to subsidise them, and (ii) on the other, to regulate these services (or regulate the sector). This public intervention makes it possible to arbitrate between the sometimes divergent interests of stakeholders, to arbitrate between short, medium and long-term interests, and finally, to arbitrate between economic, social and environmental interests. The study also shows the need for farmers to reappropriate these services to a certain degree (farmer-to-farmer services and the role of farmers' organisations) and for farmers to exercise control over these services.

3/ A service plan for irrigators links services from the micro, meso and macro levels, the three levels being mutually reinforcing. The study shows the need for services at these three levels. Indeed, the notion of 'services' is more adapted to the micro and meso levels, but public policies at the meso and macro levels should support these services. At Hezoua 1,

the fact that the services are concentrated on the date value chain leads to the specialisation of the farms (thus reducing their resistance to shocks and their resilience) and to the specialisation of ecosystems (less ecosystem functioning, whereas oases are traditionally multi-tiered and diversified). The study underlines the State's withdrawal since the 2010 Revolution and the need for a number of public actions at the macro- and meso-levels: regulation of the value chain, control of extensions, improvement of farm structures and revitalisation of farmers' organisations.

4/ It should not be assumed that the services provided to irrigators are necessarily always in their best interests. When services are heavily dominated by the private sector, only services that are profitable in the short and medium term are offered to farmers, with no possibility of arbitration in the event of divergence between the stakeholders. Similarly, the value chain approach directs service provision towards the interests of a priority value chain. This is even more problematic if the balance of power within the value chain is unfavourable to irrigators. This steering of services by the value chain can, in turn, direct and constrain the possible strategies of the farms. The case of Hezoua 1 clearly showed that the services respond relatively well to the interests of the value chain but not to the interests of the irrigators or the environment. At Hezoua 1, the services are dominated by a few downstream players and seem to be mainly in the interests of the value chain (producing quality dates), rather than in the interests of the irrigators (having a sufficient income). On the other hand, in the case of Stung Chinit, the farmers are satisfied with the services on offer, although there is a risk of the scheme malfunctioning in the medium and long term. The approach based on services to irrigators puts the farmers back at the centre of concerns. The focus is not on development, the territory or the value chain, but truly on the farmers. Consequently, two questions need to be asked: (1) Do the proposed services enable the implementation of strategies chosen by the farms, or do they predetermine the strategic orientations of the farms by restricting the 'field of possibilities'? and (2) Do the farmers have the means to access them? It is therefore necessary to analyse the interests and resources of irrigators - and of each type of irrigator in an irrigated scheme using a typology, and to decipher the balance of power at work in the scheme, the territory or the value chain, in order to check whether the services in place really do meet the irrigators' interests. Forward thinking with local stakeholders can also be useful and beneficial to bring out the medium- and long-term issues and take them into account strategically and in anticipation. In itself, this work of coordination and foresight can constitute a service to be developed, which can be anchored in a territorial management approach with an important role for the local authorities.

5/ Operational plans to strengthen services should be drawn up case by case, and should be based on comprehensive, on-the-ground diagnoses: value chain-territory diagnoses, mapping, history and assessment of the service offer, farm typology, assessment and prioritisation of the service needs of the farms, and assessment of the match between service

offer and needs. The 'service rosette' tool used on the two sites, both for the diagnosis and for the presentation of the operational plan, is relatively functional and provides a simple way of approaching the complexity of a development. This tool can be downloaded from COSTEA's website <https://www.comite-costea.fr/production/loutil-la-rosace-des-services-aux-irrigants>. Within a given area, there will of course be similar trends, but also specific features depending on the characteristics of each development (for example, whether it has been rehabilitated or not). Within the same development, service needs vary according to the type of farm, but the development tends to standardise the priority needs, which are the most effective and quickest levers to activate. The operational plan can therefore contain a standard range of services to meet these priority needs, followed by services tailored to different types of farm (family farm advisory services will then help to formulate more specific service needs for each farm). These plans ultimately seem particularly useful for planning public action and thus complementing private sector intervention.

With development issues calling for an ever-increasing search for efficiency and impact, this situation tends to lead to an oversimplification of approaches, which are too rapid, sector-based and standardised. Yet this study brings to the fore the value of system and comparative agriculture approaches, diagnostic tools (farm typologies), field surveys and the analysis of power relations.

The study also shows the medium- and long-term limitations of approaches to irrigation that are strictly value chain- or development-based, and of conventional production models such as the Green Revolution, and calls for agroecological transitions in these irrigated systems.

Finally, this service-based analysis approach, although developed for the irrigated sector, can also be used for the entire agro-sylvo-pastoral and fisheries sector, both rainfed and irrigated.

The service-based approach (offer and needs) proposed for this COSTEA study has thus made it possible to cover a wide range of fields in a new way (agronomy / irrigation / economy / value chains / land tenure / organisational / institutional / environmental), while linking the micro, meso and macro levels. Above all, it has put farmers back at the heart of the analysis, and has provided concrete field data through surveys. The final recommendations made at the level of the proposed operational plans made it possible to define concrete actions aimed directly at safeguarding agricultural activity in the areas studied in Tunisia and increasing the sustainability of farms in the areas studied in Cambodia. The study thus shows that the development of service plans for irrigators, in this broad sense, makes it possible to respond to the four major challenges identified by COSTEA.

Limits of the approach

This approach nevertheless had a number of limitations, such as the need to broaden the territorial diagnosis by including a value chain diagnosis, and the difficulty of working on and proposing an operational plan without any concrete prospect of support and funding. Mobilising the private actors who provide a significant proportion of the services also proved difficult at times. Finally, the initial idea of breaking down service offer and needs by type of farm proved to be relatively superfluous insofar as the schemes tend to standardise the types of farm to a considerable extent and no strong specificities emerged in terms of services (need and demand) according to the types of farm identified; needs that cut across all types of farm appeared to be a priority. A specific analysis of gender aspects was not requested as part of the study, but could have been relevant in order to analyse the specific needs of women irrigators in terms of services.

COSTEA OUTPUTS IN RELATION WITH THE STUDY

- Inception report (www.comite-costea.fr/actions/services-aux-irrigants)
- Reports presenting the territorial diagnoses and typologies of the farms (www.comite-costea.fr/actions/services-aux-irrigants)
- Reports on the operational plan for services to irrigators (www.comite-costea.fr/actions/services-aux-irrigants)
- A final synthesis report with recommendations (www.comite-costea.fr/actions/services-aux-irrigants)
- An AFD Question of Development (QDD) report (www.comite-costea.fr/productions)
- The service rosette tool which can be used to carry out diagnoses on services and propose operational plans for other irrigated or non-irrigated systems elsewhere (www.comite-costea.fr/actions/services-aux-irrigants)