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QUOTE

“Perhutani could not manage the forests under its authority by itself, in particular the areas designated as community-based forest management”

IR. NANANG SUWANDI MP, THE HEAD OF PERHUTANI FOR KPH BANDUNG UTARA



Precious treasure Breathtaking natural resource such as the waterfall above will diminish within years if the surrounding watershed is left unmanaged.

MONIQUE SUMAMPOW

Towards Sustainable Watershed Management

The application of three basic principles can result in the sustainable watershed management for the benefit of all stakeholders.

Jakarta. According to data from the Department of Forestry, in 2007, 62 of the 420 watersheds in the country were categorized as critical, a situation which resulted in a deficit of 32,347 cubic meters of water on the island of Java.

The impact of these numbers can be seen in the critical condition of the watershed environments and the various problems and disasters faced there, including erosion, floods, landslides, and the loss of natural springs, as well as the occurrence of droughts, and the conversion of land function.



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In other words, the critical status of the watersheds translates into crises that disturb human activities and living. Water supplies are diminishing, meaning that the people living near the river are being forced to seek water elsewhere, including resorting to buying it from suppliers, which means their expenses are increasing although their incomes may not be.

Data on the social and economic damage done by this situation indicate that there actually have been “Early Warning System” signals from the natural environment itself. The frequency of natural disasters is one of the most important variables that should be taken as one of the basic principles of watershed management. Once nature has begun exhibiting such preliminary signs of pressure on the environment as warnings that water resources might not be able to continue to meet the needs of the human populace, we must immediately consider what efforts we must immediately make to protect our water resources through integrated management of our watersheds.

Protective efforts will not be enough. With the current threat of global warming in the forestry and agricultural sectors, water supplies for the human populace are also in danger. Therefore, new agricultural planting patterns that can adjust to climate changes must be found. Thus, the second principle of integrated watershed management involves protection, adaptation and mitigation.

The third principle is based on “the management of sustainable utilization of resources” or the continuous sustainable handling of resources. This means that each attempt at protection, rehabilitation or adaptation that is undertaken must actively involve the concerned community through local organizations or watershed forums that become directly involved in the protection and rehabilitation of watersheds.

■ **MONIQUE SUMAMPOW, ESP JAKARTA**



An heritage to our grandchildren With proper and sound management, it is possible that Indonesia's rich natural resources will remain existed for hundred years to come.

MONIQUE SUMAMPOW

“Protective efforts will not be enough. With the current threat of global warming in the forestry and agricultural sectors, water supplies for the human populace are also in danger”

Biogas Frenzy Spurs Creativity in Argosari

Two residents of Argosari wanted to do more than just dream. They conducted an experiment that will improve the lives of the people of Argosari.

Malang. The Field School might be over, but the desire to learn among farmer participants in Argosari Village, Malang, East Java, has just begun. In fact, it grew fast.

It all started with the biogas “frenzy” surrounding the technology that can change the methane gas in livestock waste into cooking gas. Because of this simple technology, the people in Argosari, located on the slopes of Mount Semeru, no longer have to hunt for firewood in the forest for cooking, due to the high price of kerosene.

Recently, as is the case with other villages all over Indonesia, the enthusiasm for converting gas is also being felt in Argosari. A three-kilogram gas tank has been provided through the BLT (Bantuan Langsung Tunai or cash aid) program for all households in the village. Unfortunately, another problem has arisen in Argosari; over time, the distribution of the gas has become increasingly undependable, with supplies eventually disappearing from the market altogether. What gas is available now is certain to be very expensive.

In light of this situation, two young Argosari residents, Nanang and Slamet Djahroni felt challenged to find a simple but creative solution. With only Rp. 600,000, they carried out an experiment for replacing the Liquid Petroleum Gas (LPG) from Pertamina with methane gas resulting from the fermentation of livestock manure in Argosari.

“This experiment is not completed yet; we still have to perfect some things. We need to keep trying and trying, and discussing the results with various parties in order that our simple process can be implemented for the benefit of the public”



Little experiment, big value Nanang and Slamet conducted a small experiment which is expected to bring a major impact on Argosari residents.

ISMARI

“The installation of biogas processors is really booming in Argosari now. Almost every home has a BLT gas tank now, but what happens when the LPG supplies run out; what can you fill them with then?” Nanang and Slamet, both alumni of the Field School, asked themselves.

The research process that Nanang and Slamet undertook was simple enough. They adopted the technology usually employed by Air Conditioning technicians when draining and filling freon supplies. In order to remove the contents or air in the tanks, they used a mini-compressor connected to a pipe and spigot. They used the same equipment to fill the tanks with biogas/methane. In order to measure the pressure of the gas to get the standard level they wanted, Nanang and Slamet used a manometer.

From this research experiment, they learned that 110 psi of methane gas could be used to cook up to four minutes. With this benchmark, they were able to determine how much gas would be needed to operate a stove for 30 minutes.

“This experiment is not completed yet, we still have to perfect some things. We need to keep trying and trying, and discussing the results with various parties in order that our simple process can be implemented for the benefit of the public,” Slamet said.

Slamet and Nanang may not have had the opportunity to see the film “Laskar Pelangi” yet, but they are both dreaming big and working hard to bring their vision into reality; a theme conveyed so well through the lyrics from the soundtrack of that film that say: “A dream is the key to unlocking the possibilities of the world ...”

■ ISMARI, ESP EAST JAVA

Absorption Wells Reduce Risk of Flooding

The 20 absorption wells installed in the area around Batukarut spring have resulted in the reduction of flooding in the villages near the well sites.

Bandung. How do absorption wells reduce the risk of flooding? From the results of the development of absorption wells in Batukarut, Lembang, West Java, there seem to be three reasons and impacts.

The volume of water the wells can absorb is fairly large at 8 cubic meters. This means that the creation of 10 wells will result in as much as 80 cubic meters of water being absorbed directly into the soil. Within 5 minutes, the water absorbed into the well will have found its way into groundwater channels. If rainfall in the areas around the wells lasts 3 hours (120 minutes), as much as 4,620 cubic meters of water can be absorbed into the ground.

The farmers involved in the development of the absorption wells are well aware of where they should be placed; they install the wells near the drainage areas through which the water runs the heaviest during rainstorms.



A struggle A woman carrying a bucket of water which she fetched with struggle from a water source far from her home.

ARMAN ABDUL ROHMAN

“The farmers involved in the development of the absorption wells are well aware of where they should be placed; they install the wells near the drainage areas through which the water runs the heaviest during rainstorms”



Quality well The quality of these wells is excellent. The farmers are careful to seek out and use only the best materials, including gravel, natural fibers, and plastic.

ARMAN ABDUL ROHMAN

The quality of these wells is excellent. The farmers are careful to seek out and use only the best materials, including gravel, natural fibers, and plastic. The construction of the wells is also very thorough and careful because the farmers understand that the better the quality of the well, the greater the capacity of the well to contain and absorb rainfall.

At this time, the farmers of Batukarut, along with the NGO Raptor Conservation Society (RSC) and ESP, are carrying out a study of the impact of the installation of absorption wells on the groundwater levels and the levels in the wells of the local people. ESP is also assisting the local people living around the Batukarut spring with the proper management of sanitation, including toilet and septic facilities, in order to ensure that the water flowing from fresh water sources, such as the absorption wells is not contaminated by waste.

■ **ARMAN ABDUL ROHMAN, ESP WEST JAVA**

Perhutani and Public Open Up Dialog on Improving River Basin Conditions

Representatives from three sub-watershed village communities met with Perhutani Forestry Agency officials to discuss how to improve community-based forest management.

Bandung. On November 11, 2008, representatives from Cikole, Jayagiri, Cikidang, Wangunharja, Cibodas and Suntenjaya villages in the Cikapundung, West Java, sub-watershed bordering on Perhutani land initiated a dialog with Perhutani officials in an effort to establish inter-group collaboration toward community based management of forestry resources.

No fewer than 60 people representing various village groups, such as PORTAB, YPC and Yayasan Lestari, gathered to discuss management of the Perhutani forest that would involve their communities directly as an element of the implementation of the management of the Cigulung and Cikapundung sub-river basin areas.

During this dialog, the Head of Perhutani for KPH Bandung Utara, Ir. Nanang Suwandi MP., said that Perhutani could not manage the forests under its authority by itself, in particular the areas designated as community-based management areas. Nanang said he expected that all parties having activities in Perhutani supervised forest regions would coordinate with LMDH (Lembaga Masyarakat Desa Hutan or forest communities organization), which are supported by Perhutani.

This dialog is the initial step toward establishing cooperation between the local communities and Perhutani concerning the management of forestry resources toward the cultivation of coffee as one of the efforts of the community to maintain ecological balance in the watershed areas of Cikapundung, while improving the welfare of the people living along the edges of the forest.

■ ELIS WIDYANINGSIH, ESP WEST JAVA



Dialogue for nature Village representatives and Perhutani discussing what is best to improve community-based forest management efforts.

ELIS WIDYANINGSIH

“Perhutani could not manage the forests under its authority by itself, in particular the areas designated as community-based forest management”

Saving Villages through Ecological Agriculture

A number of methods are applicable to conserve the environmental ecosystems of villages. One of which is to initiate Field School Ecological Agriculture activities.

Medan. Recently, farming has been the center of discussion in the Village of Durin Sirugun-Derek, North Sumatera. The demand for chemical fertilizer and pesticides is high, and the prices are so high they are unaffordable by farmers due to lack of supply. In the meantime, ESP, in its efforts to preserve and protect water catchment areas, has been assisting the people of Durin Sirugun-Derek in learning about land management in and around their homes through the ecological agriculture Field School, starting at the beginning of April 2008.

At this field school, local farmers learn about how to apply environmentally friendly farming practices and how to manage their orchards and cultivated fields by themselves through the utilization of the existing natural resources around them.

In order to meet their needs for fertilizer, for example, the participants of the Durin Sirugun Field School are making compost from materials collected from around their fields and local environment, including livestock droppings, leaves, sawdust, and household waste. "Besides the Field School participants, other farmers are also beginning to take an interest in compost making, although they are a bit shy about it," Rudi Tarigan, 28, said.

The first crop to be experimented with by the FS Durin Sirugun-Derek group was green beans. They used a 20 meter x 20 meter plot of land for the trial. "We got an average of 10 to 20 each time we picked from the five rows of green beans we planted. Beans tend to yield up to 10 harvests for us, and the only real expense we have is buying the seeds. What we learn from the test plot, we apply in our gardens," Rudi, who is the trusted head of FS Derek Permai Ekologis, said.

The Ecological Agriculture Field School is not only analyzing and discussing garden ecosystems, it is applying the group learning concept directly in the locals' fields so that they become aware of the cause and effect aspects of cultivation on ecosystems. They are becoming aware that there is an inseparable connection among the garden, forest, river and human habitat ecosystems. The Field School also provides them a forum in which to improve and develop themselves.

"The learning process has given me a lot more confidence. There was one course about observing the plants; for example, observing which pests and natural enemies were affecting the green beans. After each observation trip, we had a chance to discuss what we saw. At first, I was afraid to put forth my thoughts, but because the learning environment was so supportive, I gained courage about telling the other participants what I thought. The Field School is not just a matter of learning about plants and cultivation, it gives us a chance to learn to speak in public," Nande Agus, 30, said enthusiastically.

■ **RIDAHATI RAMBEY & DINA KARTIKA SARI, ESP NORTH SUMATRA**



Analyzing nature Participants of field school in Durin-Sirugun Derek are observing plants as part of an effort to know more about living environment in their village .

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