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Initial Process of Payment for Environmental Services in West Nusa Tenggara

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Water is one main products of Payment for Environmental Services (PES) in West Nusa Tenggara. The scarcity of water resource tends to increase relating with population growth, the degradation of forest cover and the phenomenon of climate change. Conflict in water resource management between stakeholders tends to increase also since more than 400 watersprings have disappeared in West Nusa Tenggara. This paper compares the initial process of Payment for Environmental Services Programm in several areas in West Nusa Tenggara with focused on a number of locations that have been practicing the initial PES scheme, ranging from district level to the community level. The comparison based on institution, regulation and mechanisms within the criteria from The Regional Forum on Payment Schemes for Environmental Services in Watershed (2003). The comparison was also made within those areas and several areas in Indonesia and other countries with Established PES scheme. Approach method used in this research was descriptive method. Data collection was done by direct observation and interaction with the parties within the scope of review of the study, through in-depth interviews, Focus Group Discussion (FGD) and literature review and analyzed qualitatively. Based from each case study, valuable lessons can be drawn; this includes the effort to overcome or reduce anxiety in excess of water availability and conflicts between upstream and downstream communities. PES schemes have a potential to become a valuable transfer mechanism, towards the internalisation of positive externality environment and generate new revenue for sustainable development. Understanding the context of livelihood and how environmental services supports the welfare of local communities becomes very important, the reason is that PES activities are predicted to have long-term eligibility, desired by the community and can result in enormous environmental benefits.

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Initial Process of Payment for Environmental Services in West Nusa Tenggara

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Abstracts

Water is one main products of Payment for Environmental Services (PES) in West Nusa Tenggara. The scarcity of water resource tends to increase relating with population growth, the degradation of forest cover and the phenomenon of climate change. Conflict in water resource management between *stakeholders* tends to increase also since more than 400 watersprings have disappeared in West Nusa Tenggara. This paper compares the initial process of Payment for Environmental Services Programm in several areas in West Nusa Tenggara with focused on a number of locations that have been practicing the initial PES scheme, ranging from district level to the community level. The comparison based on institution, regulation and mechanisms within the criteria from The Regional Forum on Payment Schemes for Environmental Services in Watershed (2003). The comparison was also made within those areas and several areas in Indonesia and other countries with Established PES scheme. Approach method used in this research was descriptive method. Data collection was done by direct observation and interaction with the parties within the scope of review of the study, through in-depth interviews, Focus Group Discussion (FGD) and literature review and analyzed qualitatively. Based from each case study, valuable lessons can be drawn; this includes the effort to overcome or reduce anxiety in excess of water availability and conflicts between upstream and downstream communities. PES schemes have a potential to become a valuable transfer mechanism, towards the internalisation of positive externality environment and generate new revenue for sustainable development. Understanding the context of livelihood and how environmental services supports the welfare of local communities becomes very important, the reason is that PES activities are predicted to have long-term eligibility, desired by the community and can result in enormous environmental benefits.

Keywords: Payment for Environmental Services, water resources, Nusa Tenggara Barat.

INTRODUCTION

Environmental services are the benefits received by the community, which came from the results of the dynamic interactions that occur among the components of the ecosystem consisting of plants, animals, micro organisms and the abiotic environment. Environmental services can be categorized into 4 (four) types consist of provisioning services, regulatory services, support supporting services and cultural services. While the environmental services commonly marketed are hydrological services, the beauty of the landscape, biodiversity and climate regulation (carbon sequestration) (ESCAP, 2009).

Payment Environmental Services or PÈS itself can be defined as a voluntary and conditional transactions over-well-defined environmental services (or land uses likely to produce the services or with the condition only if the service provider meets the requirements of the contract and availability and continuity of services can be guaranteed) between at least one supplier and one user (Wunder, 2005; ESCAP, 2009)

In PES transaction scheme, beneficiaries of environmental services pay or provide other forms of compensation to land owners or persons entitled to use the environment (land or fresh water, marine), to manage the environment in such a way that ensures the ennvironmental services[1)]. Services produced by the environment can be broadly classified into goods and services that generally have non-market prices (unpriced goods and services - UPGS) clearly characteristics but do not have a price so that their consumption decisions not based on price, but by preference (willingness to pay - WTP) a person or institution and generally the goods and environmental services do not have a market (Non market Good's / NMGs).

Today the PES becomes increasingly important and useful to be learned in addressing global problems that are happening both in terms of sosio-economic and environment. Natural resources provide "directly" environmental services such as the provision of food and raw materials, and "indirect" environmental services such as carbon sequestration, watershed protection, a layer of ground water recharge, and providing habitat for biodiversity[1]. Thus environmental services can support the economy and community as well as a stimulus for sustainable environmental management through Payment for environmental services (PES) in order to promote environmentally sound management actions.

The utilization of environmental services should be carried out based on the principles of sustainability, efficiency and equity. The principle of sustainability emphasized that the utilization natural resources should promote the establishment of environmental sustainability. Efficiency principle is done to improve the overall economic efficiency, taking into account the value of environmental services in economic activities through payments for environmental services. While the principle of equity is done to distribute the benefits and costs from the use of environmental services equally, this is done through the implementation of reward systems of the beneficiary to the provider of environmental services and also of pollutants to the provider of environmental services.

Development of payments for environmental services concept need to focus on four criteria: (a). Realistic scheme that considers the type and magnitude of the availability of environmental services, amount of incentives, threats and opportunities, as well as the level of trust between the stakeholders; (b) Emphasis on the performance (conditional); (c). Carrying the principle of voluntary from the environmental services recipients and environmental services providers, and (d). Address the needs and eliminate the obstacles of poor people (pro-poor), especially in rural areas for a better livelihood.

Water is one main products of Payment for Environmental Services (PES) in West Nusa Tenggara. The scarcity of water resource on the island of Lombok is caused partly by deforestation due to encroachment and illegal logging. As a result of deforestation is the number of spring water reduces significantly. Research conducted by WWF Indonesia Programme Nusa Tenggara (2005) concludes that there are only 107 spring water are available now in Lombok Island instead of 702 in 1985. For example, in the past 10 years there has been a decline in water volume stream of main river including Aik Nyet river and Babak river. In 1998, it was recorded that volume of water stream in the two rivers, Aik Nyet river and Babak river, decreased from 27.3 m^3/sec and 8.43 m^3/sec to 10.37 m^3/sec and 5.68 m^3/ sec. The decrease water volume occurs in almost all rivers in the island of Lombok. The decrease in the quantity of water resources due to massive degradation of natural resources and environment will be more severe in the future since the demand of water will increase. The growth of population, industrialization and commercial development, residential growth, and urbanization lead to greater demand for water for urban communities as well as for agricultural activities. If there is no serious effort to conserve and rehabilitate water resources, West Nusa Tenggara, particularly the island of Lombok will have a great difficulty in meeting the water needs for its residents. Now, West Nusa Tenggara currently is estimated facing a water deficit of 130 million m^3. In addition, the costs of obtaining water in the future will be even greater and the people will face the potential of water conflict especially between upper-stream and down-stream *stakeholders* which tends to increase in the last ten years.

Water management undertaken especially by Water management Board such as PDAM, PAMDES and BUMDES encompasses only limited aspects to include processing and distribution of drinking water. Meanwhile, the conservation of water resources and watersheds with a holistic approach and integrated stakeholders has not been adequately implemented. A variety of constraints ranging from coordination to lack of funding brings about the conservation of water resources become less effective. The example of Payment Environmental Services –

scheme is implemented in West Lombok regency. Payments for environmental services as mandated by the Regional Regulation of West Lombok regency intended to support the conservation of water resources effort has not been fully implemented. In addition, there is still a tendency of people who less carefully use water since the water is still perceived as free goods.

The purpose of this study is to compares the initial process of Payment for Environmental Services Programm in several areas in West Nusa Tenggara with focused on a number of locations that have been practicing PES and the initial PES scheme, ranging from district level to the community level.

Method of approach used in this research was descriptive method. Descriptive method aims to gather the latest information, analyse, interpret and draw conclusions based on facts and information. While, collection of data employed were surveys and document review. The survey was conducted through observation and direct interviews with stakeholders/key stakeholders, who have essential information about the condition of conservation and water and land resources in the West Nusa Tenggara province, based on the list of structured questionnaire that has been prepared in advance. Finally, review of documents was done through literature study and tracing of previous reports in relation to the aim of this study.

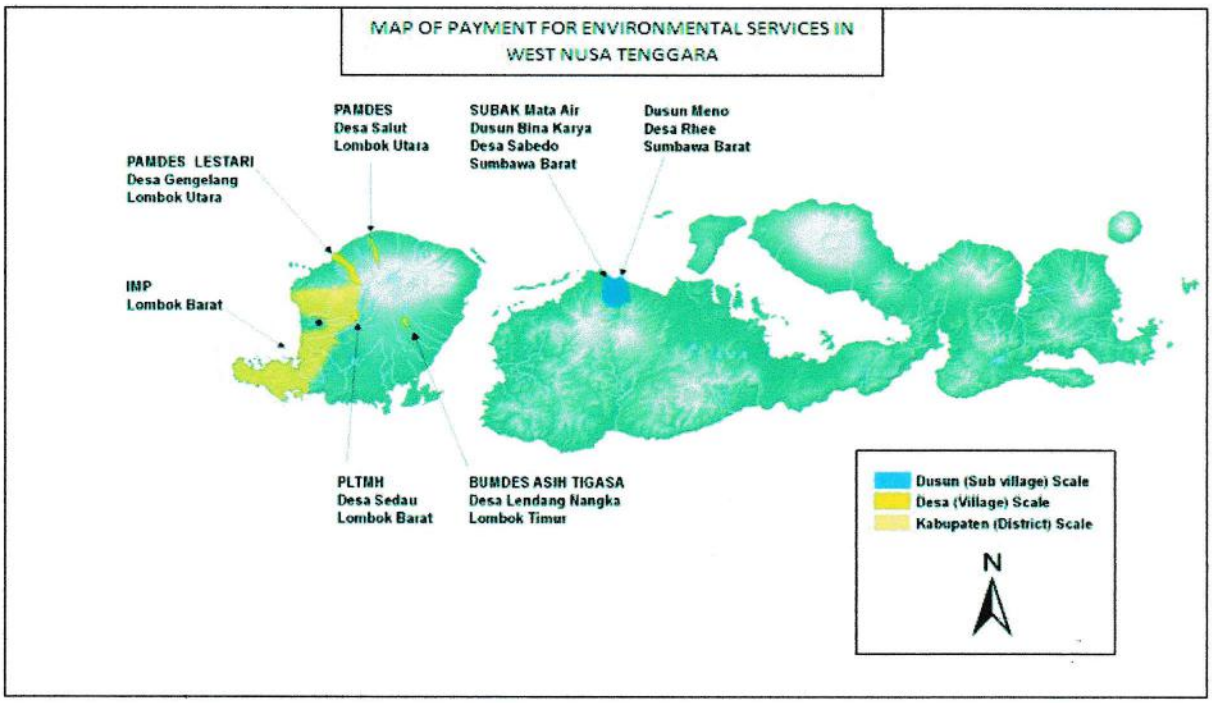

Figure 1. Map of PES-scheme practicing in West Nusa Tenggara

The research activity focused on a number of locations that have been practicing on the payment for environmental services scheme, ranging from district level to the community level. These locations include the practice of PES organized by the Institution of Multi-stakeholder West Lombok regency, Local Water Company (PAMDES) at Salut Village-and Genggelang Village-North Lombok District, BUMDES Asih Tigasah (Local Water Company) Lendang Nangka Village-East Lombok District, Micro Hydro Power Plant at Sedau Village-West Lombok District, and SUBAK Springs Water of Sabedo Village-West Sumbawa.

RESULT and DISCUSSION

PES in Costarica and Vietnam

The concept of PES in Costa Rica comes from the increasing need for obtaining sustainable source of fund for forest conservation and other forestry activities as well as an activity within the framework of development of funding mechanism for those activity. Costa Rica PES schemes focus on forestry sector. Prior to this, Costa Rica had a program of creating protected areas with conservation approaches and applied subsidy to forestry sector. So, PES is a continuation of subsidy scheme and it is intended to obtain other external funding sources through activities such as mitigation and adaptation to climate change, carbon trading and bioprospecting activities.

In the case of Vietnam, according to the Vietnamese Law natural forest land and forest planted activities funded entirely by government are property of the state. The dominance of government ownership of forests has major implications for the implementation and development of PWS schemes. PWS schemes become somewhat redundant, because without it farmers had to cultivate their land in accordance with directives from the government. The emergence of the idea of payment for environmental services by paying them (providers) to provide environmental services is quite contrary to government policy on land ownership. But the government of Vietnam has its own point of view that efforts to solve environmental problems in general also need to be accompanied by efforts to address environmental problems, especially livelihood of people living in mountainous areas and forests in order that they want to protect and to conserve forest. Therefore, the Government of Vietnam develop a policy on Payment for Forest Environmental Services (Payment for Forest Ecosystem Services /

PFES). This policy is different from payment for environmental services that have been implemented in other countries. Environmental issues do not only relate to the problem in mountainous areas but also in industrial zones, urban areas, all areas in entire countries. Therefore, the payers for environmental services are the owner of factory, city dwellers, and people whose activities cause adverse effects on the environment.

PES in Lampung and Cidanau Watershed

Implementation of PES in Sumberjaya Lampung and Cidanau Watershed Banten is intended as poverty alleviation strategies for upland poor communities by providing a reward for those who protect watershed. The similarities between the two PES are local community act as a provider as well as seller of water. However, community in Sumberjaya provides water for generating microhydo electricity, meanwhile community in Cidanau provide water for industry . In Sumberjaya, government acts as a buyer and community, forest community, is a seller. In contrary, buyers in Cidanau Watershed are industy that their sewage goes to the Cidanau Watershed.

PES in West Nusa Tenggara

The design of PES schemes play a central role in ensuring the success of its application. In general, observed PES schemes in the area of West Nusa Tenggara Province has the following characteristics: (1). There is variation in defining the PES scheme (compared to Wunder, 2005) due to its underlying values, such as religious values, culture and economy. Differences in ecological, social, economic and cultural as well as the goals set will influence the design of PES schemes. Schemes can be designed to ensure the supply of ecosystem services directly to the user (eg watershed services provided by communities upstream to downstream users); (2). Providers of ecosystem services are often of rural local communities. Actors of ecosystem services is a local user as well as users of water in urban areas for West Lombok PES practice; (3). In regards with fund management, PES schemes are mostly done through local institutions, except for West Lombok case study ; where there are intermediaries before reaching the public. This is done especially when the environmental services of a large number of service providers are collected, or where the recipient is located quite distant from the provider; (4). There is possibility for the recipients of environmental services to fund the PES scheme. Beneficiaries of

environmental services, which in this case are local users, are those that have been identified and arranged in groups or organizations; (5). The processes of payment are flexible, sustainable and open (all case studies); (6) Some transaction costs do not exceed the potential benefits (micro-hydro case study); (7). Changes in land use and provision of services are monitored and (8). Knowledge transfer mechanisms are locale specific.

Development of PES schemes in West Nusa Tenggara Province is still showing a tendency towards 'mandatory' both at the local and district level. It Has not seen the ability to push towards 'voluntary action'. This is very different from when compared to some examples of the PES implementation in some countries a case of Costa Rica and Vietnam or other regions in Indonesia such as Cidanau, Banten and Sumberjaya, Lampung.

Benefit from initial process of PES scheme practices in West Nusa Tenggara

The results of this study indicates that there are contribution of the application of PES schemes on the condition of natural resources, community livelihood and climate change adaptation. However, further research need to be done. The Benefit for the Natural Resources includes : (1). Improvements to natural resources, especially forest cover, which encompass direct and indirect affect on water availability; (2). Community is actively protecting natural resources to avoid negative effects; and (3). Reducing the level of disturbance/threat to natural resources through sustainable management in order to provide a positive influence on watershed protection, improved filtering function, carbon stocks and biodiversity conservation. Asociated with the community livelihood, PES benefits are : (1).Among the practices that attempt to implement the PES schemes, a very promising mechanism were identified in relation to economic aspect, namely by trying to diversify their income through the creation of new markets for environmental products and services produced. For example: planting program development of Non-Timber Forest Products (fruits, etc.) and creative economic development (value-added of NTFP by mean of additional processing on products); (2). Creating new jobs and the creation of incentive to adopt sustainable practices.

Some other benefits can be derived from all those practices are : (1). an increase in the understanding capacity of the PES is the key of all the schemes studied/assessed, such as environmental awareness, land management, agroforestry, local government institutions, business development and understanding of the PES from human capital eraspect; (2). Wheter

people, both in up-stream and down-stream, faces the unsecure future of how much and how long they can continually and steadily access the water, (c). Up-stream area dominated by poorer villages than downs-stream, therefore, the threats of conflict to access the resource could be happened anytime (d). The limitation of government capability rehabilitates the degradation forest. Therefore, PES institution development must be considere the characteristic of community.

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Table.1 Summary characteristics of International PES case-study programs

Case, country (source)	Environmental services		Who buys?	Who else benefits	Who sells?	Who initiated?	Start year	Current condition
	Targeted	Paid for						
Pimampiro, Ecuador (Wunder and Albán, 2008-this issue)	Watershed protection	Forest and páramo — conservation/ restoration	Metered urban water users (20% fee)	Unmetered water users, irrigators	N. América Coop. (81% of members)	CEDERENA (NGO)	2000	Upper Los Negros watershed (2774 ha)
Payments for Environmental Services (PSA)b, Costa Rica (Pagiola, 2008-this issue)	Water, biodiversity, carbon, scenic beauty	Forest conservation, timber plantations, agroforestry	FONAFIFO (autonomous state agency)	Tourism industry, water users	Private landholders, indigenous communities	Government, in Forest Law	1997	National, target areas, 270,000 ha (end 2005)
Payments for Hydrological Environmental Services (PSAH), Mexico (Muñoz-Piña et al., 2008-this issue)	Watershed and aquifer protection	Conservation of preexisting forest area	CONAFOR (state forest agency)	All water users in watershed and those using aquifers	Communal and individual landowners	Ministry of Environment, Forest & Water Commissions	2003	National, priority areas, 600,000 ha (2005)

Design Features of PES case study programs							
Case	**intermediaries**	**External donor support**	**Seller selection**	**Monitoring**	**Sanctions**	**Conditionally**	**Linked to other policy tools?**
Pimampiro, Ecuador	CEDERENA (NGO)	Inter-American Foundation covered startup costs	Village focus: high threat+ strategic service site	Quarterly site inspection — now deteriorating	Temporary or permanent PES exclusion (applied)	High, lately some decline	Complements weakly enforced Forest Law
PSA, Costa Rica	FONAFIFO (autonomous state agency), with support from SINAC, NGOs, private forest engineers	GEF	Priority areas (currently based on biodiversity and poverty criteria, but water criteria being added)	Compliance monitored by private forest engineers, with sample audited	Loss of future payments	High	Forest Law that created PSA also bans forest clearing
PSAH, Mexico	Water Commission collects, Finance Ministry transfers, Forestry Commission administers	GEF	2003 almost random, 2004 basic grading+ regional balance, 2005 grading in place	Forest cover: yearly satellite image analysis; random (few) site visits	Intentional: current+ future payments cancelled (3 cases in 2 yr) Unintentional (fire etc.): affected area is not paid for	High compliance wrt. forest-cover conservation (water service Not monitored)	Reforestation, plantation, and development programs

Payments to providers in PES case-study programs					
Case	**Mode of Payments**	**Payment amount**	**Timing of payment**	**Differentiation (spatial, other)**	**Contract duration**
Pimampiro, Ecuador	Cash	6–12	Monthly, postmonitoring	Higher for primary vegetation	Initially 5 yr, now unlimited
PSA, Costa Rica	Cash	45-163	Annual, after monitoring compliance	No	5-yr forest conservation (renewable), 15-yr timber plantation
PSAH, Mexico	Cash	27-36	Annual, ex post	Higher for cloud forests	5 yr (conditional renewal)

Table 2. Summary characteristics of Indonesia PES case-study programs

Case, source	Environmental services		Who buys?	Who else benefits	Who sells?	Who initiated?	Start year	Current condition
	Targeted	Paid for						
Sumberjaya, Lampung Province	Watershed ecosystem, plant down stream	microhydro	Forestry Department	People around the watershed and inside the forest	Community	ICRAF, WATALA (local NGO)	2000	12 HKm groups (about 1035 farmers as members) have formed facilitated by ICRAF and Watala
Poverty alleviation for upland poor communities through developing mechanism for rewarding them for the watershed protection services for sustainable use of water in Province of Banten, Indonesi	Watershed ecosystem	the quality of the waterflows from the Cidanau watershed	PT Krakatau Steel, the state water supply enterprise (PDAM)	People around the watershed and inside the forest	Community at Cidanau Watershed	Forum Komunikasi DAS Cidanau	2004	Continue in , second 5 years, The community at the pilot site has to maintain minimal 200 trees at the end of the 5th year with the composition of 70% wood tree and 30% fruit tree.

Design Features of PES case study programs							
Case	**intermediaries**	**External donor support**	**Seller selection**	**Monitoring**	**Sanctions**	**Conditionally**	**Linked to other policy tools?**
Sumberjaya, Lampung Province	ICRAF, WATALA (local NGO)	Ford Foundation, DFID	Communities who have license to get HKm from community groups	no participative process operates.	no participative process operates.	High	Ministry of Forestry Decree No. 31/Kpts-II/2001 to licensed 3 groups of HKm valid for 5 years issued by Bupati Lampung Barat (1st in Indonesia)
Cidanau Watershed, Banten Province	Forum Komunikasi DAS Cidanau	-	Through The negotiation process between FKDC and KTI established ad hoc team that will select monitoring the sellers and the buyers requirements and the rights	Team ad hoc by monitoring monitoring the sellers' and buyers' rights and obligations as well as payment realization schedules,	No information	High	Decree Number 124.3/Kep.64-Huk/02 of the Banten Governor, dated May 24th 2002

Payments to providers in PES case-study programs					
Case	**Mode of Payments**	**Payment amount**	**Timing of payment**	**Differentiation (spatial, other)**	**Contract duration**
Sumberjaya, Lampung Province	obtaining a HKm Initial License, provide MPTs seedings	-	-	Depend on the proposal to the Forestry Service for their licence.	-
Cidanau Watershed, Banten Province	The Negotiation between FKDC and KTI. KTI paid on 1st and 2nd year Rp.3,500,000 per ha yearly for a 50-hectare-pilot-site or the total of Rp. 175,000,000.MoA valid for 5 (five) years or until the year of 2009. PES for 3rd-5th year will be resulted from renegotiation process between FKDC and KT	KTI paid on 1st and 2nd year Rp.3,500,000 per ha yearly for a 50-hectare-pilot-site or the total of Rp. 175,000,000	Yearly after The negotiation process between FKDC and KTI	-	5 years and will be continue after next negotiation between KTI and FKDC.

Table. 3. Characteristics of PES case study programs in West Nusa Tenggara Province

Case Sources	Environmental services		Who buys?	Who else benefits	Who sells?	Who initiated?	Start year	Current condition
	Targeted	Paid for						
PES West Lombok	Water, spring water protection, fresh water consumption, economic	Forest and watershed conservation	Mataram PDAM, west Lombok district community	Local water users	West Lombok district	WWF, West Lombok District governments	2007	Since 2009 take fund from users, now the fund is used for conservation, reform the regulation
Asih Tigasa, Lendangnangka village	Water, spring water protection, fresh water consumption	Forest conservation water consumption, religion purposed	Local village community	Farmer, schools, mosque, hospital, irrigation	Village local government	Local wisdom, local leader, religion leader	1999	Up to now 744 household consumer
PAMDES Salut, Desa Salut Kabupaten Lombok Utara	Forest and water conservation	Forest and water consumption	Local community	Public service, Desa Selangan (Next Village)	TNGR and Local people	Local people	2003	Up to now, 1870 HH consumers from both Salut and Selangan Villages
PAMDES Desa Genggelang, Kabupaten Lombok Utara	Water, spring water protection, fresh water consumption	Forest and water consumption	Local community	Public service, upper village	Village enterprise	Local people	2007	Up to now, 700 HH

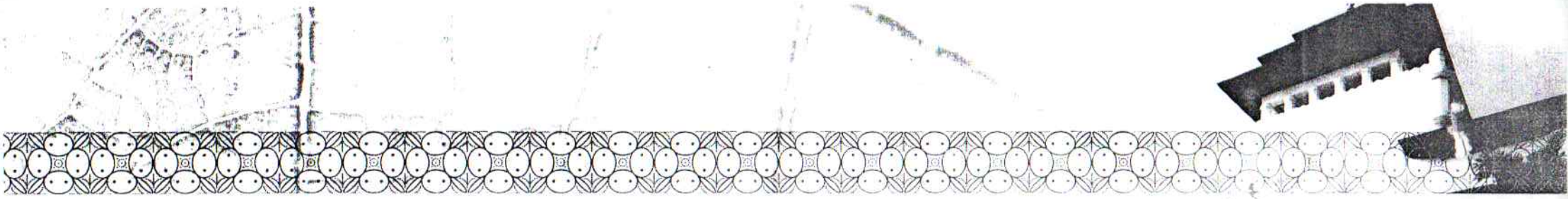
Case Sources	Environmental services		Who buys?	Who else benefits	Who sells?	Who initiated?	Start year	Current condition
	Targeted	Paid for						
Masyarakat Lokal Wanagiri Kabupaten Sumbawa	Spring water and forest	Fresh water and dry land irrigation	Member of subak	-	Subak groups	Local People (imigran people from Bali)	1985	Up to know. 287 hh from 3 subak (subak Ai Lemar, Ai Cente and Ai anak Lemar)
Dusun Meno Kecamatan Rhee Kabupaten Sumbawa	Spring water	Fresh water	Local village community, groups of users, sub village	-	Dusun Temo	Group of water use in Temo Sub Village	2002	All community from Dusun Temo
Sedau Village	Micro hydro	Forest and watershed protection	Local village community, groups of users, sub village	-	Groups of seller	Groups of seller	2010	Have to machines with 32 KW capacity and currently 25 KW being used, occupy 278 HH for 2 sub villages (lembah suren and Dusun Selen

Design Features of PES case study programs							
Case	**intermediaries**	**External donor support**	**Seller selection**	**Monitoring**	**Sanctions**	**Conditionally**	**Linked to other policy tools?**
PES West Lombok	Independent institution from seller and buyer	No	Based on per cubic of water use, all the users in Mataram city	Based on government regulation fur buyers			As a District tool, legally it might be need higher policy to legalization to avoid illegal tasks issues
Asih Tigasa, Lendangnangka village	Private Village Agency	No	Based on religion and local wisdom, community agreement, per cubic of water use and legalization by Village regulation	Based on the report from consumer, to guaranty the transparency the payment will be announced every 3rd week in jum'at pray in mosque	Social sanction based on the religion statement and religion importunity (stealing water is a big sin)	High appreciation by community, need more infrastructure to occupied new consumer	As Village role, it might be need higher regulation.
PAMDES Salut, Desa Salut Kabupaten Lombok Utara	PAMDES Salut Village	No	Community in both villages	By PAMDES, report by village government	By PAMDES	High	-
PAMDES Desa, Genggelang Desa Genggelang Kabupaten Lombok Utara	PAMDES Genggelang Village	Government (PNPM Mandiri)	Community in Genggelang	By PAMDES, report by village government	By PAMDES (Perdes)	High	-

Design Features of PES case study programs							
Case	**intermediaries**	**External donor support**	**Seller selection**	**Monitoring**	**Sanctions**	**Conditionally**	**Linked to other policy tools?**
Masyarakat Lokal Wanagiri Kabupaten Sumbawa	Subak	No	Local Community	2 times a month (local calender) Awiq-awiq (local wisdom)	Awiq-awiq (local wisdom)	High	-
Dusun Meno Kecamatan Rhee Kabupaten Sumbawa	Badan Pengelola (BAPEL) Dusun Temo (Management Agency of Temo Sub Village)	No	Local Community	Monitoring by BAPEL once a 3 months, and depend on the report from users	Based on the agreement, there an activities every month and sanction is pay Rp. 20.000,- for the people whom break the agreement	High	-
PLTMH Aik Mayung, Sedau Village	Group of seller and buyer (PLTMH Aik Mayung)	No	Based on religion and local wisdom, community agreement,	Based on the report from consumer, every six month and yearly	Social sanction	High appreciation by community, need more infrastructure to occupied new consumer	Need regulation for legalization

Payments to providers in PES case-study programs					
Case	**Mode of Payments**	**Payment amount**	**Timing of payment**	**Differentiation (spatial, other)**	**Contract duration**
PES West Lombok	Cash, pay to water agency of Mataram city and transfer to West Lombok district government, transfer to IMP as manager of money distribution then distribute to groups of farmer for forest conservation in up stream	Depend on the use of water per cubic water. 75% back to nature 25% for government	Monthly	The higher the user to consume the water the higher they have to pay	As long as the regulation exist, and now the regulation is on going to be reformed and match with higher role
Asih Tigasa, Lendangnangka village	Cash, consumers pay to private village agency. The agency distribute to mosque, village government for forest conservation, and for incentives and maintenance budged	Rp. 100 per cubic, the distribution consist of 45% for social activity, 20% for village, 5% for village congress and 30% incentives and preparation	Monthly	The higher the user to consume the water the higher they have to pay	No limit
PAMDES Salut, Desa Salut Kabupaten Lombok Utara	Cash as a result of Agreement between all the Villages government and local people from both villages.	Rp. 6500/hh	Monthly	-	-
PAMDES Desa, Genggelang Desa Genggelang Kabupaten Lombok Utara	Cash as a result of Agreement between all the Villages government and local people.	Depend on the water use and category (HH or public) the distribution consist of 80% for management, 20% village, and Rp. 500.000 for upper village	Monthly	-	-

Design Features of PES case study programs					
Case	**Mode of Payments**	**Payment amount**	**Timing of payment**	**Differentiation (spatial, other)**	**Contract duration**
Masyarakat Lokal Wanagiri Kabupaten Sumbawa	Cash Rp. 5000,-/hh/month. Community will pay in the monthly forum in the villages. The distribution of water use will be based on agreement called 'gilir pakai air'.	Rp. 5000,-/hh	Monthly	-	-
Dusun Meno Kecamatan Rhee Kabupaten Sumbawa	Cash. Community will pay at monthly forum in the sub villages and also discuss for monthly work program and annual program.	Rp. 2000,- and Rp. 3000,- a month	Monthly	-	-
Sedau Village	Cash, pay to the head of the group.	Depend on the electricity use. Rp. 500/KWH, Rp. 6000 for 450 watt, Rp.15.000 for 900 watt and Rp.30.000 for 1300 watt	Monthly	The higher the user to consume the electricity the higher they have to pay	-



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