

# INSTITUTIONAL ARRANGEMENTS AND STAKEHOLDER ENGAGEMENT IN IRRIGATION SERVICE PRICING IN VIETNAM

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**Abstract:** *Institutional arrangements and stakeholder engagement play an important role in the enforcement and effectiveness of irrigation service pricing policy. Recently, the irrigation service price policy in Vietnam has changed significantly in terms of content as well as application form, especially since the promulgation of the Law on Hydraulic Works. This change has greatly affected the participation of stakeholders in the setting and implementation of the irrigation service pricing policy. This study assesses the existing of institutional settings and stakeholder engagement in the enforcement of the irrigation service price policy in Vietnam. Based on key findings, improvements are recommended for institutional arrangements and stakeholder engagement in irrigation service pricing policy in Vietnam.*

**Keywords:** *Institutional arrangements, stakeholder engagement, irrigation service price.*

## 1. INTRODUCTION

Irrigated agriculture plays very important role in the development of Vietnam. It serves agricultural production, contributes to increasing the cultivated area and improve the soil quality. Irrigated agriculture contributes significantly to not only guaranteeing food security in this country but also increase rice export value by which Vietnam becomes one of the leading exporters of agricultural products. While competition between water needs is increasing, meeting the increasing water use requirements for agricultural production to ensure food security is really a big challenge for many developing countries including Vietnam. To address this issue, many countries have used irrigation service pricing policy as a key tool to manage and enhance water efficiency in the irrigation sector [1].

To ensure that the irrigation price policy is realistic and feasible, an institutional framework and close participation of stakeholders are essential. The institutional framework stipulates the roles and

responsibilities of stakeholders, especially policy-making agencies, and at the same time ensures the effectiveness and efficiency of promulgated regulations [2]. The participation of key stakeholders includes state management agencies from central to local levels, service providers and users of irrigation services. So far, Vietnam has made a relatively sound and transparent institutional framework in the management of irrigation systems and finance for irrigation services through a number laws and relevant government decrees. The process of promulgating regulations and implementation has involved most of the stakeholders, making the policy implementation relatively effective.

In Vietnam, prior to 2008, water fees including irrigation service fee and non-irrigation service fees had been adopted since 1962 and stipulated in a number of Decrees by the Government. The irrigation service fee policy has been revised and adjusted in line with the status of socio-economic development of the country [3]. In irrigated agriculture, irrigation service fee (ISF) was area-based and estimated to cover a part of operation and maintenance costs of irrigation and drainage schemes [3]. ISF consists of two components: Headwork ISF or system-level ISF covering operational

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and maintenance (O&M) cost of head- works and main structures, which are managed by Irrigation Management Companies, and on-farm ISF covering O&M cost for field-level structures, which are managed by Water User Groups [4]. The ISF excludes investment and major repair costs, which are still relied on the government subsidy. The ISF encourages the service-oriented mechanism for irrigation management in Vietnam and thus enhancing the participation of irrigation service providers and water users in the implementation of ISF policy. The irrigators including irrigation companies - state-owned enterprises - and water user groups, could pay for the major expenditures of their O&M activities. The accountability and responsibility in irrigation services of the irrigators and water users had been improved through the irrigation service fee system [3]; [5]. This indicates the active engagement of IMCs and water users in the implementation of ISF policy.

However, since 2008, the ISF policy in Vietnam has been changed significantly to ISF exemption through several decrees issued by the government. Under these regulations, the system-level ISF component has been exempted. Under this exemption policy, farmers are subsidized by the system-level ISF [3]. Thus, this policy increases the state budget and constrains the service-oriented functions and incentives of irrigators in water management [5]. Also, it reduces the incentive for farmers to use water efficiently and has also led to less participatory irrigation management [6]. It has weakened the link between farmers, water user groups, and Irrigation Management Companies in managing their water resources [7] and illustrating the ineffective involvement of key stakeholders in the ISF policy implementation.

So far, the management of irrigation systems have basically met the actual requirements because of fundamental reforms in institutions and policies, especially since the promulgation of the Law on Hydraulic Works in 2017 and relevant decrees. This Law stipulates a legal

framework for improving irrigation services as well as a shift from irrigation service fee to irrigation service prices (ISP). These requires the strong engagement of stakeholders in the development and application of policy on irrigation service pricing. However, limitations in the management have been remained as the current financial policy still supports farmers in the indirect form through enterprises and water user organizations. This leads to a weak cooperation between water users and irrigators with the unclear participation of water users in the ISP decision making [2]. In addition, it actually is very challenging to mobilize the participation of relevant stakeholders in the investment and management of irrigation systems. So far, there have been from little to no documentation about institutional arrangements and stakeholder engagement in irrigation service pricing in Vietnam under the context of the Law on Hydraulic works. Therefore, it is very important to identify issues and advise improvement of existing institutional arrangement and stakeholder engagement in the development and enforcement of irrigation service pricing in Vietnam.

## 2. METHODOLOGY

Qualitative method is used in this study including: (i) Review studies in irrigation service pricing; (ii) Assess existing situation of institutional arrangement and stakeholder engagement in irrigation service pricing in Vietnam; (iii) Identify key findings on institutional arrangement and stakeholder engagement in the development and implementation of irrigation service pricing in Vietnam. Recommend to improve institutional arrangements and stakeholder engagement in irrigation service pricing in Vietnam.

## 3. RESULT AND DISCUSSION

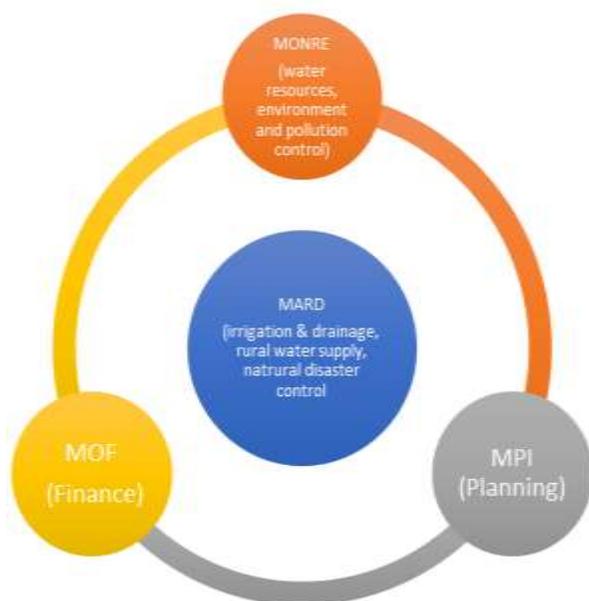
### 3.1. Institutional settings in irrigated agriculture in Vietnam

#### *Water governance*

It is recognized that there are complexities and challenges in water resources management in

Vietnam because functions and obligations are shared among various ministries and agencies. This illustrates the challenging water governance in terms of integrated at different levels. At central level, key ministries with various functions in water governance in irrigated agriculture include Ministry of Agriculture and Rural Development (MARD), Ministry of Natural Resources and Environment (MONRE), Ministry of Planning and Investment (MPI), and Ministry of Finance (MOF).

*Ministry of Agriculture and Rural Development (MARD)* is responsible for irrigation, aquaculture and associated hydraulic infrastructure, river training, flood control, rural water supply and sanitation, and coordinating disaster response [8]. MARD with the responsibility in managing water in agriculture sector and rural water supply for the whole country is in charge of developing national plan on water management for agriculture and rural water supply under the national master plan on water resources development managed by MONRE. This ministry develops and supervises the investment projects on construction and upgrading water facilities in irrigated agriculture and rural water supply.



*Figure 1: Main Institutions in WRM at national level, under the Law on Water Resources*

The *Ministry of Finance (MOF)* is responsible for stipulating regulations and guidelines on prices and fees related to water and drainage services. MOF is in charge of regulating and monitoring the implementation of the maximum prices of irrigation services and price brackets for other services regulated in the existing laws. *MONRE* is in charge of water resource management, protection of water environment and pollution control. Environmental technical regulations are stipulated and enforced by this ministry. In addition, MONRE is required to develop and implement an effective coordination regime and monitoring water abstraction activities, water conservation in the context of climate change [9]. *MPI* synthesizes investment projects on water resources, provides the budget plans and submits these to the government for approval. MARD in coordination with MOF and other relevant agencies to work out development plans on water pricing.

*At provincial level*, water resources and irrigation aspects are managed by PPCs [10]. important state management agencies under PPC involved in water resources and irrigation management are Department of Agriculture and Rural Development (DARD) and Department of Finance (DOF). DARD is responsible for managing the irrigation systems, allocation and planning of water resources for agricultural use, and water use monitoring of agriculture sector. DARD also manages wastewater from husbandry activities and pollution sources discharged into irrigation system. DOF performs the function of advising and assisting the PPCs in the state management of finance, state budget, taxes, charges and other state budget revenues. It also is responsible for financial investment, price and financial service activities in the province as prescribed by law.

*District level* has a complex institutional arrangement between different government authorities in water resources management. District People's Committee (DPC), and the

People's Committees of wards and communes, perform state management responsibilities over the relevant administrative area within the district or commune.

### ***Operational organizations***

Vietnam has a huge irrigation and drainage works with more than 900 irrigation systems have been built with a capacity of over 200 ha; in which, there are 122 medium and large irrigation systems with a capacity of over 2,000 ha. The entire country currently has over 86,000 irrigation works. These medium and large-scale works are under managed and operated Irrigation Management Companies (IMCs) and also by Water User Groups (WUGs).

*Irrigation Management Companies.* To provide supply and drainage/sewage services for different water-related services, there are a network of Irrigation Management Companies (IMCs) responsible for irrigation and drainage services in agriculture sector, raw water supply for national (under MARD) and provincial level (under DARD) in the whole country. All IMCs are kind of state-owned enterprises. So far, the country has 97 IMCs, three of which are directly under the Ministry of Agriculture and Rural Development and 94 under provincial control [10].

*Water User Groups.* There are also about 15,600 local water user groups (WUGs) or water user organizations (WUOs) managing the on-farm and small-scale irrigation systems ([11]. MARD [11] reported that about 39% of WUGs were Cooperatives (Agriculture Cooperatives or Water Cooperatives) functioning effectively with full legal status under the Law on Cooperatives 2012. This type of WUGs appears in all 7 regions in Vietnam but almost in Red River Delta (42%) and North Central (26%). The second type of WUGs (51,4%) is Village's Water management Group working under the Government's Decree on Cooperation Groups (first issued in 2007 and updated in 2019) without full legal status (no account, no stamp) [11]. This WMGs are mostly in the Northern

mountainous region (42%) and Mekong delta (35%). The remaining of WUGs (9,6%) is Commune's Water Management Groups (CWMGs). This WUGs functions as part of local communes using the legal status of the communes.

### ***Water users***

There are different kind of water uses in irrigation systems in Vietnam. These are irrigated agriculture, domestic use, industrial, hydropower, recreations/tourism and environment. Therefore, these involved with various types of water users such as individual farmers, WUGs which is a group representing for larger number of farmers, water supply companies, industrial factories, hydropower plant, local household, tourism companies and tourists. Because of the largest water users in the irrigation systems, WUGs are the most important water users and are main objects to the irrigation service pricing policy.

## **3.2. Key stakeholder engagement in irrigation service pricing**

### ***3.2.1. Key stakeholders and their roles in decision making***

Institutions involved in irrigation water pricing decision-making and implementation are considered the core stakeholders in irrigation water pricing. They play key roles in determining how irrigation water price is set and how it can be implemented. Institutional stakeholders include:

- Government agencies involved in irrigation water pricing decision-making;
- Agencies involved in monitoring, evaluating and regulating implementation and operations of irrigation infrastructure; and
- Irrigation infrastructure operators and water users

National level stakeholders include Ministry of Agriculture and Rural Development (MARD), MONRE, Ministry of Finance (MOF) who collectively share responsibility for overseeing the different aspects of the legal framework,

strategic planning and financing of irrigation management at the national level. Implementation of irrigation water pricing at provincial level is the responsibility Provincial People's Committees and also irrigation operators as IMCs and WUGs, as described below.

#### *Ministry of Finance*

MOF is in charge of prescribing and proclaiming the maximum prices of (public) irrigation services and price brackets for other services regulated in the existing laws. It also is responsible for summarizing the estimation and final settlement of state budget supporting to irrigation services and other financial subsidies to IMCs under MARD, and IMCs and WUGs under the provincial authorities. These financial subsidies are reported to the Central Government and submitted to the National Assemble for approval under the Law on State budget. MOF will monitor and handle violations in accordance with the Law on Prices and other relevant laws.

#### *Ministry of Agriculture and Rural Development*

MARD is responsible for elaborating and submitting to the Government for promulgation or promulgate by its competence legal documents on processes, rules, standards, economic and technical norms in the operation and maintenance of irrigation systems as well as steering and monitoring the implementation of irrigation water saving measures. It also is in charge of guiding and inspecting the implementation of economic and technical norms, processes and regulations in the management and provision of irrigation services; supporting funds of the state budget for organizations operating irrigation systems.

MARD appraises plans or alternatives for prices of irrigation services of organizations operating irrigation systems managed by the central government and aggregates the price plans of the organizations operating the irrigation systems managed by the Provincial People's Committees. It summarizes data and profile of price plan and report to the Ministry

of Finance as prescribed. MARD is also in charge of making decision on specific price of irrigation services under their authority as prescribed in Article 35 of the Law on Hydraulic works and other relevant laws.

#### *Provincial People's Committee (PPC)*

PPC is responsible for: (i) decentralizing the management of irrigation systems, deciding the scale and point of delivery of irrigation services under the guidance of MARD; (ii) instructing specialized agencies and irrigation system operators to develop and then submit to the PPC for approval of economic and technical norms for O&M of irrigation systems; (iii) making decision on methods of bidding, ordering and assigning tasks to irrigation system operators; and approving budget estimation, allocating, managing and settling fund for irrigation system operators.

PPC is in charge of: (i) appraising pricing alternatives for irrigation services of organizations operating irrigation systems under local authority; taking responsibilities of data, documents in the profile of pricing alternatives/scenarios and submit to MARD in due time; (ii) making decision on specific price of irrigation services under their authority as prescribed in Article 35 of the Law on Hydraulic works and other relevant laws; (iii) annually preparing budget estimation for support of irrigation services and submitting to the Provincial People's Councils for approval as well as reporting to MOF and MARD.

PPC is also responsible for: (i) supervising the implementation of revenue, expenditure, payment and settlement of subsidies from the budget as stipulated by the Law on State Budget; (ii) inspecting the implementation of the unit prices of public irrigation services using the state budget; supervising subsidy supporting to irrigation services and the use of the budget allocated to organizations operating irrigation systems; (iii) handling violations in accordance with the Law on Prices and other relevant laws. PPC also approves the final

settlement report on irrigated area, measures of irrigation and drainage, activities and subsidy for irrigation services and other financial support for irrigation system operators.

### IMCs

IMCs is responsible for formulating price plans/alternatives for irrigation services and take responsibility for the validity of data and documents and submit them to competent authorities for approval as regulated. Annually, IMCs prepare cost estimates, develop business plans, and report them to competent authorities (MOF/MARD/PPC) for approval.

### Water users

Water user groups cooperates with households and individuals in determining the area of irrigation and drainage to be supported by government's subsidy for irrigation services in accordance with existing regulations. WUGs is in charge of summarizing, reviewing and accepting the results of irrigation service provided by IMCs. This is for the purpose of payment and settlement of funds subsidized for irrigation services.

### 3.2.2. Stakeholder engagement in decision making

#### Existing engagement mechanisms

While there appears to be reasonably good cooperation among state management agencies at both central and local levels, it is apparent that cooperation and communications between local authorities and IMCs, between IMCs and WUGs and other water users could be greatly improved in the decision-making process of irrigation service price [3].

Existing arrangements for stakeholder engagement in irrigation service pricing occur primarily through administrative processes required by institutional stakeholders to decide and/or apply irrigation service price.

These official procedures including the requirements for IMCs (both local and central) in submitting the estimates of ISP plans and

financial subsidies to PPCs (for local IMCs) and MARD (for central IMCs). These requirements then will be submitted financial subsidies and/or reported ISP plans to Ministry of Finance for assessment. Total financial subsidies will be summarized by MOF prior to submitting to the Government and National Assembly for approval (Figure 2).

The decision and approval of specific ISP within the maximum prices regulated by MOF is the direct responsibility of MARD for irrigation service conducted by central IMCs and of PPCs for irrigation service undertaken by local IMCs. Existing procedures indicates the involvement of almost key stakeholders in the estimation and decision-making of ISP. However, the participation of water users in this mechanism is not clear.

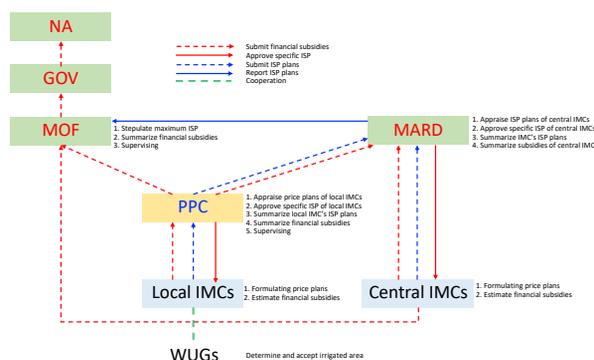


Figure 2: Stakeholder engagement in decision making of irrigation service price (ISP)

### 3.2.3. Primary concerns by stakeholders

As reported by MOF, there seems no clear official participation of water users in the formulation of irrigation services prices. Consultative and proactive management procedures, resources and information for participatory decision-making are lacking in pricing irrigation services at local level [12]. The detailed responsibilities of these key organizations (MARD, MOF, PPCs, IMCs and WUGs) in the decision making of irrigation service price is somehow clearly documented (in Decree 96). However, the responsibilities of DARD and DOF under PPC in pricing irrigation services are not clearly defined. Also,

there still seem be lack of effective cooperation mechasim between irrigation service providers (IMCs) and local authorities, and between IMCs and water users.

The procedure of formulating and approving ISP is complex with numerous steps and through many relevant agencies at different levels from the IMCs to provincial level. In fact, at provincial level, this procedure requires the annual approval of Provincial People's Council. This takes quite long time with less effective as the inputs of for ISP estimation remains from little to unchanged leading to the fact that the approved ISP would not match the real status of irrigation services [12].

Also, the fomulation of ISP in some provinces faces with more difficult as there is a lack of approved technical and economic norms on operation and maintenance of irrigation facilities. In addition, the cooperation between IMC and WUGs, between IMC and local communities in some places remains weak leading to the ineffective implementation of the existing ISP policy. Furthermore, according to the current ISP policy, regulations on documents, profile on plan, payment and final settlement leads to many difficulties in implementation of ISP. That is because these procedures relate to huge number of individual households but these households are not under the direct management of IMCs.

### **3.3. Public Private Partnership (PPP) in irrigated agriculture**

Viet Nam has spent large sums on new construction and upgrading of irrigation water infrastructure. In a period from 2016-2020, about 79,900 billion VND (3.5 billions USD) was invested for upgrading hydraulic works including irrigation systems. Funds for operation and management of irrigation systems is raised from ISP. According to the current policy on irrigation services prices annually, about 5,000 billion VND (220 mill USD) is funded by the government for operation and maintenance of water facilities [13].

In terms of the implemtnation of Public Private Partnership (PPP) approach, as noted by MARD, there have been no investment under PPP in development of irrigation systems in Vietnam. However, the contribution and participation of farmers and private sector in the application of advanced irrigation (sprinkler or drip irrigation) and construction of on-farm structures are reported. The participation of private sector in investment of advanced irrigation for upland crops covers several regions in Vietnam but mostly in South-east and Highland regions [14]. In addition, the contribution of farmers and WUGs in on-farm development is also across Vietnam with the high rate in the Mekong delta (nearly 70%) [145]

### **3.4. Key findings and recommendations**

The institutional settings in water sector in Vietnam is quite complex because of the involment of various ministries at central level and agencies local level. This indicates the challenging water governance in terms of an effective mechanism of integration and cooperation at different levels. The detailed responsibilities of the key organizations in the decision making of irrigation service price is clearly documented in the existing Decree. However, the responsibilites of key agencies at provincial level as DARD and DOF in pricing irrigation sercies are not clearly defined. It may require the inclusive these important provincial agencies in the revision of the existing Decree on irrigation service pricing.

Existing procedures indicates the involvement of almost key stakeholders in the estimation and decision-making of ISP. However, there seems no clear official participation of water users in the formulation of irrigation services prices. Also, there still seem be lack of effective cooperation mechasim between IMCs and local authorities, and between IMCs and water users. Thus, consultative and proactive management procedures, resources and information for participatory decision-making

are needed in pricing irrigation services at local level.

The current procedure of developing and approving ISP under the existing Decree is quite complex with numerous steps and through many relevant agencies at different levels from the IMCs to provincial level. The simplification and clarification of this procedure might be considered in the coming revised Decree if possible.

There are different types of irrigation systems in Vietnam. This requires the careful consideration of the relevant inputs, conditions for irrigation service pricing and should be included as in detail as possible in the revised method and manual.

Huge investment remains in the irrigation sector. The irrigation sector consumes the largest quantity of total water in Vietnam but with low water use efficiency and low contribution to GDP of the country. Thus, there is a chance for improving irrigation performance toward the advanced and modern irrigation with high added value. This should be taken into consideration during the development of ISP.

So far, it has been reported that there is no PPP investment in irrigation development. However, there is the significant contribution of farmers and private sector in advance irrigation and on-farm construction in some places in Vietnam. Therefore, it is necessary to consider the possible measures of irrigation service pricing that promote the active participation of the private sector in O&M irrigation systems in Vietnam.

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## 4. CONCLUSION

Vietnam has a relatively sound system of institutional setting, legal framework and policy on the irrigation management. It is a systematic governance apparatus from the central to local levels and many types of irrigation service management organizations. Also, there is a series of relevant laws and decrees. Practically, the promulgation and implementation of the irrigation service price policy with the participation of stakeholders, especially water users significantly influence the enforcement and effectiveness of the policy. Based on results obtained from the assessment of the actual institutional setting and irrigation service pricing policies, the study points out a number of shortcomings and limitations that need to be improved in the formulation and implementation of the policy. It is the unclear responsibility of the provincial agencies such as DOF and DARD in formulating and monitoring the implementation of the irrigation service price policy. In fact, the policy making process is complex with many steps and through many stages. However, involvement of water users in this process remained unclear. Therefore, it is necessary to clarify and simplify the policy development process as much as possible, ensuring the full participation of relevant stakeholders, especially water users. In addition, it is necessary to study and develop a mechanism of irrigation services pricing to encourage the effective cooperation between IMCs and WUGs and the participation of private sector in the O&M of the irrigation systems.

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