

Charging for Natural Resources: practical lessons for lake basin managers

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Generating funds locally by charging users of natural resources

- Goal: to increase the amount of money generated locally from users of a lake's natural resources
- Focus: target both direct users of the lake's resources (e.g. for recreation, fisheries, transport, water supply) as well as those users/beneficiaries who do not live next to the lake (e.g. downstream water users, others); also target who pollute the lake
- Instruments: both User Fees and Pollution Charges

User fees

- A User Fee is a fee (or charge) paid by someone who directly uses or benefits from the lake's natural resources
- User Fees establish a charge for a natural resource that was traditionally provided at no cost to the user – it was a “free” good
- User Fees are based on the principle that those who receive a benefit should help pay for that service; the size of the fee should reflect the size of the benefit

Examples of User Fees

- Recreational users to a lake pay an Entrance Fee (commonly a few \$\$ per visit)
- Fishermen pay for an annual or seasonal fishing pass (often a few 10s of \$\$)
- Industries/ municipalities that extract water pay for the water extracted (usually on a per cubic meter basis)
- Agricultural water extractions for irrigation pay a water charge (either as a flat rate [e.g. \$XX per ha per season or year] or a metered per cubic meter basis). These charges are usually much lower than for industrial/ municipal uses.

User Fees - examples

- Laguna de Bay, Philippines – fishpen operators pay an annual fee of about \$120/ha of fishpen area; monies go to lake management and local communities.
- Lake Nakuru, Kenya – visitors to the Lake who come to see the flamingos pay an entrance fee
- Various locations – industries or municipalities that extract water from a lake pay a fee per cubic meter extracted

Pollution Charges

- Pollution charges are fees paid by either industries or municipalities per unit of pollution released into the Lake waters
- The charge is set at a level sufficiently high that firms are encouraged to reduce pollution. If charges are paid, the revenue generated can be used to allow lake managers to invest in additional pollution reduction, mitigate damages, or compensate those who are hurt
- Pollution charges are widely used in both developed and developing countries
- See example of Lake Dianchi in Yunnan , China, where pollution charges are important in cleaning up the Lake

Charges paid by Downstream Users/ Beneficiaries

- Charges that are imposed on downstream beneficiaries/ users of a lake's natural resources to help fund improved management in the Lake
- Most common example is charges paid by consumers of potable water or water for industrial uses
- Requires broader government consensus on cause-effect links and transfers of funds between downstream users and lake management authorities

Downstream User Charge example – Lake Biwa, Japan

- Water utilities in Kyoto and Osaka help fund improved management of Lake Biwa – their major source of fresh water
- Charges are passed on to downstream consumers via their water bills
- Has resulted in massive resource transfers and investments in Lake Biwa to maintain it as a sustainable source of fresh water

Lesson Learned on Introducing Charges for natural resources – necessary steps

- Clearly identify causal links
- Estimate the size of benefits provided to users (or costs of pollution)
- Identify charges (and establish different charges for different groups as appropriate)
- Identify an effective fee collection mechanism
- Develop appropriate way to hold and administer fees collected
- Inform the public and government about the rationale for charging new fees

1. Clearly identify links between lake resources and users

- Identify who benefits from a healthy lake environment (the beneficiaries/ users – people, industries, municipalities, others) or who is harming the lake (polluters)
- Beneficiaries can be direct users of the lake's resources (e.g. for recreation, water supply, fisheries, transportation) or indirect beneficiaries (e.g. downstream water users)

2. Quantify in physical and monetary terms the benefits to users (or harm from polluters)
- Quantify both physical impacts of resource use (or pollution) and the economic value of those uses or negative impacts
 - May include both marketed and non-marketed values and impacts
 - An increasing number of valuation techniques can be used to place monetary values on economic benefits (or costs from pollution)

2. (continued) Quantification of benefits –selected examples

- Productivity benefits from irrigation water (valued by change in productivity approaches)
- Willingness to pay for potable water supply (based on survey techniques such as the contingent valuation method – CVM)
- Value of recreational uses of lakes (valued by the travel cost approach or the contingent valuation method – CVM)
- Industrial production benefits of clean water supply (use costs avoided approaches)

3. Establish appropriate fees/charges

- Fees should be set based on both the size of the benefit received and the ability of the beneficiary to pay; pollution charges should be set based on the amount of damage created
- Fees/ charges may take one of many different forms: e.g. entrance fees, annual license fees, charges per cubic meter consumed or emitted, others
- Multi-levels fees/charges may be established (e.g. different fees for national or international visitors to a lake recreation area)

3. (continued) Establishing fees

- If a user fee for recreation is introduced it may be appropriate to set one fee for residents and a higher fee for international visitors. The difference in fee can vary depending on how “special” is the resource being visited
- Costa Rica, for example, charges residents about \$1 and foreign visitors about \$5 to visit a national park; in the Galapagos, Ecuador, national visitors pay \$6 and foreign visitors pay \$100 to visit.

4. Identify an effective mechanism for collecting fees/charges

- Build on existing systems when possible – thereby reducing administration costs and generating more net revenues
- Creative solutions may involve using non-traditional and non-governmental groups (tour providers/ NGOs) to collect the fees
- Transparency is very important in gaining acceptance of any new fee – explain what the fee is for and how it will be used to benefit the lake

5. Managing and using new revenues

- Decide where the fees are held and how they will be used (for what purposes; who has budget control)
- May require creating new administrative arrangements – e.g. foundations, parastatals, special management authorities – to collect and manage the fees.
- The division of fees between lake managers, local communities and national government has to be decided in advance.

5. (continued) Examples of new administrative arrangements

- In Costa Rica the National Parks Foundation was set up to help collect fees and receive international donations, and manage these monies to help improve the Park system.
- Parastatal approaches often require special legislation/ permission but can help assure that new charges/ fees are used for the purpose of lake management and do not just go into general government revenues
- A similar approach has been successfully used in Mexico and in several Caribbean islands

6. Building public support for new fees and charges

- Information and transparency are key to implementing any new fee/ charge system; people want to know why they are paying a fee and where the money is going
- May require changes in laws and regulations to allow for new approaches – never an easy task
- Demonstrating positive management benefits is crucial to successful and sustainable implementation – a combination of results on the ground (or in the water) and public information will help build political will to improve lake management

Conclusions

- Many exciting possibilities exist for increasing locally generated revenues for improved lake management
- A combination of user fees and pollution charges are often most effective
- Implementing new fees often requires institutional/ legal changes – a major challenge
- Public information and visible results are two key elements in developing an effective fee program