

SUMMARY PAPERS

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These papers summarise the presentations and debates at the study days organised by the French Cooperation "Land Tenure & Development" Technical Committee.

Debates regarding irrigated land management in West Africa, the Maghreb and South-East Asia

This summary outlines key points from a day of presentations and debates on irrigated land management in West Africa, the Maghreb and South-East Asia. The event took place in Montpellier on 23 November 2022. It was jointly organised by the Scientific and Technical Committee on Agricultural Water (COSTEA) and the "Land Tenure & Development" Technical Committee (CTFD), as part of the final seminar on the COSTEA 2 project.

The discussions were held during the final workshop of the COSTEA2, during which the results of activities conducted COSTEA members on various issues related to irrigated agriculture (land tenure, agro-ecology, climate, territorial approaches, etc.) were presented and future avenues of work were identified. It was attended by French and international irrigation actors from consulting firms and research institutions, as well as institutional actors and members of civil society from the three main regions where COSTEA is active: West Africa, South-East Asia and the Maghreb/Mediterranean.

*The specific focus on irrigated land matters enabled participants to gain a perspective on land tenure policies and debates in the Global South. Work centred around three studies on South-East Asia, West Africa and the Maghreb, which were respectively coordinated and conducted by **Jean-Christophe Diépart and Maxime Boutry** (on Cambodia and Myanmar); **Rémi Legendre, Hubert Ouedraogo and Thomas Mantet**, in collaboration with the **Réseau Ouest-Africain des Sociétés d'aménagement et de gestion d'irrigation (ROA-SAGI)** (on Burkina Faso, Mali, Niger and Senegal); and **Omar Aloui, Anne Chohin-Kuper, Ali Daoudi, Mohamed Elloumi and Ines Gharbi** (on Algeria, Morocco and Tunisia).*

Sandra Rullière** opened the day's proceedings with an introduction that emphasised the importance that AFD places on land issues in the sustainable management of irrigated systems and peaceful territorial governance, and the crucial role that the two networks (COSTEA and CTFD) have played in building frames of reference and shared analytical frameworks in this field. **Jean-Philippe Venot** then described the underlying structure that had guided work on the three studies. After presentations setting out the key findings and messages of each study, participants divided into **three geo-

***graphical sessions** to examine the lessons drawn from each study in greater depth. They were assisted by valuable input from members of the two networks who specialise in land issues: **Marie Mellac, Olivia Aubriot and Céline Allaverdian** for the session on South-East Asia; **Ali Daoudi, H. Amichi and Quentin Ballin** for the session on the Maghreb; and **Peter Hochet, Samir Alouamari and Etienne Kaboré** for the session on West Africa.*

*The debates continued over the afternoon in parallel thematic sessions which followed a World café format, where participants change tables every 30 minutes. Each session was structured around crosscutting issues that reflect the site-specific and shared realities of different contexts. The first session focused on the challenges posed by **different modes of access to irrigated land (ownership, leasing, contract-farming/aggregation, share-cropping, concessions, etc.) and the questions that they raise about the sustainability of irrigated systems and equitable access to irrigated land.** The second session **considered common resources, their multiple, co-existing uses (for fishing, livestock rearing, agriculture, etc.), and the challenge of (re) considering irrigation in a multifunctional territorial approach.** The third and final session dealt with **changes in the agricultural sector that are driven by the development of irrigation schemes (accelerated land transactions and changes in land use), the increasingly marked differentiation between farmers caused by these changes (indebtedness, capitalisation, etc.), and how to design policies and projects that reconcile different development models.***

*The day ended with a plenary session with four leading institutional figures who had been invited to attend as keynote speakers, respond to the rapporteurs' summary of the day's highlights (given by Marie Mellac, Peter Hochet and Jean-Philippe Venot), and present their vision of the major land management issues that irrigated systems face in different contexts. **Mathieu Boche** from AFD, **Khally Fall** from SAED, **Zakaria El Yacoubi** from the Moroccan Ministry of Agriculture, and **Bunrith Chhea** from the Cambodian Ministry of Water Resources and Meteorology all emphasised **the need for governments to play a regulatory and supporting role** in irrigation development processes. They also highlighted the multifunctional nature of land, the role that irrigated systems play in agricultural production, and **the challenges of using integrated approaches where different uses of natural resources and development models have a role to play.** Each speaker noted the pressure that the current quest for efficiency and performance is putting on natural resources, and the need to **move away from an "extractivist" vision towards more sustainable and equitable management.***

>>> The "Land Tenure and Development" Technical Committee is an informal think tank composed of experts, researchers and senior members of the French Cooperation. It was set up in 1996 to provide strategic support to the French Cooperation and guide land tenure initiatives.

> PRESENTATION AND DISCUSSION OF THE RESULTS AND DEBATES IN THE REGIONS COVERED BY THE TWO NETWORKS

Land tenure, a key dimension for the sustainability of different irrigation development models

Land issues are of strategic importance in irrigated agriculture projects, because these initiatives affect the status and value of land, and how it is managed. Because they primarily follow an hydraulic engineering logic, irrigation projects may clash with the existing distribution of land rights, and lead to more or less radical changes in land tenure modalities.

Irrigated land tenure therefore raises a number of key issues for members of COSTEA and the CTFD:

- > **the legal protection of diverse rights**, especially respecting and protecting pre-existing rights to irrigated areas, and the processes that determine the allocation of these rights, the possible revision of land tenure systems, and the tools for securing the land rights to be promoted;

- > **the governance of irrigation projects**, the actors involved in these processes, and the mechanisms for monitoring the management rules and specifications that have been developed to ensure their sustainability;
- > **the economic aspect of these irrigation schemes and all measures intended to promote the economic performance of farms** (plot size, integration into production systems, support measures for start-ups, etc.);
- > **the forms and models of agriculture that projects favour** and, more broadly, the policies that governments and their partners pursue in order to guarantee equitable access to irrigated land.

On a more general level, it should be noted that irrigation development projects and policies have a profound effect on pre-existing social relations, whatever the model promoted and the specific issues involved. The rules that are put in place for compensating, allocating and managing irrigated land need to be studied and assessed in terms of social equity, economic performance and environmental sustainability. Particular attention should also be paid to the relationship between land rights, the sustainable management of water resources and safeguarding irrigation infrastructures.

Irrigation system in the Mekong delta, Cambodia © Jean-Philippe Venot



The two networks initially focused on West Africa,¹ and then extended their reflection to countries in North Africa and South-East Asia. Three specific studies were launched in 2019.

Three knowledge production initiatives on regionally specific challenges with cross-cutting implications

The first presentation covered the initiative in **West Africa**, which was led by the West African network of irrigation development and management companies (ROA-SAGI). The network was created in 2017 to help members of COSTEA share their knowledge and experiences, and enable the irrigation companies to collaborate on all matters directly or indirectly related to their government-appointed task of developing and managing irrigated land. The aim was to advance thinking on the regulation of land tenure in irrigated areas managed by the SAGIs, particularly around issues relating to the performance and sustainability of irrigation schemes.

Outputs from this initiative include:

- > **an inventory of land management rules and tools** in the form of a catalogue of existing regulatory mechanisms;
- > **comparative analysis of the application of these systems and tools**, based on a common analytical framework;
- > **recommendations to advance action and dialogue** on the regulation of land tenure in irrigated areas covered by SAGIs and by actors involved in managing irrigation schemes in ROA-SAGI's member countries.

More specifically, this initiative analysed the tools and systems put in place by six irrigation development and management companies² in **Burkina Faso, Mali, Niger and Senegal**, with support from three experts from the Sylvatrop Consulting agency, and experts and points of contact in the SAGIs concerned.

The work in **Southeast Asia** focused on **Cambodia and Myanmar**, which have a wide diversity of irrigated systems, each with their own land dynamics and issues. The aim was to identify these dynamics and issues in order to develop a framework that would make it easier to take them into consideration when designing and monitoring projects to develop sustainable irrigated agriculture.

1. See in particular the summary of the day organised by Costea and CTFD in 2017, [Land issues and development models in irrigated areas of West Africa](#).

2. Bagrépôle, SAED, Sodagri, Office du Niger, ODRS, ONAHA.

The specific aims of the study, which was jointly conducted by researchers who are members of COSTEA and the CTFD, were to:

- > **produce a framework that will enable actors to analyse the land issues** raised by irrigation projects, and stakeholders' practical responses to these issues;
- > **formulate recommendations regarding institutional frameworks and practices**, so that land issues are better accounted for from the design phase of projects onwards;
- > **identify new subjects for studies** to inform knowledge production and discussions on issues relating to irrigated land tenure.

The third initiative covered three countries in the **Maghreb (Algeria, Tunisia and Morocco)**. It was conducted and facilitated by a team of researchers and experts from the three countries concerned. An initial study conducted during the first phase of COSTEA had highlighted the diverse land tenure systems in these three countries and the parallel paths their land and water policies had followed in recent decades. A workshop to discuss the study held in Meknes in June 2019 identified three research needs, which formed the basis for the next phase of work. In contexts where groundwater extraction is a major issue, the specific aims of this study were to:

- > **better identify modes and rights of access to land and water**, focusing on two types of land configuration (State-owned and collective land; and private registered land known as *Melk*) and using an analytical framework that can capture and characterise formal and informal practices and the various ways in which rights to irrigated land and water are defined, allocated and transferred;
- > **evaluate the economic, social and environmental efficiency of modes of access to land and water**, according to a framework that takes account of issues related to the distribution of land annuities, justice and equity, and the sustainability of natural resources;
- > **analyse the different ways in which access rights to land and water are secured**, and how transactions involving these resources in irrigated areas are framed, in order to inform policy-makers' thinking.

These three studies documented different issues and realities (particularly in terms of land status and irrigation development models) that reflect the dynamics and changes that are under way in each context. Although it is not easy to compare the results and recommendations of the three studies, the discussions enabled participants to identify a

number of common socio-economic, political and environmental challenges that cut across the specific features of each context.

> IRRIGATED LAND MANAGEMENT IN REGIONS COVERED BY SAGIS IN WEST AFRICA

Rules and families of tools

The study began by highlighting the common features of national legislation on irrigated land, particularly in terms of:

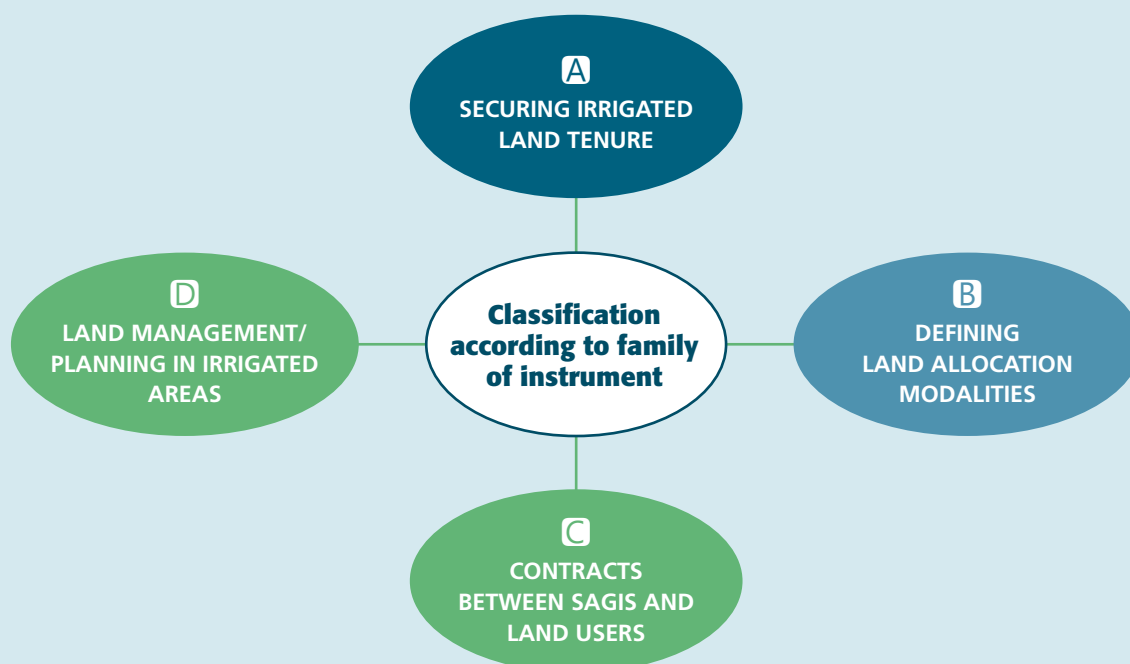
- > **the status of irrigated land**, with the concept of State Domain (public or private) applied in all the countries concerned;
- > **modes of access**, with customary land rights recognised and actors allowed to use land in accordance with communal council deliberations on productive use;
- > **rights** to irrigated land are granted as use rights, with members of rural communities obliged to make productive use of the land concerned;
- > the State oversees **productive use** to ensure that irrigated land is used effectively and efficiently.

The study then identified and listed the rules and tools that irrigation development and management companies use to manage land tenure when developing irrigated areas. Although it was not possible to distinguish between the rules (as defined in the body of legislative and regulatory texts) and the tools that are used to translate these rules into prac-

tice, the study analysed 14 “noteworthy” instruments and divided them into **4 families**, which were classified according to the type of action taken on the land.

Analysis of the implementation of these instruments showed that some SAGIs had proven expertise that could inform others’ practice and help disseminate the lessons learned. The analysis also fed into **seven recommendations** to improve the effectiveness of land management in areas covered by the SAGIs:

- > **secure the tenure of areas** that have been developed in the name of the State or local authorities, by registering this land, ensuring that its previous occupants receive fair, equitable and prior compensation, and providing the financial resources to do this;
- > **secure users’ tenure of irrigated plots** by formalising types of rights that are appropriate to the context and local practices (use vs. ownership), issuing each farmer with a formal deed, and publishing the texts relating to their rights in local languages;
- > **ensure that allocation procedures take account of good local land practices**, especially when developing criteria for land allocation;
- > **ensure that land allocation committees are effective, efficient and representative**, by defining rules to ensure that different stakeholders and their interests are represented, building committee members’ capacity to fulfil their roles, and creating the conditions that enable them to function properly (leadership, etc.);



- > **draw up commitment contracts between SAGIs and land users;** involve land users in this process, specify what the contracts cover, simplify their content so that all actors can understand and use them, and standardise the rules within each country/SAGI;
- > **ensure that contracts are enforced** by setting up joint monitoring committees, keeping land users informed and implementing the contractual clauses agreed between users and SAGIs;
- > **effectively apply the penalties for non-compliance with contractual clauses:** define clear, realistic and graduated penalties, and make the actors responsible for applying them accountable for their own commitments regarding the quality of water services.

The hybridization of formal rules and standard practices

Studies have shown that many of the instruments available to the SAGIs were either not implemented or were only deployed to a limited extent. It was also found that they clash with local practices to

optimise land use, which follow a different logic from the rules for managing irrigated areas.

Because these local practices are not formally recognised by the rules, they are neither supported nor regulated – and could ultimately undermine the sustainability of irrigated systems. This can be seen in the tension between the types of rights that farmers are granted and how they are exercised. Bagrêpôle in Burkina Faso was the only case in the study where farmers were granted transferable and definitive private property rights; producers in other areas covered by the SAGIs only have simple operating rights. Indirect land use, assignment and permanent transfers are not always recognised or authorised, despite their key role in enabling family farmers to integrate plots into and develop their land holdings.

The debates highlighted the importance of working on various factors that may explain why the rules are not observed, rather than penalising producers for breaking them. This could include allowing the formal rules to evolve and accommodate practices that facilitate the optimal use of plots (indirect land use, diversification of production, etc.).

SAGI Senegal © Aurélie Chevillon



Factors to consider in preliminary negotiations

The land negotiations that precede irrigation development are crucial in creating the conditions for the sustainable management of irrigation schemes and irrigated land tenure. This is the stage where pre-existing customary rights can be recognised, and standards set for compensation and indemnification for material and economic losses suffered as a result of irrigation works. The land base (surface area), components of the landscape such as trees, or pasture areas etc. and harvests lost as a result of irrigation construction works should all be considered when calculating the compensation to be paid and the size of plots to be allocated within the scheme (land for land).

Taking account of the political dimension of existing rights (customary ownership vs. exploitation/use) has proved so problematic that some initiatives have developed allocation procedures that consider not only economic criteria but also the diversity of prior modes of use and access. For example, customary owners in Bagrêpôle were given land titles, while those with use rights were only granted long leases to irrigated land. While this approach does not fully resolve the problem of securing local authorities' control over their land, the primacy it gives them may be enough to create the conditions for consensus.

The debates highlighted other factors that should be discussed during preliminary negotiations, especially environmental considerations, the "sacred" and socio-cultural dimension of certain sites affected by irrigation schemes, and the moral harm that communities may suffer in moving from collective management rooted in customs and local authorities to more individualised State and public sector management. These factors are all important in ensuring that processes respect the principles of social justice.

Looking beyond land tenure to secure irrigated infrastructures

It is now recognised that secure land tenure is a prerequisite for the sustainable development of irrigation schemes. But this involves more than simply issuing titles, whether they are for full and exclusive private ownership or rights to exploit the land.

Other, non-legal factors play a part in maintaining rights over time, such as producers' capacity to work their land (availability of labour, access to inputs, quality of water services, etc.) and having outlets to sell their produce. In the end, titles are just one of several tools for ensuring that irrigated land is productive.

Alternative options need to be adapted to the context. This requires agile, flexible approaches that make it easier to integrate irrigation schemes into the broader landscape, which is used for multiple purposes, and to take account of the different types of land users concerned.

> IRRIGATED LAND MANAGEMENT IN SOUTH-EAST ASIA

Four key messages

Irrigation development policies in South-East Asia are often accompanied by changes in land tenure that lead to land concentration and exclusion.

Having established that no specific attention has been paid to the tenure of irrigated land, the studies identified five key messages:

- > rights to access and use irrigated land are institutionally recognised;
- > the development of irrigated agriculture in forested areas and flood plains is challenging prevalent modes of resource access and use in these areas;
- > the dynamics of agrarian differentiation mean that farmers' land tenure is very insecure, despite institutional recognition of their rights;
- > actors in the sector should pay specific attention to the dynamics of land tenure associated with irrigated agriculture.

Institutionally recognised rights to irrigated land

Like most other regions, Southeast Asia has no specific framework for the governance of irrigated land. It is essentially established at the interface between sectoral policies and regulatory frameworks for land, irrigation, water management and the environment and fisheries. Yet most irrigated systems are located in regions that have been populated and developed by dominant ethnic groups for centuries; access and use rights are institutionally recognised, in some cases by granting titles (ownership or use rights) that can be transferred through inheritance or sale. This institutional recognition of rights to irrigated land stems from the long history of irrigation in this part of the world, where irrigation has always been a way for the authorities to build their dominion and legitimacy – and generate considerable revenues (especially through taxation).

Challenging access to and use of "marginal" resources

Over the last few decades, irrigation schemes have shifted to areas that can be described as "pioneer

fronts" (forested areas or seasonal floodplains) that were previously used for many different purposes over time and space: slash-and-burn in forested areas (often by ethnic minorities), and small-scale capture fishing and wetland rice cultivation on floodplains. The development of irrigation and construction of hydro-agricultural schemes in these regions has led to a "specialisation of space" for agricultural intensification, and a dual process of rights being privatised and individualised with little regard for pre-existing arrangements for resource access and use.

These developments can cause conflict between stakeholders with divergent interests; with the risk of conflict heightened by the fact that land in these areas is generally not eligible for titling because it is part of the public domain, often because of its remarkable environmental characteristics.

Even when existing environmental legislation generally precludes the development of irrigated agriculture, government funds may still be mobilised for irrigation projects, and entrepreneurs and private investors allowed to pursue their own schemes. In such cases, the security of land rights depends on multi-actor negotiations and underpinning networks of patronage and influence that rarely include small farmers.

Links between insecure land tenure and the dynamics of agrarian differentiation

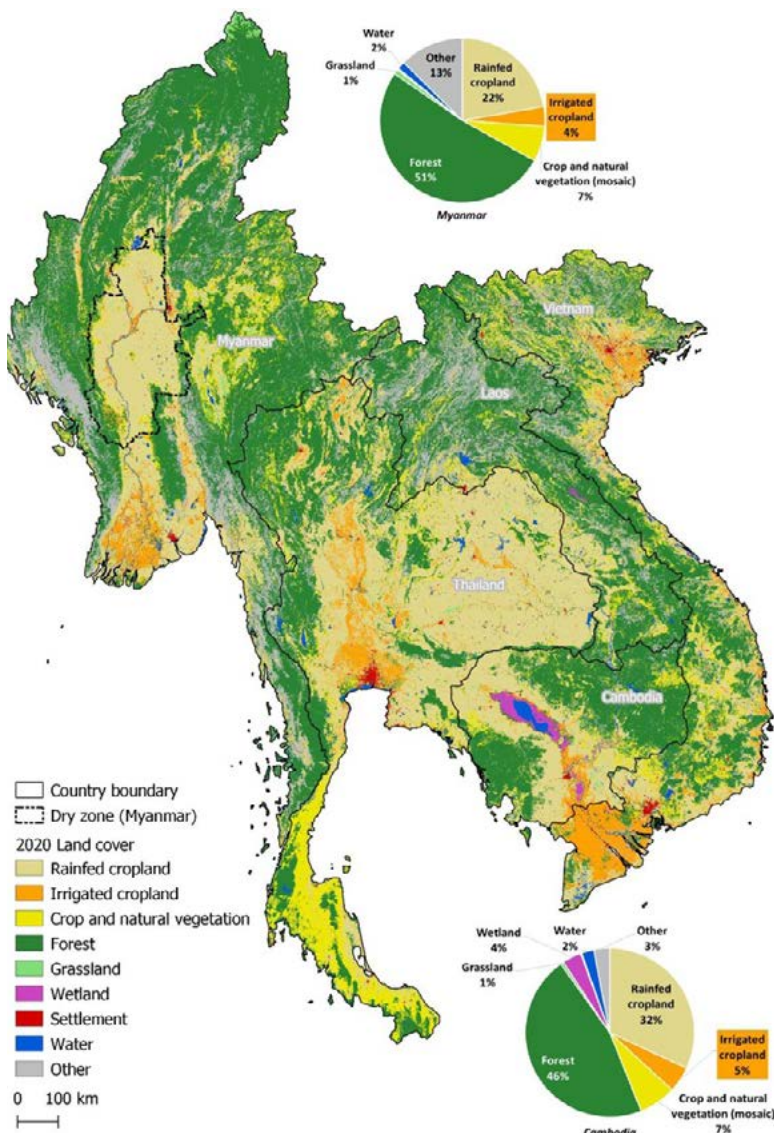
In Southeast Asia, and especially the parts of Myanmar and Cambodia where the studies were conducted, irrigation is largely synonymous with rice production. The land dynamics in these irrigated areas can therefore only be understood in relation to the dynamics of a highly commercial rice-growing economy.

Intensive irrigated rice production currently depends on the massive use of chemical fertilisers, which requires widespread recourse to formal and informal micro-credit. Farmers cannot rely on the poorly maintained infrastructure to provide reliable water supplies, and highly volatile market prices leave many caught in a double bind of low yields and low prices, and saddled with high debts. This indebtedness and liberalised land markets have led to the concentration of land in the hands of a minority of individual entrepreneurs, loan sharks and/or investors, while small farmers find themselves working as agricultural labourers and/or sharecroppers on land they have been forced to sell.

In countries like Myanmar, these processes have been accelerated by the government quickly withdrawing use rights from holders who do not meet their obligation to cultivate the land, and transferring them to entrepreneurs who are often close to the government (and cannot necessarily be relied upon to cultivate the land either).

Special attention should be paid to the irrigated land sector

Irrigated land does not really feature as a specific item on government agendas in the South-East Asian countries where the study was conducted. Although these governments have policies in place to formalise rights, their titling campaigns often focus on urban and peri-urban areas that are regarded as more sensitive because they are going through extremely rapid processes of change (urban expansion, agricultural land conversions). The fact that rights to irrigated land are effectively recognised, and that irrigated systems are fairly stable (at least in terms of being assigned and used for rice growing) undoubtedly explains this lack of spe-



Southeast Asia Map © Jean-Christophe Diépart and Maxime Boutry

cific attention from both governments and donors. The latter generally limit themselves to identifying rights holders in the systems whose rehabilitation and/or construction they are financing.

But these areas are still open to risks of insecurity and conflict, due to:

- lack of recognition of how resources were accessed and used before these forested areas and floodplains were irrigated; and
- intense formal and informal land transactions that are mainly driven by small farmers' indebtedness.

Better understanding of these issues is needed, along with territorial, cross-sectoral and multi-stakeholder planning and monitoring approaches to ensure that irrigated agriculture does not lead to greater inequality.

> MANAGEMENT OF IRRIGATED LAND IN THE MAGHREB

Land reforms that encourage the decoupling of land ownership and use

This study looked at common trajectories that have led to the current decoupling of land ownership and land use in countries of the Maghreb. After independence, governments built up public or State-administered land holdings that were managed as land reserves for agricultural policies. Land ownership and land use were gradually uncoupled from the 1980s onwards, as all countries pursued a more or less simultaneous process of transferring collective (*arch*) and State-owned land. The reforms of the 2000s followed the same logic, with a more liberal vision than the socialist phase of post-independence cooperatives.

Concession arrangements follow two main trends, which vary slightly according to the specific features of each country's agrarian structures and actors:

- > **"small" concessions**, with land redistribution and a very dynamic land market. These small concessions face the same constraints as *melk* land in Tunisia (Zaghouan) and individual and collective farms in Algeria (notably joint ownership of inherited property);
- > **large concessions**, with large old and new farms leased to major investors under specific terms and conditions. These conditions are not always observed, although some contracts are closely controlled by the State. Examples of large concessions include Public Private Partnerships (PPP) in Morocco (Tafilalet) and large-scale land developments (MEV) in Algeria.

Irrigated land dynamics: intensification in agricultural plains and extension in steppes and Saharan areas

The countries studied in the Maghreb share common dynamics, but have their own sectoral agricultural priorities. Algeria has oil revenues and significant groundwater resources, imports food and is "catching up" through consumer good production programmes. Morocco has significant but severely stretched surface water resources and is using its agricultural sector as a driving force for broader economic development, with a policy of developing basic products alongside modern, export-oriented cash crops. Tunisia has limited water resources; after implementing various public and privately managed irrigation schemes between 1970 and 2000, it has since focused on other sectors such as education and subcontracting.

Irrigated land dynamics in the region follow two trends: intensification in the agricultural plains, where schemes irrigated with surface water (small and large concessions, land rental market on public land) have also joined the race for groundwater; and extensions in steppe and Saharan areas with large land reserves and significant but non-renewable fossil groundwater resources (with date palm production booming in Morocco, and new irrigation schemes in Algeria and Morocco).

The development of the land rental market has been accompanied by a haphazard reallocation of land rights, as seen in the Mitidja plain in Algeria where vegetables are grown. The study focused on eight old estates where inherited concession rights are replicating the dismantling of public landholdings, an informal market is developing (with people using partnerships to circumvent gaps in the formal market), and concessions are being managed and exploited by new actors. The same dynamic can be seen in the Zaghouan plain in Tunisia, where city dwellers are buying up *melk* land.

Economic impacts, lack of protection for farmland and a looming water crisis

The study categorised the distribution of economic annuities in the three countries. In Morocco, capitalist agriculture based on waged farm workers is being consolidated, while family farms and entrepreneurial operations are shifting towards activities that make the most of low-cost innovations and female labour.

In Algeria, agrarian capitalism seems to have been overtaken by increasingly professional entrepreneurs and small investors moving up the *agricultural ladder* (see CTFD summary note no. 29).

In Tunisia, speculation and urban sprawl are eating into *melk* land, and land prices are rising due to processes of differentiation and exclusion.

Poorly regulated access to and use of agricultural land and the governments' *laissez-faire* attitude to private land are causing problems in all three countries, particularly in peri-urban areas. Although local urban development plans (LUP) do exist, there is no land credit, no land consolidation, and no obligation for landholders to relinquish joint ownership before making transactions that will change the use of the land concerned. The lack of mechanisms to protect agricultural land is particularly problematic; solutions such as separating land from buildings should be considered.

Water use is another major issue, as water consumption is rising in tandem with expanding agricultural activities. There are some national disparities, with irrigated agriculture continuing to expand in Algeria but stagnating or even declining in Tunisia, where demand looks likely to outstrip supply by an estimated billion cubic metres of water or more, and the government is proposing to return to rain-fed agriculture where possible, or transition to other sectors.

A shift towards new governance of land and water resources?

Agricultural development trajectories still rely on an extractive model, which the dominant discourse justifies with highly debatable claims about the inefficiency of public management and impossibility of controlling *melk* land. A narrow focus on the economic outlook for capital and labour takes little account of the social and environmental aspects of this model, or key issues such as water quality. As is often the case, hopes are pinned on technical solutions to the issue of available water resources, which currently involve desalinating seawater. This kind of technical vision needs to change.

In the past, water use rights went with plots of land, but water and land are now being "uncoupled" from each other. The studies found that farmers are shifting sites, and that these "horizontal land transfers" are often connected with declining soil fertility – although this is a complex issue to assess.

In order to tackle the over-exploitation of water and land, it is necessary to regulate land tenure. This requires accompanying tools and measures,

Irrigating an olive grove in Tunisia with stored groundwater © Crystèle Léauthaud



monitoring and control mechanisms, and a shift away from the current short-term political vision. If the ongoing social crises in the Maghreb do prompt governments to react, it is important that they promote spaces for dialogue and decentralisation to ensure that resources are better managed. Looking beyond land rental markets, which can contribute to the depletion of water quality and land resources, broader changes in farming practices and attitudes are needed, along with better regulation of land tenure to ensure that water and land resources are managed sustainably.

> CROSSCUTTING CHALLENGES AND ISSUES

Moving away from binary ideological analyses and promoting contextualised and processual approaches

The three studies highlighted several types and models of irrigation that reflect specific agricultural policy choices in the face of unprecedented climate, security and energy challenges and crises. While each model has its own characteristics, they all face common issues in terms of the nature of their beneficiaries (farmers vs. entrepreneurs), and the types and forms of rights granted over different resources (use vs. private property; private/individual vs. collective).

Contributors to the discussion flagged up the risk of ideological discourses that demonise certain approaches and idealise others predominating in contexts where resources are growing scarcer, productive areas are shrinking, socio-economic inequalities are widening, and debates are focusing on technical rather than policy issues. Just as a commons-based approach does not in itself ensure that irrigation schemes will be envisioned at a territorial level and provide scope for the multiple uses and functions of land and water, there is no guarantee that private property will lead to better performance.

In the end, innovations emerge from a continuum of experiences that give different weight to economic issues (profitability, efficiency, etc.) and more social and environmental questions. Participants had very divergent views on which dimensions should be prioritised. The very concept of performance is currently being debated, with questions regarding the need to go beyond a merely economic assessment based on yields and engage with principles of social, economic and environmental justice.

Rethinking the place and role of the State and its public operators

The State's place and role in irrigation development processes varies greatly from one country and initiative to another. On the one hand, States may choose to accompany societal transformations and changes that they cannot control; on the other, governments may enforce very strong centralised plans to change practices without questioning what the models and cropping systems they are promoting might mean for farmers.

States need to loosen their grip and rethink their regulatory role in order to deal with the increasingly complex challenges they face. This should entail:

- anchoring regulations more firmly in actors' realities and the specific characteristics of each region; and
- adopting integrated approaches that tackle every aspect of irrigation in a value chain perspective (access to land, water, credit, mechanisation, markets, etc.).

These changes will create new functions and require new skills, such as facilitating dialogue with local stakeholders, and seeking alternatives that take account each area's specific contextual dynamics and ecological characteristics. There should be open debate on the opportunities and risks involved to enable States and their operators (SAGIs and/or decentralised ministerial departments) to internalise these new functions or implement them in partnership with other agencies.

Issues to consider when thinking about irrigated schemes in an integrated way: territorial anchoring, coordination of multiple uses, and importance in public policies

Some of the approaches to irrigation development in West Africa and South-East Asia may undermine the multifunctional nature of landscapes. Developments that lead to specialisation and forms of exclusive use (for agricultural production) can be a source of insecurity for some users, and threaten the socio-ecological balance of agro-sylvo-pastoral systems. Investment in irrigation also tends to accelerate the privatisation of land, agricultural differentiation and resource depletion.

Some projects do consider the need to maintain multifunctional landscapes, but they often face coordination problems and institutional stumbling blocks. In such contexts, participants stressed the need to envision the development of irrigation in broader territorial approaches that acknowledge the connections between irrigated and rainfed areas.

It is also important that these debates do not obscure the risk of irrigated agriculture disappearing from certain contexts. In South-East Asia, for example, irrigated systems are competing with other, apparently more profitable sectors and forms of agriculture (such as plantations, or boom/industrial crops like cassava). The question is how and to what extent irrigated systems play a role in achieving food security.

The need to move away from an “extractivist” view of resource use

Finally, participants stressed the need to change our relationship with land and water resources,

as production-based models are failing to address the constraints associated with sustainable and integrated resource use. “We are killing our land and water resources”, even though they are a central aspect of social contracts in every society. Whatever irrigation development models are promoted, they must be discussed in relation to broader societal choices. ●

This note was produced by **Charlotte Ravaux, Aurore Mansion and Jean-Philippe Venot** based on written and oral contributions from the day’s speakers and related debates during the seminar.

For more information, see

- <https://www.cahiersagricultures.fr/fr/component/toc/?task=top-ic&id=1607>

COSTEA position papers on the subject, by region:

- <https://www.comite-costea.fr/production/note-de-positionnement-foncier-irrigue-au-maghreb>
- <https://www.comite-costea.fr/production/note-de-positionnement-foncier-irrigue-en-asie-du-sud-est>
- <https://www.comite-costea.fr/production/note-de-positionnement-gestion-du-foncier-irrigue-zones-sagi>

Final reports of COSTEA studies on the subject, by region:

- <https://www.comite-costea.fr/production/rapport-final-foncier-irrigue-maghreb>

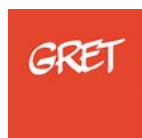
- <https://www.comite-costea.fr/production/rapport-final-sagi-foncier-irrigue>

- <https://www.comite-costea.fr/production/rapport-final-foncier-des-terres-irriguees-myanmar-et-cambodge>

Other reports:

- <https://www.fao.org/3/j2601e/j2601e00.htm#Contents>
- <https://www.comite-costea.fr/production/les-politiques-foncieres-et-hydrauliques-au-maghreb-a-lepreuve-des-realites-de-terrain-quels-cadres-legaux-pour-accompagner-les-pratiques-locales>

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