

2016 Pacific Economic Update

Exploring the practicability &
applicability of Payment for Ecosystem
Services in the Protection of Samoa's
selected watershed areas

Problem?

- Fresh water resources are under threat...
- So, we need to pay for water AND nature's role in water production through ecosystem services.

Research Objectives

- To investigate the feasibility of PES in Samoa
- To suggest way(s) of selling the idea of PES to the consumer(s)
- To seek views of the stakeholders...
- To conduct water sample testing from selected rivers of the Vaisigano watershed to determine the extent of organic and inorganic pollutants to strengthen advocacy work for PES schemes.

Methods

- Case study inquiry
- Thematic Analysis
- Focus Group sessions
- Questionnaires
- Water Quality Testing

PES?

- **Putting a price on previously unpriced ecosystem services (Smith et al, 2013)**
- **Promoting conservation where beneficiaries/downstream users pay upstream communities/providers for sustainable resource management practices (Aerni & Neves, 2013)**
- **Creating markets for ecosystem services to be traded (FAO, 2011)**
- **Tool to prevent economic losses related to environmental conservation & boost incomes of land users in a win-win situation (ESCAP 2009)**

PES Principles

- Voluntary-stakeholders enter into PES agreements on a voluntary basis⁶
- Beneficiary Pays
- Additionality-beyond regulatory compliance
- Conditionality-depends on delivery of ecosystem benefits & implementation of sustainable land management practices
- Ensuring Performance-management interventions/practices should be continuous
- Avoiding Leakage –PES scheme in one area should not compromise / degrade ecosystem services elsewhere.

Types of PES schemes

- Public Payment Schemes
- Private-self organized private deals where beneficiaries make direct payments to ecosystem service providers for the protection/restoration of watershed services
- Public-private cost sharing-combination of government and private partnership

Challenges for PES in Samoa?

- **Functioning urban governance systems**
- **Political will to sell the idea**
- **Funding PES**
- **Well defined property rights + secure land tenureship [access.extraction, exclusion...]**
- **Capacity of responsible ministry to take up the challenge**
- **Consistent & comparable valuation methods**

Is PES do-able?

- YES
- But, political will & institutionally feasible
- Determining value [use and non-use values] of ecosystem services
- Identify prospective buyers [private companies, consumers, government]

Water Quality Testing

| Sample Source | M Endo | MFC |
|----------------|---|--|
| Vaisigano 2 | Heavy mixed growth of coliform & heterotrophic bacteria. Single colonies not discernible | Heavy mixed growth with fecal coliforms present. |
| Maagiagi-uta 2 | Heavy mixed growth of coliform & heterotrophic bacteria. Single colonies not discernible | Heavy mixed growth with fecal coliforms present. Single colonies not discernible. |

Biochemical Oxygen Demand

- Sample from Vaisigano 2 [BOD 11mg/L]
- Sample from Lelata 2 [6mg/L]

| BOD level(mg/L) | Status |
|-----------------|---|
| 1-2 mg/L | Clean water with little organic waste |
| 3-5mg/L | Moderately clean with some organic waste |
| 6-9mg/L | Lots of organic material and many bacteria |
| >10mg/L | Very poor water quality. Large amounts of organic material in the water |

So what?

- Negative social-economic impacts
- Algal blooms destroy river aesthetics, threaten water based recreational activities
- Livelihoods
- Reduced property values

Focus groups-emerging themes

- Lima vaivai/mativa/poverty
- Equity & fairness
- Water is nature's free gift, none of your business
- Unbelief
- Benefits
- Paying too much already

Questionnaires

- 65 residents-households living within the villages of the watershed

| | | | |
|---------------------------------------|-----------------|---|--|
| Do you value water? | Yes [95.4%] | No Response [4.6%] | 100% |
| How much value do you place on water? | 1=valuable 7.7% | 2=equal value to other basic needs, 12.3% | 3=highly valuable compared to other basic needs. 80% |

Willingness to pay a water resources conservation surcharge?

- 55.4% yes
- 44.6% no
- If it was required by law?
- 66% yes
- 23% no
- 11% no response, not sure.

Preferred usage of watershed

- Agricultural subsistence 44.6%
- Water & aquatic ecosystem conservation purposes 55.4%

Key informants?

- Business [small to medium] PES is a new concept
- Tourism Sector-activities in conservation are part of their expenses
- Church?
- Big Landowners

Some final statements...

- **Hydrological services are practical and ideal for PES markets, already embedded in the Integrated Water Resources Management framework**
- **Learn from success PES schemes elsewhere & contextualise: European and Latin American experience**
- **Get the 'governance' aspect right**
- **Government support to procure ecosystem services as public goods...**
- **Water tax on big water users-beverage companies, electric power companies, car washing businesses, water retailers**
- **Universal water surcharge 2-4 %?**