

Monetary Assessment of Multifunctional
Roles of Paddy Fields
Application to Policy

INWEPF Japan Secretariat
Shiro Watanabe

Why Monetary Assessment?

1. Account to the People

2. Input to the international discussion

3. Need for Planning Projects

Account to the People

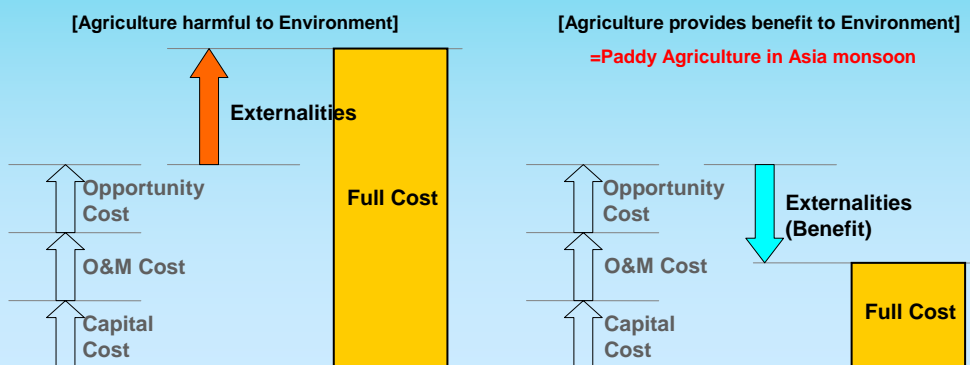
In order for the people to understand importance of paddy agriculture, it is effective to show the monetary value of multi-functional roles of agriculture in figure.

| Function category | Annual cash value (billions of yen) |
|------------------------------------|-------------------------------------|
| Flood prevention | 3,499 |
| River flow stabilization | 1,463 |
| Groundwater recharge | 54 |
| Soil erosion (wash-off) Prevention | 332 |
| Landslide prevention | 478 |
| Breakdown of organic waste | 12 |
| Climate amelioration | 9 |
| Restoration of body and mind | 2,376 |

Input to International Discussion

In the international discussion e.g. OECD, discussion is going with the idea "Full cost recovery" to achieve effective water use in terms of economic viewpoint.

Paddy farming in Asia monsoon region has positive externalities and we assert necessity of consideration on that, If we can present externalities in figure on the basis of monetary assessment, it will support our assertion strongly.

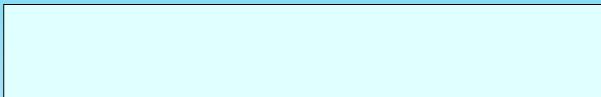


Need for Planning Projects

In order to practice construction of infrastructure like irrigation facilities by Japanese Government, it is required to compare cost and benefit of the project and confirm the benefit overtake the cost.

The benefit includes that of multi-functionalities, so the value should be estimated.

Cost



C

Benefit



B

Requirement
for project:
 $B \geq C$

Functions related to Multi-functionalities

| | Kind of Works | | |
|--|-----------------------|-------------------|---------------------|
| | Irrigation & Drainage | Land Readjustment | Disaster Prevention |
| Disaster Prevention (Public Goods) | ○ | ○ | ○ |
| Water Resource recharge | ○ | ○ | |
| Land Scape & Ecosystem | ○ | | ○ |
| Communication between Urban and Rural Area | ○ | | ○ |

