

Lessons learned from a faith-based approach to conservation in West Sumatra, Indonesia

Jeanne E. McKay

**Durrell Institute of Conservation and Ecology, University of Kent, Canterbury, Kent CT2 7NR, United Kingdom*

The archipelago of Indonesia contains 107 million hectares of tropical rainforest (Harris *et al.*, 2012). This plays a critical role nationally by providing ecosystem services for rural communities and internationally by maintaining biodiversity and contributing to the regulation of climatic systems. Unfortunately, Indonesia, and in particular Sumatra, has high rates of tropical deforestation especially beyond protected areas (Measey, 2010). Thus, innovative approaches to complement mainstay community-based conservation programmes are urgently needed.

Indonesia has the world's largest Muslim population (87% of its 240m population, BPS, 2010) and religion has a strong influence on daily life (Mangunjaya and McKay, 2012). From 2009-2012 a UK government funded Darwin Initiative project entitled, *Integrating religion within Conservation: Islamic beliefs and Sumatran Forest Management* focused on water as an essential ecosystem service for humanity and used this connection as the basis for mobilising community support to protect their forests within Islamic and customary management systems in West Sumatra.

Implemented by the Durrell Institute for Conservation and Ecology, the Darwin Initiative project formed a partnership between a dynamic group of local, national and international stakeholders that worked within two rural communities, Guguk Malalo and Pakan Rabaa Timur, near the West Sumatran provincial capital of Padang, and within Padang itself. Project activities included: participatory mapping of land and forest use systems, conducting biodiversity assessments, creating tree nurseries and agroforest systems to rehabilitate and reforest degraded lands. Partner and project led workshops provided training for religious leaders and local teachers on the teachings of Islam towards the environment and raised awareness within rural and urban communities on the effects of climate change and the importance of forests for water conservation. Training in nursery management included plant care, organic composting and pesticide production (Figure 1). The project also piloted the first ever green mosque campaign that we are aware of in Indonesia, community litter clean-ups and replanting activities around local water sources (using native species from the project nurseries).

Lessons learned

Compiling the first biodiversity assessment reports and maps outlining the ecosystem and natural resource use in both Darwin Initiative project sites provided the information needed for these communities to proceed with their application for customary forest (*hutan*

nagari) status, which grants each community a special autonomy to sustainably manage their natural resources under traditional laws. Leading on from this, and with strong community participation, the project was able to go one step further by overlaying these maps with the religious management systems of *hima* (management zones established for sustainable natural resource use), *harim* (inviolable sanctuaries used for protecting water resources and their services) and *ihya al mawat* (reviving neglected land to become productive) which is a first for Indonesia. This was particularly relevant for the Darwin Initiative project sites because although the stakeholders had identified the above systems as being loosely practised within their communal lands (through the *nagari* system) there was a lack of awareness that these were also Islamic systems. Further, a subsequent lack of institutional capacity to implement them hindered their effectiveness in the sustainable management of forests and their ecosystem services. Thus the community mapping exercises were helpful in providing a comprehensive view of land use from a community perspective, making it more relevant and likely to be sustained over the long-term.



Figure 1. Darwin Initiative project plant nursery in Pakan Rabaa Timur, W. Sumatra (Photo credit: Yoan Dinata)

The green mosque campaign proved so successful in one of our sites (Guguk Malalo) that it received nationwide media attention and went on to win the provincial nomination to represent West Sumatra in a national environmental competition sponsored by the Indonesian Ministry of Forestry. Here, it came fifth out of 25 entries which led to it receiving a special budget allocation and technical support from the Government of Indonesia for its future conservation activities, building upon the framework developed by the Darwin Initiative project. As such, the green mosque campaign was formally

**Corresponding Author's E-mail: jeanne.e.mckay@gmail.com*

adopted by the local council and is being conducted on a yearly basis.

During the Islamic holy month of Ramadan, the project staff supported two *ulamas* (religious leaders) to design and deliver prayer sermons focusing on the importance of water conservation. These were delivered in eight mosques in Padang and in each of the two field sites to over 1,000 men and women. A further 356 students from 10 *pesantrens* (religious boarding schools) were also provided with a water conservation themed curriculum focusing on the importance of watersheds in providing potable water and offsetting the effects of climate change. Over, 874 pre- and post-questionnaires were administered and collected by Darwin Initiative staff and 15 trained volunteers.

The results from before and after the mosque sermon showed that while levels of concern about environmental issues were already high among those entering the mosque (possibly due to project work conducted in the area), the sermon did appear to have raised their levels of concern, as the proportion of those who prioritised the funding of watershed forest conservation was significantly higher in the exit group. The study further showed that younger and better educated respondents tended to correctly identify the ecosystem services provided by watersheds and their threats, whereas on religious issues, women and less educated respondents scored a greater number of correct answers on Islamic teaching on the environment.

The results from the *pesantren* surveys also reflected existing high levels of concern for the environment and a prioritisation for funding watershed protection after the curriculum but here also, it was the female respondents who correctly identified the services provided by watershed forests. Female respondents were also more likely to contribute their time to conservation activities in comparison to their male counterparts. This raises an interesting issue when considering the prominent positions that men hold within Islam and the importance of engaging women in a project of this nature. Throughout the project's duration, the involvement of women and their support in the design and implementation of its activities was met with such success and enthusiasm on their behalf that, coupled with the results previously mentioned, we recommend that similar projects which seek to apply an Islamic approach to conservation actively target their participation in order to achieve greater conservation impact.

Our project differed to mainstay conservation approaches in that it specifically developed an integrated faith-based outreach programme to work not only with religious leaders but also the rural communities that live in closest proximity to the watershed and with the urban communities that derive downstream benefits from this water source. By directly involving

members of the community as a whole (e.g. customary leaders, farmers, women's groups and student groups) in both the planning and implementation of project activities through the participatory rural appraisal technique, a strong sense of ownership and pride was created towards the project, e.g. the now independently-run agroforestry nurseries. It also generated a strong commitment from the two focal communities to continue conducting Darwin Initiative-piloted activities such as the green mosque campaigns, community litter clean-ups and annual replanting activities from the still active nurseries around their water sources.

Within and beyond the two Darwin Initiative project sites in West Sumatra province, Islam plays – and will continue to play – a central role in the daily lives of millions of people. Through religious teaching, the project promoted the importance of biodiversity conservation and its sustainable use to religious leaders who have largely been uninvolved in environmental issues. By also engaging them and their followers in sustainable natural resource management approaches that are explicitly based on their religious principles, the Darwin Initiative project piloted a new conservation model that discouraged forest clearance and promoted the safeguarding of ecosystem services and biodiversity in a way that was both culturally appropriate (through the teachings of Islam) and replicable across most of Indonesia and other predominantly Muslim countries.

For further information, a recently published project case study is now publicly available at:
[http:// www.kent.ac.uk/sac/news/index.html?view=966](http://www.kent.ac.uk/sac/news/index.html?view=966)

ACKNOWLEDGEMENTS

We would like to thank our partners: The Islamic Foundation for Ecology and Environmental Sciences, Fauna & Flora International-Indonesia Programme, British Council, Conservation International-Indonesia, Indonesian Conservation of Natural Resources-West Sumatra, Department of Forestry, the University of Andalas and Qbar and the communities of Guguk Malalo and Pakan Rabaa Timur.

REFERENCES

- Harris, N.L., Brown, S., Hagen, S.C., Saatchi, S.S., Petrova, S., Salas, W., Hansen, M.C., Potapov, P.V., Lotsch, A. (2012) Baseline Map of Carbon Emissions from Deforestation in Tropical Regions, *Science* 22:1573-1576.
- Mangunjaya, F.M. & McKay, J.E. (2012) Reviving and Islamic approach for Environmental Conservation in Indonesia, *Worldviews* 16: 286-305.
- Measey, M. (2010) Indonesia: A Vulnerable Country in the Face of Climate Change. *Global Majority E-Journal* 1: 131-145.