



ICID-CIID

Technical Framework

Agricultural Water Charging

Country Report

(Max length 10 pages)

1. **Introduction** – Very brief overview (**Max 1 pages**)
 - ❖ General country information such as climate, population, food and water security policy,
 - ❖ Agriculture and water resources development, including Rain fed & Irrigated Agriculture;
 - ❖ Irrigation infrastructure; Irrigation and drainage development, Annual Water Withdrawal and consumption from surface and Ground-water Resources for crop production, etc.
 - ❖ Ownership and governance of irrigation schemes;

2. **Policies and Institutions on Irrigation Water Charging (Max 1.5 pages)**
 - ❖ Rules and regulations on irrigation water charging;
 - ❖ Policies on surface and groundwater charging;
 - ❖ Water charging policies for lands with specific water-right comparing with new developed land;
 - ❖ Legal Authority & Policy levels for offering and approving the rates (Tariffs);
 - ❖ Conflict regulations policy and responsibilities (example unpaid water price; conflict of water price rate);
 - ❖ The level of irrigation services and level of prices.

3. **Process of Water Charging Determination (Max 2 pages)**
 - ❖ Mechanism and formulation of agricultural water charging for specific crops or irrigated lands;
 - ❖ Services provide to farmers by administration;
 - ❖ Effective factors on agricultural water charging rate (Measure and criteria);
 - ❖ Examples for water charging tariff based on volumetric water delivery and/or different type of crops or even per hectare water charges (non-volumetric methods) (US dollar);
 - ❖ Case studies;

4. **The Method of Collecting Water Charging (Max 1.5 pages)**
 - ❖ Methods of measuring water delivery to the Farmers;
 - ❖ Methods and mechanism of receiving water price (Payment methods), etc.
 - ❖ Constraints to collect water charging (lack of motivation to pay, weak institutional mechanisms, lack of reliable system and etc.)
 - ❖ Successful stories

5. Cost Recovery (Max 1 page)

- ❖ Analyses of collecting water fees from users to recover system costs including O&M costs).
- ❖ Assessing costs of operation and maintenance of irrigation scheme;
- ❖ Cost recovery analyses;

6. Summary and Conclusion (Max 1.5 page)

- ❖ Bottlenecks /issues/ concerns on water charging policies, payment, collecting systems;
- ❖ How these issues were overcome;
- ❖ The impact of water charging on water saving;
- ❖ the capacity and feasibility study of Increasing Water Price in the Irrigated Areas;
- ❖ The Farmers' satisfaction from the irrigation services;
- ❖ Recommendations for improving the situation, etc.

7. References, maps, tables (as needed)

EXPLANATION OF TERMINOLOGY

Comparable terms:

Water Charging or Water user charge or Water use charge (includes the totality of payments that a beneficiary makes for the irrigation service - fixed, volumetric, crop-based, etc.)

Water tariff (A water tariff is a price assigned to water supplied by a public utility to its customers.)

Water rate (A water rate is the same as water tariff that use in the United States and Canada)

Water pricing (Water pricing is a term that covers various processes to assign a price to water. More commonly, as here, it has the restricted connotation of price per unit quantity of water. The concept is clear in the case of volumetric pricing but where pricing is not volumetric, an implicit price can be derived by dividing the charge by the volume of water delivered. The actual or implicit price is useful when compared to the productive value of water (commonly referred to as the 'shadow price'), and the marginal cost of providing an extra unit of water (FAO).

Water Charging Systems (A water charging system embraces all of the policies, practical actions and mechanisms required to set the level of recoveries, decide the basis on which a charge will be levied, levy the charge, and collect the revenue. In some cultural or political contexts it is unacceptable to place a price on water and therefore other terms such as irrigation service fee (ISF) are used, with the emphasis being that the charge is made for the *service* of supplying water to the user, not for the water itself (FAO).

Financing of irrigation:

Water supply cost (fixed & variable)

Water user charge (operation and maintenance (O&M))

Note: Level of charge may vary from country to country

Economics of irrigation:

Water value (present value of future net benefits of productive water use)

Water price (transaction of water use right or water right between willing buyer and seller)

Fiscal impact analysis:

Identify direct and indirect beneficiaries

Determine direct and indirect taxation

Note: Total cost of water supply recovered through both water user charges and tax revenue over the technical life time of the investment in infrastructure.