

# Payments for ecosystem services



Payments for ecosystem services (PES) are an economic tool whereby users of ecosystem services pay providers of ecosystem service to either continue or improve their provision. Interest in marine PES schemes is emerging, but in 2017 there are few working examples in the WIO.

## Current and potential community level strategies:

- *Community carbon offsetting projects:* sell carbon credits through the voluntary carbon market, the proceeds of which support forest management and community development.
- *Other PES schemes:* under discussion include, in the Seychelles, bottled water companies paying the National Parks Authority for forest management in return for cleaner water and hotels paying marine park authorities for marine park management ensuring a quality marine environment attractive to tourists.

**Assumptions for resilience:** Payments through the scheme support environmental management and restoration, with income and resource benefits resulting for both user and provider of ecosystem services.

## Ecological impacts

### Positive

Limited evidence suggests:

- Improved conservation of resources
- Better protected and managed ecosystems (e.g. mangroves) provide more ecosystem services/benefits.

### Negative

- No evidence was found within the few working examples available, but there was also no clear evidence of success for ecosystem restoration (e.g. mangrove restoration). See report card 13.

## Implications for ecological resilience

- No evidence was found, but the general assumption is that better managed and protected ecosystems should be more resilient to change.

## Social impacts

### Positive

Limited evidence has documented that PES schemes can:

- Support alternative livelihoods and community development initiatives.
- Reduce illegal behaviours (e.g. poaching and logging).

It has been suggested that PES schemes may:

- Increase incomes for producers of ecosystem services.
- Address poverty alleviation, but this may be an unanticipated benefit.
- Potentially facilitate rights clarification.
- Strengthen institutions and support cooperation.

### Negative

Evidence is lacking, but it has been suggested that:

- It can be difficult to ensure equitable, fair and sustainable programmes under communal tenure.
- PES can erode cultural and ethical motivations to protect the environment.
- Participation should be voluntary but poverty may necessitate participation.
- PES schemes can alter access to resources.

## Implications for social resilience

- No evidence is available, but communities may become more resilient if incomes increase and access rights clarified.
- However, resilience may be eroded if access to resources is reduced or through unfair schemes.

**Spatial scale:** Variable

**Temporal scale:** Once functional, payments can be annual or more frequent depending on scheme design.

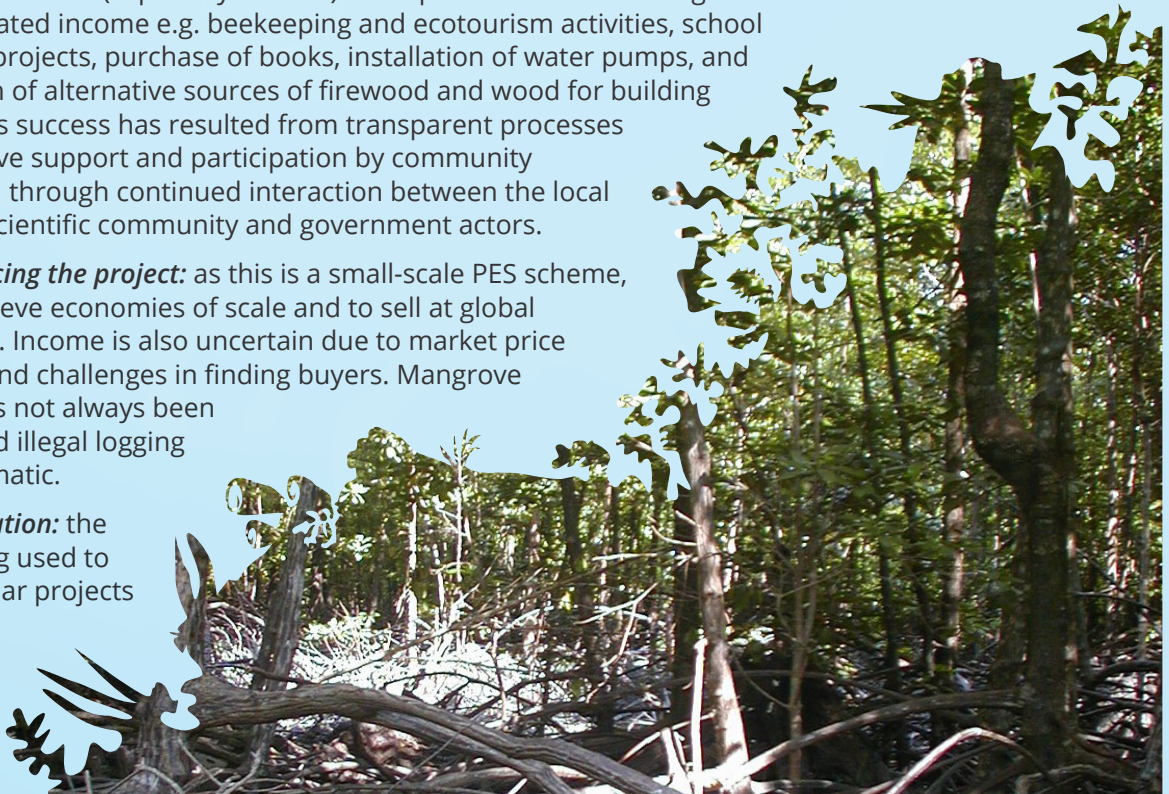
## Case study: Mikoko Pamoja

Located in Gazi Bay, southern Kenya, Mikoko Pamoja is a community-led mangrove conservation and restoration project that uses the sale of carbon credits to support mangrove conservation. Since 2013 the project has been accredited by Plan Vivo to sell 3000 tons of CO<sub>2</sub> equivalent per year on the voluntary carbon market for 20 years. It is the first such community-based project to successfully sell mangrove carbon credits in the world. Project activities include the restoration of degraded mangrove areas, protection of existing mangroves, education on the importance of mangroves in schools and for the public, and funding community development projects.

**Has it been successful?** 117 ha of existing mangrove are now protected with 0.4 ha replanted each year. Gazi community members (especially women) are reported to be benefiting from diversified sources of mangrove-related income e.g. beekeeping and ecotourism activities, school construction projects, purchase of books, installation of water pumps, and the cultivation of alternative sources of firewood and wood for building materials. This success has resulted from transparent processes that have active support and participation by community members and through continued interaction between the local community, scientific community and government actors.

**Challenges facing the project:** as this is a small-scale PES scheme, it hard to achieve economies of scale and to sell at global market prices. Income is also uncertain due to market price fluctuations and challenges in finding buyers. Mangrove replanting has not always been successful and illegal logging is still problematic.

**Future application:** the model is being used to promote similar projects throughout east Africa.



## Further reading

Binet, T., Failler, P., *et al.* 2013. First international payments for marine ecosystem services: the case of Banc d'Arguin National Park, Mauritania. *Global Environmental Change* 23: 1434–1443.

Bladon, A.J., Short, K.M., *et al.* 2016. Payments for ecosystem services in developing world fisheries. *Fish and Fisheries* 17(3): 839–859

Brown, K., Daw, T., *et al.* 2008. Ecosystem services for poverty alleviation: marine and coastal situational analysis synthesis report. <http://www.espa.ac.uk/files/espa/Marine%20and%20Coastal%20-%20Synthesis%20Report.pdf>

Lau, W.W.Y. 2013. Beyond carbon: conceptualising payments for ecosystem services in blue forests on carbon and other marine and coastal ecosystem services. *Ocean and Coastal Management* 83: 5–14

Locatelli, T., Binet, T., *et al.* 2014. Turning the tide: how blue carbon and Payments for Ecosystem Services (PES) might help save mangrove forests. *Ambio* 43(8): 981–995. <http://doi.org/10.1007/s13280-014-0530-y>

Mikoko Pamoja Community Carbon Project. Accessed 2017. <http://www.planvivo.org/project-network/mikoko-pamoja-kenya/>

Mikoko Pamoja Community Organization. 2017. *2015–2016 Plan Vivo Annual Report Mikoko Pamoja*. [http://www.planvivo.org/docs/2016\\_Annual-Report\\_Mikoko-Pamoja\\_.pdf](http://www.planvivo.org/docs/2016_Annual-Report_Mikoko-Pamoja_.pdf)

Mohammed, E.Y. 2012. *Payments for coastal and marine ecosystem services: prospects and principles*. <http://pubs.iied.org/17132IIED/>

Wylie, L., Sutton-Grier, A.E. and Moore, A. 2016. Keys to successful blue carbon projects: Lessons learned from global case studies. *Marine Policy* 65: 76–84.