

Sahabat Lahan Indonesia and the Merapi Landcare program

By Victoria Mack

Director, Secretariat for International Landcare (SILC)

Report of visit in November 2013

Background: The villages of Samiran and Lencoh are two of a cluster of ten sub-villages, or suburbs, which make up the Selo village with a population of approximately 27,000. Selo lies generally on the north eastern slope of Mt Merapi, the most active volcano in Indonesia which last erupted in November 2010. The 2010 Merapi eruption caused significant losses to the Selo communities devastating established crops, newly planted trees and tree nurseries. The volcano presents an ever present risk to all the villages located on its slopes, however, the southern slope villages are historically most at risk. Local and regional authorities have vigilantly expanded emergency management and disaster preparedness procedures since 2010. It is not a case of if, but when Merapi erupts again¹.

Merapi Landcare commenced in 2009. An update of Merapi Landcare activities is detailed below:

'Sahabat Lahan Indonesia' (SLI): After the 2012 Sydney Landcare Conference the three Indonesian delegates agreed that an Indonesian Landcare organisation should be established to advance Landcare principles in Indonesia. *Sahabat Lahan Indonesia* was formed on January 23rd, 2013, through Legal Decree No. 38.

Professor Sambas Sabarnurdin, M.Sc (an agroforestry expert and lecturer at the Gadjah Mada University) was elected as Chief of the Board of Trustees and Mr. Yudo Istato (forestry expert) was elected as Chairman.

In November 2013, SILC Director Victoria Mack met with Dr. Sambas and Mr Yudo in Yogyakarta and also Dr. Satyawan Pudyatmoko, Dean of the Faculty of Forestry at the Gadjah Mada University (UGM). Dr. Pudyatmoko offered interdisciplinary support for the SLI project across UGM faculties when required. Also included in the discussion was the possibility of organising an Indonesian Landcare Master Class in Java in the future.

Biogas developments: A major project being pursued by the Samiran and Lencoh villagers is the construction of biogas installations to replace up to 90% of the energy required for cooking, and in some instances lighting. Biogas reduces the need for firewood harvesting from private and public land, (particularly native forest in the Merapi and Merbabu National Parks) and/or the cost of purchasing firewood and LPG. In early trials the cost savings are significant with up to 75% reduction in purchased energy being recorded. Importantly, time is saved from collecting firewood each week which

Since November 2011, over 28 biogas installations have been constructed with at least two more under construction at the time of my visit. The 'customised' concrete *Merapi* biogas plant is proving to highly successful. It is a modified version of the dozen or so more expensive plants that have been constructed in the village by government and NGOs over recent years. The *Merapi* version is proving to be cost effective, simple to construct and can operate with even just one cow in a household.

The SLI objective is to construct 100–130 biogas installations by June 2015. The cost of materials for each installation is approximately USD300 and this material cost is paid by each participating family, with construction labour provided on a volunteer roster basis by the community. In some instances funds are loaned to families wishing to construct a biogas plant using a revolving credit scheme, funded and managed by the community. Each installation takes about 14 days to construct. The repayment period for a biogas installation through energy cost savings is approximately 17 months. The key to this project is that it is successful and this success has encouraged a higher level of entrepreneurial thinking and activity in the community. *"If we can do this then what else can we do?"*



SLI meeting at UGM: From left: Uyung Pramudiyanto (SLI facilitator), Dr. Satyawan Pudyatmoko (Dean of the Faculty of Forestry UGM), Victoria Mack (Director SILC), Yudo Istato, (Chair Sahabat Lahan Indonesia SLI) and Prof. Dr. Sambas Sabarnurdin (Chair Board of Trustees SLI). Photo: SILC Nov. 2013.



Biogas installation under construction.
Photo: SILC Nov. 2013

¹ More information about the Merapi volcano can be found at this link: <http://earthquake-report.com/2012/01/11/hazard-map-assessment-of-mount-merapi-central-java-indonesia-using-remote-sensing/>

Biogas provides multiple benefits including:

- Alternative energy source replacing fire wood for cooking and in some cases lighting.
- A saving per family of up to, on average, USD18 per month on the cost of fire wood and LPG for cooking.
- A significant time saving per month in collecting firewood from private or public land.
- A reduction in demand on declining forest reserves from both private and public land.
- Improved health, particularly for women and children, with reduced smoke from wood fires in family kitchens.
- A waste product that provides valuable semi-liquid fertiliser which can be spread on farm land or bagged and sold, or mixed with organic matter and to make potting mix for bagged vegetable production.

Neighbouring village extension: A biogas sideline is that two Merapi Landcare facilitators, Sartono and Suwardi, have responded to requests for information and training in biogas construction from a number of villages across Java. In the last year, ten workshops have been run ranging from two days (theory only) to five days where a demonstration model is commenced. Demand is growing for information about what the Samiran and Lencoh communities are up to! The communities are also noticing that their programs are attracting attention.

Cheese processing: Sutar, together with a group of seven Selo dairy farmers, is working with Dutch expatriate Hans Binnendijk to turn Merapi fresh milk into two types of cheese: Gouda and Parmesan. Hans has invested in a high quality cheese factory next to his house on the Merbabu slopes and trial cheese production is well underway. This is a significant project for the area as the value adding potential is significant. A dairy hygiene study group has been formed to increase the quality and quantity of milk produced for the factory. Sutar and Hans are currently in the process of purchasing 18 high quality dairy cows from the government research and breeding farm to enhance the quality and quantity of milk produced.



Hans Binnendijk's Cheese factory. From left: Hans, Yudo and Sutar.
Photo: Uyung Pramundiyanto 2013.

Merapi Merbabu Community Radio station: In September 2010 a donation by the Victorian Dhurringile & District Landcare Group in Australia, of AUD500, helped the Merapi Landcare group repair a broken radio transmitter. From this small donation the Merapi Merbabu Community Radio (MMCR) was born, which today is a highly valued communication link in the Selo area. Mujianto is the leader of the radio station project group supported by 15 other volunteers. While no audience data is yet available they advised that activity has increased over the last 12 months including: recording off-line interviews for later broadcast; advertising; and live chat (and text) forums on local issues – all of which are proving popular. Mujianto is also a leader in the local rescue service in the Merapi area. The radio station is playing a key role in local communication for emergency management strategies, including training, in the event of another Merapi eruption.

The Japanese group *Combine* have donated a small amount of funding over three years to support 'disaster management communications development' particularly community radio stations. In addition to Selo they are also supporting communities in Magelang, Klaten and Sleman. Four community radio representatives will attend training in disaster management communications and technology in Japan in 2014. Mujianto will be the Selo representative. Mujianto has also established links with the Governor of Central Java, Ganjar Pranowo, who has key interests in biogas, food security and micro credit arrangements to expand local cattle production.

Conservation planting and tree nursery: Mujianto is also the leader of the conservation planting program with a team of volunteers. Plants are propagated from seed or cuttings in several nurseries across the villages.

Species include vetiver grass for erosion control, a range of indigenous species for environmental plantings and some species with commercial opportunity for timber, fruit and seed. Over 6ha of native conservation plantings have been completed since 2010 and vegetation cover is increasing on public and private land. Australian Landcare International (ALI) in conjunction with the Neerim District Secondary College in Victoria, Australia, has provided a small grant of AUD500 which will be used to extend the nursery operations for 2013 – 2014, with seedlings to be



New Hot house constructed beside the Landcare Centre.
Photo: SILC Nov. 2013

grown in the nursery from December 2013 to March 2014 and planting to commence mid-2014.

Women's group: The women are manufacturing a product derived from milk they call 'Dodol'. Fresh milk is mixed with sugar and sticky rice flour to create a soft sweet which is packed into small boxes for local sale. The women are working to expand the shelf life of the product and obtain required health department registration. The women's group were recently filmed by an Indonesian National Television showing how they made and packed the 'Dodol'

The women are also involved on a project that involves propagating vegetables in bags. Since my last visit in 2012, the Samiran streets are now lined with hundreds of bags full of onions and other seasonal vegetables.

A new plastic hot house has also been constructed beside the Landcare Centre where commercial seedlings and shallots will be raised. The shallots are a new enterprise with seed shallots being purchased for propagation from a neighbouring village. Once sufficient shallots have been grown they will be on-sold to other Selo farmers. A small community library has also commenced with donated books to establish a collection of agricultural, handicraft and children's books in Samiran village. This is managed by the women's group.

2010 Merapi Eruption relief donations: An interesting story from the 2010 eruption is that private donations given by Australian supporters, and others, rather than being distributed as immediate emergency aid, were saved and divided between Samiran and Lencoh Landcare groups. This money was then used to start two micro credit loan schemes which have, since 2010, assisted in the purchase of seed, many tonnes of fertiliser and approximately a dozen cows. Careful records are kept and today both funds have grown significantly. The donations have resulted in an ongoing and sustainable revolving loan fund for the community.

Summary: Since 2009, SILC has been privileged to visit this area and contribute in a small way to their Landcare story. The people of Samiran, Lencoh and Selo tend to understate their progress, but to an outsider the changes observed over five years are significant and sustainable. For them their challenge is to continue to improve livelihoods and opportunity for their community. The communities do not rely on any outside funding. They are resilient and fund their projects themselves. This is possible because of their strong social networks and social capital. The growth in the women's group is significant with their membership growing from 28 to over 50 in the last year. Their husbands now complain because they are too busy! Community leaders and facilitators are all engaged in significant change projects. While they may not always see what they are achieving because they are so close to it, their achievements are considerable. Funds to undertake extensive monitoring and evaluation would be beneficial and external financial support would greatly assist to accelerate their programs.

My thanks go to Ujung Pramudiyanto, Sutar, Sartono, Mujianto, Widodo, Murti, Narti and Siti Ngasiah and the rest of the Peduli Lahan team for showing SILC what can be achieved with vision, energy, patience and persistence.

The challenge for International Landcare is to help to extend this emerging success story to other parts of Indonesia and beyond. It is not necessarily their job, but also ours.

Congratulations teman-teman saya

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Leaders of the women's group: From left: Murti, Narti and Siti Ngasiah (with baby) at the Landcare Centre, Peduli Lahan Photo: SILC Nov. 2013



'Onion Street'. Photo: SILC Nov. 2013

