

Cooperation Fund for the Water Sector
Pilot Demonstration Activity
Request Form

Activity Title: Demonstrating the use of compensation mechanism for watershed protection services in Citarum	
Proposer (Name, Div/Dept): Munawir, Center for Water and Land Resources Management	
Request Date: 12 February 2008	
Country (DMC): Indonesia	Region: Southeast Asia
Activity Proposed Start Date: May 2008	Activity Proposed Duration: 12 months
Cost Estimate: US\$ 49,985	
Executing Agency Contact: LP3ES (Institute for Social and Economic Research, Education and Information	
Consultant Identified?	If so, Consultant(s) Contact:
ADB Activity Officer - name, position, division, telephone and e-mail:	

1. Background and Rationale:

As the third largest river in Java with length of 350 km, Citarum is the major source of water in West Java and Jakarta for mainly drinking water. Catchments area of Citarum covers watershed of 11,600 km² with a variety of residents' activities, including traditional agriculture, forestry, urban and industry. The Citarum basin has three large reservoirs: Saguling, Cirata, and Jatiluhur. These reservoirs provide hydropower, irrigation water, municipal water utility to Bandung and Jakarta, and aquaculture opportunities for Saguling and Cirata.

Benefit of the Citarum watershed services is partly reflected in the form of Jatiluhur reservoir with active storage of about 2,100 million m³ and the implied irrigation system that provide water for service area of 240,000 ha. In addition, the Citarum watershed also provide water services for two hydropower development schemes, namely Saguling and Cirata with active storage of about 600 million m³ and 800 million m³ respectively.

Instead of there are two protected forest area, namely Tangkuban Perahu National Park and Juanda Great Forest Park, which may cover almost 30% of the total area, human activities in form of agriculture, plantation, housings, and industries tend to extend with effect of increasing deforestation and catchments area degradation. Land slide, flooding, siltation, and other forms of effect related to deteriorating function of the watershed are unavoidable with uncounted losses of physical, psychological and mental as well. Watershed services in term of maintained water regulation for a variety of purposes

Local and provincial governments collect water tax but not known what the fund for. Also water charges that PJT-II (Citarum River Basin Corporation) collects. Obviously, the water tax and water charge are not ear-marked. While the natural capital that human being and other creatures highly depend on is increasingly deteriorating. In this worsening situation, LP3ES is trying to demonstrate the use of compensation mechanism for watershed protection services in Citarum. The mechanism requires

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commitment of beneficiaries and/or those are involved in management of the watershed protection services to give compensation to upland farmers who maintain land use change in form of guardianship and stewardship of Citarum watershed area. Thus, money collected from watershed services should be returned to manage sustainability of the services provision.

2. Objectives

Purpose of the project is to develop compensation mechanism for watershed services and improved livelihoods. The specific objectives are to:

- Increase understanding of multi-stakeholders on compensation mechanism for watershed protection services
- Encourage commitment of beneficiaries to provide compensation to local people who guard and steward sustainability of watershed services
- Support development of compensation mechanism for watershed services and improved livelihoods at the catchments area of Citarum.

3. Scope and location of Work / Description of Activities

The project will take place in Jakarta and Citarum area. This is composed of 3 main components, namely: Facilitation, working group, and publication. Description of each component is as follows.

- *Facilitation to develop compensation mechanism for watershed services.*
The PDA intends to further develop and calibrate application of the existing generic payment scheme for environmental services in Brantas and Cidanau in watershed management. Hopefully, process of the project implementation will be getting momentum to link into stakeholders' concerned in the province to issue provincial regulation on watershed management. Thus, the project will result in developed compensation mechanism from beneficiary of watershed services to land manager who protect watershed function and rehabilitate its critical areas.

Activities of farmers on the catchments area of Citarum are potential to degrade the existing watershed services. Control to destructing activities that people are currently undertaking and changing their behavior will effect on provision of incentives (compensation) to opportunity cost they have. In this regard, it is important for PDA to facilitate meetings among those involved in and concerned to come up with contract agreement to perform sound-environmentally land management. By doing so, upper reach farmers will get compensation in form of their preference. In addition, the project will also provide technical assistance to core stakeholders involved in implementation of the agreement made.

Facilitation that PDA will support includes a number of activities: Select project sites, prepare upstream farmers for discussion, prepare discussion with potential buyer (beneficiaries) of the services, public meeting to explore full set of problems and aspiration of both sides, assess potentials for compensation mechanism, help strengthen willingness-to-compensate, define commodities, support establishment of

the mechanism, institutionalization based on agreement, and improve capacity of local group to manage institution, money and conservation. This facilitation will take place in Citarum area, mainly intended for development of compensation mechanism for Citarum watershed protection services.

- *Working group.* The activity will invite multi-stakeholders of the Citarum river basin (e.g. BPSDA (Balai Pengelolaan Sumber Daya Air of provincial organ), BPDAS (Watershed Management Unit of central government of forestry) PPTPA (Panitia Pelaksana Tata Pengaturan Air-Water Management Implementing Committee), PJT-II (Citarum river basin parastatal corporation), hydropower and reservoir (e.g., Saguling, Cirata, and Jatiluhur), BPLHD (Badan Pengelolaan Lingkungan Hidup Daerah-Provincial Environment Management Board), Gerakan Citarum Bergetar (public movement for Citarum conservation), water-dependent private sector, GP3A (Federation of Irrigators' Association along the Citarum River), and upper reach farmers' group such as those living and affecting land use change in Wayang Mountain (water source of Citarum river). This group intends to monitor, discuss, and evaluate progress of the project (contract). By this means problem solving can be timely taken. In principle, the working group should help to support development process of the compensation mechanism for watershed protection services. Any problems remain unsolved, the project management can invite concerned agencies involved in the group to help for solutions. Aside of project-based issues, discussion will also deal with local policy and institutional arrangement. This activity will take place in Citarum area, which may include Jakarta (that acts as downstream water users for mainly drinking water) with intention for helping in to problem solving on the ground as well as to support development process of legal framework.

- **Publication and dissemination**
As an emerging new discourse, compensation for watershed services in Indonesia needs for publication and dissemination. Increased understanding amongst multi-stakeholders on values of watershed services will support process to accept and adopt the compensation mechanism for maintenance of water regulation. As literature on watershed services is uneasy to find in Indonesia, this activity intends to fill the gap with dissemination of PES -related information through operation of website " Environmental Services". PES which stands for Payment for Environmental Services is a generic term for compensation or reward for environmental services.

4. Implementation Schedule, Institutional Management Arrangements, and Proponent Qualifications

No.	Activities	1	2	3	4	5	6	7	8	9	10	11	12
I	Facilitation to develop compensation mechanism for watershed services												
1	Engagement of working group for PES development	—											
2	Survey potential project sites	—											

3	Recruit and consolidate team																			
4	Determine project sites																			
5	Write project implementation plan																			
6	Facilitation on the ground																			
7	Discuss with selected key stakeholders for compensation of watershed services																			
8	Build contract agreement for watershed protection services																			
9	Trainings																			
10	Working group meetings																			
II	Publication and dissemination																			
1	Operation of website																			

5. Expected Results (outputs/outcomes/effects/impacts)

The project is concerned to produce some expected results as follows:

No.	Components	Outputs	Outcome	Effects
1	Action-learning to develop compensation mechanism for watershed services	Developed compensation mechanism for watershed protection services at Citarum river basin area	As a valuable asset, alternative financing scheme and water resources management approach that PDA developed becomes snowball	Protected and rehabilitated catchments area of the Citarum River Basin.
4	Publication/ dissemination	Disseminated publication on compensation for watershed services	Increased understanding on compensation mechanism as an alternative financing scheme for watershed conservation	Supports to adopted compensation mechanism for watershed services conservation

6. Measurable Performance Indicators

No.	Narrative summary	Performance indicators
1	Facilitation: Action-learning process to design and implement compensation mechanism for watershed services is developed, with special emphasis on impacts on local livelihoods	Agreement of service providers and beneficiary for collaborative work in maintaining watershed services in Citarum river basin area.
2	Publication and dissemination: site level practice of compensation for watershed services and other financing scheme-related issues is shared among wider interest group and the general public in Indonesia	A number of PES-related information and relevant practices are disseminated in website "Jasa Lingkungan-Environmental Services)

7. Multi-Stakeholders Participation

Stakeholder engagement in the whole process of developing compensation mechanism for watershed protection services is unavoidable as guardianship and stewardship of watershed services are interest of multifarious parties, inter and within sector, trans-boundary issues, inter-governmental administration, and inter-generation as well. Since this activity intends to strengthen Citarum River Basin Management, the PDA will invite core stakeholder -- such as BPSDA (Balai Pengelolaan Sumber Daya Air, a West Java provincial unit), PPTPA (Panitia Pelaksana Tata Pengaturan Air-Water Management Implementing Committee), PJT-II (Citarum river basin parastatal corporation), hydropower (e.g., Saguling), BPLHD (Badan Pengelolaan Lingkungan Hidup Daerah-Provincial Environment Management Board), Gerakan Citarum Bergetar (public movement for Citarum conservation), water-dependent private sector, GP3A (Federation of Irrigators' Association along the Citarum River), upper reach farmers' group such as in Gunung Wayang -- to play a significant role in management of the project, mainly in distribution and synergy of roles and mobilization of local resources, and technical assistance as well for sustainable Citarum watershed management. Development of compensation mechanism should be regarded as an entry point to trigger adoption process for integrated water resources management in Citarum Rive basin.

8. Scope for Replication/Use in Other DMCs

As a financing scheme, compensation for watershed protection services is coming to the front for alternative natural resources management. Not happening before that business sector benefiting from water services is involved in financing efforts made for watershed conservation and critical land rehabilitation. Advantage of this scheme is non-donor and non-government dependent for watershed conservation; but their engagement is truly required at the development process of compensation mechanism and its institutionalization. Rapidly deteriorating watershed functions drives eagerness and willingness of concerned parties to replicate a new model for watershed protection services. LP3ES in collaboration with local partners has developed such mechanism in Cidanau watershed (Province of Banten) and Brantas (East Java), where PT Krakatau Tirta Industry and PTJ-I (Brantas River Basin Corporation) have allocated fund for local communities who guard and steward sustainability of watershed services. Agreement

contract of both sides (water service provider and beneficiary) has been made, where compensation is conditionally provided for concrete measures taken for soil and land conservation.

9. Cost Estimate

No	Inputs category	Unit Price	Costs (US \$)	Total Costs (US\$)
1	Communication	10	25	250
	Total 1			250
2	Specialists Services:			-
	a. Community development	10	1.500	15.000
	b. PES specialist	8	1.000	8.000
	d Field Facilitator	8	650	5.200
	e. Secretary	8	350	2.800
	Total 2			31.000
3	Publication and dissemination			
	a. Operation of website	5	350	1.750
	Total 3			1.750
4	Project Management:			
	a. Ticketing for Jakarta-Bandung			
	1) Survey, (2 persons) *2	4	35	140
	2) lobby key players	2	35	70
	3) working group (2 persons)*4	8	35	280
	b. Per diem			
	1) Survey, 2 persons *7 days *	56	50	2.800
	2) Lobby key players, 1 persons * 3 days*3	9	50	450
	3) Working group, 2 person * 4 days * 3	24	50	1.200
	c. Biaya working Group	3	450	1.350
	d. Rent car	14	60	840
	e. Operational cost on the ground			
	1) transport, 2persons *8	16	20	320
	2) Agreement meeting for water services, 3*2*10 persons	60	10	600
	3) Farmers meeting, 4*2locations	8	10	80
	F. Conservation Training	20	440	8.800
	Total 5			16.930
	Grand Total (1 - 5)			49.930