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Small Grants Programme

Indonesia

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Welcoming Speech

Assalamu'alaikum Wr. Wb. May peace be upon us

e cannot deny that biodiversity and climate change are closely interrelated. Nowadays, the conditions of the environment have raised very deep concerns with biodiversity facing bigger threats. The conditions call for attention of all components of communities.

As we all know, climate change has affected some components of biodiversity, such as changes in distribution patterns, increasing threat of extinction to certain species or habitats, changes in reproduction time, and changes in planting seasons. If we can manage biodiversity well, the impacts of climate change can be indirectly reduced.

The book "Tracing Footsteps towards Self-reliant Community" prepared by GEF SGP Indonesia along with the associated communities, practitioners and scientists having been actively involved in programme implementation so far – tries to elaborate positive initiatives emerging in the society to address climate change challenges through management of the existing biodiversity.

The lesson of efficient management of GEF SGP's funding to establish efficient environmental management should be publicly known by all stakeholders.

The Indonesia's Ministry of Environment, as the focal point of the collaborative programme of GEF and Yayasan Bina Usaha Lingkungan (YBUL) as the host of GEF SGP Indonesia, proudly delivers a collection of notes and reflections of people's initiative, strength, experience and knowledge in addressing their respective challenges. These small initiatives are expected to bring global and sustainable impacts on efforts to develop global movements to save the environment.

Jakarta, March 2010, The Minister of Environment,

Prof. Dr. Ir. Gusti Muhammad Hatta, MS.

C limate change has called for participation of many parties, including local communities. The impacts of climate change have been felt in daily lives, notably the variability of climate, which affects the quality and quantity of water, food, and energy. GEF SGP Indonesia tries to prevent all the adverse impacts by providing fund to support environmental programs. GEF SGP Indonesia's programs cover local power plants, conservation areas, marketing of local products, mangrove utilization, and others. These environmental programs are all documented in this book.

The book contains many inspiring stories about people's addressing challenges to reduce the impacts of global warming and to prevent climate change. One of the highlights is people's learning process in managing the grant from GEF SGP for environmental actions. The book is expected to contribute to more effective and efficient management of future environmental programs.

The book also documents people's participation in addressing environmental problems, notably those related to climate change. The book is the collection of environmental programs implemented by GEF SGP's partners from 2006 through 2009. Lessons on the importance of efficient management of GEF SGP's grant for effective environmental programs need to be publicly

Foreword

known, especially to those related to and responsible for environmental management.

On this occasion, we would like to express our sincere thanks and appreciation to those having assisted and actively contributing to the preparation of the book. We expect that the book can become a reference for all, notably local peoples, to help address climate change impacts as well as global environmental problems.

The Secretary of the Minister of Environment, Indonesia GEF SGP Focal Point December 2009 - January 2011,

Arief Yuwono

Introduction

Creating Synergy to Support Community-Based Biodiversity Conservation and Climate Change Mitigation

Despite unsatisfactory results from Bali COP 2007 to Copenhagen COP 2009, the global community still has a hope to prevent the increasing global warming and to slow down global degradation. Many reports speak of negotiators, governments' heads, scientists, policy makers and activists seeking global, serious and legally-binding agreement to cut down carbon emission, at a level enough for the earth and all living things on it to just survive. Among the discourses, wise words, statistical figures and scientists' recommendations, anecdotes and social ecological analyses scatter like sand on the beach. Generally, these small stories are presented in side events and never find their way to the main negotiation tables where the fate of the civilisation and future generations are decided.

The United Nations, though its environmental conventions such as the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), has been trying to open wider access to civil society's participation to draw the negotiation arena closer to them. This book represents a kind of active documentation to bring people and their contribution closer to the two big topics that will determine the direction and the outputs of CBD and UNFCCC, particularly in relation to climate change mitigation at local, national and global level.

Global Environment Facility-Small Grants Programme (GEF SGP) is one of the funding facility mechanism to support community's initiatives to reinforce government's commitment to CBD, UNFCCC and other environmental conventions. This facility has been playing a specific role since 1992 in ensuring the concrete realisation of the commitments made in each convention stage. Through this second book, GEF SGP Indonesia once again presents stories to plant the hope that all parties and citizens of the world can contribute to reduce causes of climate change through renewable energy, sustainable forest management and, much more pressingly, management of forest conservation areas with critical ecosystems.

The 15 years of program implementation show that community-based approaches in conservation of customary forests, coasts, and other protected areas have taught an important lesson on respect to basic human rights and natural resource management rights of local and indigenous peoples. Along with more than 300 vulnerable community groups and grant investment fetching more than USD5,000,000, GEF SGP Indonesia has documented important lessons on a more accountable and transparent public and multilateral fund management by means of output-oriented and costefficient approaches.

It should be noted that each initiative supported has given the same invaluable contribution as GEF SGP to community's ownership and multistakeholder's contribution at sensitive momentum, to demonstrate collective accountability in forest and coastal resource conservation. Innovative and inspiratory examples along with the learning process can be found in the beneficiaries' narration on the following pages.

The preparation of the book and the community videos has taught us an important lesson on systematical image documentation and learning notes as the proof of accountability as well as of honest and transparent collection of knowledge. GEF SGP Indonesia expects that the book can reinforce community's offers and small grant programs to strengthen and extend funding access and support for community-based initiatives, which give a clearer picture of inseparable relation between biodiversity conservation and climate change mitigation. All the documented lessons give more strength to argument about the significance of supporting mitigation as part of adaptation planning, at local up to global level.

Threats and challenges faced in our efforts to prevent 2 C rise in temperature by the mid-century are becoming clearer and more structured. Notes on the inspiring stories in the book leave a question on certainty in fulfillment of access right and natural resource management model agreed to by governmental institutions, the private sector and communities. The vulnerability level of communities as the affected groups and the most important part of the solution to climate change has become clearer. There should be no more time to waste. No other ways are in sight but collaboratively making a synergy to support millions of community's initiatives to reduce carbon emission while at the same time paying attention to their voice to preserve their sources of livelihood and future generations.

Last but not the least, GEF SGP would like to express many thanks to Ford Foundation, which has supported efforts to document the lessons from community's perspective and publication of the book. The program expects that the synergy between GEF SGP and Ford Foundation can continue and even be extended to include other like-minded groups. The program is also greatly indebted to the hard work of the program partners, supporting communities, as well as to all members of the GEF SGP National Team, members of the National Steering Committee, UNDP, the Ministry of Environment and YBUL as the important driver of the implementation of the entire program and institutional arrangement.

Jakarta, 3 February 2010

Catharina Dwihastarini National Coordinator GEF SGP Indonesia 2009-now

Avi Mahaningtyas

National Coordinator GEF SGP Indonesia 2002-2009

GEF SGP Indonesia: a Historical

everal studies predict that Indonesia will face crisis in water, food and energy. In addition to the declining quality and quantity of water, Analysis of the National Natural Resources and Environment (Bappenas, 2007) reports that even today the quality of soil and air declines and climate variability increases. While the impacts still cannot be financially and economically valued, they have been observed in daily lives.

Water, Food and Energy

Water supplies are greatly threatened by degradation of forests and their functions. Besides, its fluctuation is mostly influenced by climate change. Longer droughts and shorter wet seasons with relatively high intensity adversely affect cultivation cycles. These, compounded by the declining quality of soil after being overstimulated by chemicals and massive conversion, threaten the national food security..

With the projected total population of 273.2 millions (BPS-Bappenas, 2005), the year 2025 will see the need for 38 million tonnes of rice annually. The unequal distribution of infrastructure and facilities creates many food insecurity pockets throughout the country.

GEF SGP Indonesia has supported the grass roots' movement in biodiversity conservation, climate change mitigation, termination of land degradation

and reduction of international waters' pollution. GEF SGP Indonesia integrates the Millenium Development Goals (MDGs) into its projects' conceptualisation and implementation to help community's initiatives to reduce poverty through sustainable development in critical ecosystems.

BPS-Bappenas also projects that the electricity need in 2025 will reach 132 billion kWHs/capita/year. As dependency on carbon-high fossil fuel must be reduced, non-optimised use of water resources will also affect the capacity to provide energy. Indonesia' energy sector is among the largest GHGs' emitters. CO2 emission per capita keeps increasing as well. GEF SGP helps eliminate obstacles to renewable energy development through energy conservation, maximisation of renewable energy use and conversion from carbon fuel to cleaner fuel.

GEF SGP Indonesia has been operating for almost two decades through 4 operational phases (OP): the kick-off phase (Oct 1992-Jun1996), OP I (Jul 1996-Dec 1998), OP II (Jan 1999-Feb 2004), OP III (Mar 2004-Feb2007) and now OP IV (Jul 2007-Jun 2010).

In relation to renewable energy development, GEF SGP aims at creating energy self-reliance villages. The target is mainly 52% of households currently not enjoying electricity service from PLN (the

Indonesia's National Electricity Enterprise), with focus on regions bordering conservation areas. Up to mid-OP IV, GEF SGP has facilitated the construction of 14 microhydro plants. However, the allocation of the 50% fund for development of clean energy and energy efficiency, as set in the beginning of the phase, is not realised.

Given the fact that the grant to disburse lies in the USD2,000-50,000 range with 2-4 months of project durations, not many technological innovations have been involved. The documented achievements include increasing group dynamics in the related communities with electricity need fulfillment issue serving as the entry point. It should be noted that all the alternative-energy projects are closely related to conservation areas, or locations with high biodiversity or critical conditions.

Biodiversity

Indonesia is among the ten countries with the highest level of biodiversity. Indonesia (18) ranks third after Brazil (30) and Colombia (26). With regard to endemism, however, Indonesia is the highest. It is estimated that Indonesia harbors about 90 kinds of ecosystem, from deep waters, coral reefs, seagrass, mangroves, coasts and estuaries, wetland, grassland, savannah, coastal forests, lowland tropical forests, montane forests to moss land and snowland on top of Jayawijaya Mountains.

Opening Phase Biodiversity - 100% View

Phase I Biodiversity - 82% Combined - 32% Climate Change - 6%

As field researches develop, the number of the biodiversity in these ecosystems may increase or decrease due to the exploitation methods applied and the impacts of climate change.

The Indonesia's Department of Forestry says that in the future Indonesia will lose 1-50 species annually. The Indonesia's State Ministry of Environment estimates that one species becomes extinct every day. More detailedly, information on Indonesia's biodiversity richness and threat level can be found in reports by various international agencies. One of the most complete ones is the Red List of IUCN about traded flora and fauna. In fact, of the 267 Dipterocarpaceae species found in Kalimantan (Newman, et.al.1999), not more than twenty species are used in commercial timber trade, while so many species die, or even become extinct during the logging.

The Bappenas's book entitled Indonesia's Biodiversity Strategy and Action Plan (IBSAP) issued in 2003 indicates that the level of ecosystem degradation, extinction threat and genetic resource erosion in Indonesia increase every year. In short, Indonesia faces crisis in biodiversity. How bad is the crisis? Genetic diversity decline has not been well documented. In general, when ecosystems and species are threatened, the genetic biodiversity erosion also occurs. One of the

important sources for biodiversity information is indigenous and local peoples. OP IV also aims at making effective the mapping of ecological threats collaborative management.

The year 2010 is the second year of the Action Stabilisation phase (2009-2020) in the IBSAP's Implementation Strategy. It is said that in the end of this third phase, a sustainable biodiversity management will have been established. Degradation to biodiversity has happened in large scale due to unsustainable forest management, including fires, human's activities inside forests, logging and conversion. Since OP I, most of GEF SGP Indonesia's grants have been channeled to finance some projects that fully or partly deal with biodiversity, including initiatives to reduce carbon emission from deforestation and forest degradation (REDD).

Climate Change

The REDD in Indonesia (REDDI) document developed by the Indonesia's Department of Forestry among others priorities reduction of carbon emission by maintaining peatland. The National Development Planning: Indonesia Responses to Climate Change (Yellow Book from Bappenas) notes that climate change

International Waters - 2%

Fase II Biodiversity - 74% Climate Change - 19% Combined - 7%

> Fase III Biodiversity - 56% Combined - 32% Climate Change - 6% Land Degradation - 6%

> > Fase IV F dSC TV Biodiversity - 62% Combined - 58% Climate Change - 17% Land Degradation - 5%

and community-managed areas, as a negotiation argument for creating adaptation focus should be placed on agriculture, husbandry, plantation, fishery and water resource management, and should prioritise locations with high risks based on consideration of population size, marine and fishery infrastructure, and social economic aspects. Most importantly, right information must be delivered to the right target groups in a timely manner.

Unlike problems with biodiversity, let alone the forestry, marine and coastal, and agricultural sectors, climate change issue is still something that institutions and facilitating organisations are not fully aware about yet. Various strategies are being developed and must be tested before they can be conveyed effectively to communities. There is still a long way ahead to involve people, particularly with regard to FPIC principles, to ensure they will get concrete benefits from REDD mechanisms.

Drivers of Dryland Conservation

Gunung Tugel, Banyumas, Central Java Yayasan Lembaga Pengembangan Potensi dan Keswadayaan Babad Duration & Project Cost 2004-2005 US\$25,000

ultures and customs may hamper the development I of conservation programs and even community's well being improvement programs.

The agricultural landscapes in the dry hilly region of Banyumas Regency, to the south of Purwokerto, are typical in Central Java. In the past, farmers learned from naturally-grown vegetation. They planted various secondary crops at different times. As a result, the farmers enjoyed food sovereignty. They also preserved old trees, thus maintaining soil fertility and stability.

Then, economic pressure and government-driven agricultural programs shake this long-established pattern and replace this with monoculture cultivation. Farmers often grow species with high selling price.

Trees are felled. Timber traders even buy young trees at the age of 2-3 years. The fertile surface of soil is easily eroded. The rainfall is high, reaching 3,000 mms annually but the dry season evaporates all



the humidity. Only few crop species survive, i.e. certain tubers, and cattle feed (grass, gliserida, lamtoro, kaliandra).

Land degradation and increasing economic pressure are exacerbated by Purwokerto's city development, which swallows the agricultural land in the south of the city. Even water supply from Mt. Slamet will potentially be 'cut' to supply the city.

The program initiated by Babad tries to address the problem in an integrated way, using agrosilvopastoral concept: a combination of organic farming and cattle (cows and goats) husbandry, including the development of animal feed and longage trees (teak and fruit trees).

The development of long-age trees, from cultivating seeds to planting in strategic areas, is hampered by theft in public areas (roadsides and riverbanks). Few have been willing to apply diversification. Although terrace cultivation has been applied, few

plants are grown on slopes. Only few farmers have also developed organic farming as they are accustomed to chemical fertilisers and pesticide. Few farmers are willing to use manure as fertiliser, partly due to its long visible effects, unlike chemical fertilisers. Fattening cows and goats is rapidly adopted due to short breeding period.

Economic approaches to lure community's participation in conservation programs, which do not provide short-term profit, have not been as effectice as expected. In addition, there is a possibility that people tend to return to planting one or two species that are highly profitable and quick to make money.

For an area of more than 20 thousand hectares in size, the number of facilitators and the amount of fund available do not suffice. The development of effective media, such as demonstration plots, is delayed. It is easier for people to accept or take part in long-term programs if they first hand observe the outputs.

Agro Ecosystem

The Indonesia Biodiversity Strategic and Action Plan (IBSAP, Bappenas, 2003) document notes that most of Indonesia's crops are foreigners, including those commonly found in inland areas: corns, cassava, sweet potatoes, soybeans, peanuts, chilies and highland vegetables.

On the other hand, according to Vavilov, the developer of the crop origin theory, Indonesia lies in one of the 12 crop species distribution centers. The endemic species include bananas, sugarcane, gingers, taro and tropical fruits.

With its diversity, cultivation land can be considered as an ecosystem. In Indonesia, it is the backbone of agricultural development.

GDP in agricultural sector kept increasing (from IDR57.028 billions in 1998 to IDR60.020 billions in 2000 or 15.75% of the national GDP. Moreover, the sector involved 21.4 households throughout Indonesia (BPS 2001 in KLH 2002). According to IBSAP, each region can be developed into an agro ecosystem in accordance with local cultures,

Media for **Organic Initiative** Dissemination

Jetis Hamlet, Pampang Village, Paliyan Subdistrict, Gunung Kidul District, Jogjakarta

Cipto Makaryo Farmer Organization

Duration & Project Cost 2000-2002 SGP Indonesia: US\$27,318 Kontribusi Jain: US\$6.209

o start can be more difficult than to maintain what has been **L** achieved. *Obahing badan* lan obahing utek (train the body, train the brain) – the philosophy underlying the Jetis hamlet's success

in organic farming program development - is not that simple. Only few want to follow the success story. The neighboring hamlets simply ask questions. National media coverage of Cipto Makaryo is soon forgotten.

However, it may not be adjusting the life style and mindset that has caused the initiative to slowly spread to other community groups. The Jetis community cynically considers visits by other groups as mere formality. Such visits are not effective because they just come, look and go, and not try for themselves.

In fact, disseminating initiatives to organic farming can be ineffective. Or perhaps the meaning of 'organic is not simply appropriate. Doesn't

knowledge and environment. Even on dryland, communities can combine annual and perennial species that can satisfy their needs: from food, construction materials, medicine, firewood to cash, and even beauty and shadiness.

Converting a piece of agricultural land into an agro ecosystem means converting the functions of land of other ecosystems. While an agro ecosystem may have relatively high biodiversity, in general the biodiversity shrinks compared with that in the previous state.

Over time, agricultural biodiversity will shrink as well. Among the highest was the green Revolution of 1969. In early 1990s, about 70% of Indonesia's paddy fields was monoculture, i.e. planted by one species, IR64. This 'monoculture' practice removed and even eliminated many local varieties, creating vulnerability to pest and diseases such as the 1998-1999 event that destroyed IR64 fields. Introduction of new varieties, either the superior ones or the market-sought ones, has brought adverse impacts on local species and the environment. The tendency has continued up to now.

In the meantime, agricultural land was shrinking,



organic farming simply mean prohibiting chemical pesticide and fertilisers and then letting the nature complete the job? As practiced by the Jetis community, organic farming fully involves planning and calculation. Perhaps, dissemination of organic farming initiatives should be better planned, among others, by disseminating initiative strategies (including budget), from the initiation process to the proposal development.

particularly in densely-populated areas. It was estimated that 30,000 hectares of agricultural land, mostly paddy fields, were converted annually into non-agricultural land (the Kompas, 10 October 2001, in KLH 2002).

Warren et.al. (2006) predicted that the rise of 3 C in temperatur would cause famine to some 600 million lives, especially in developing countries. According to FAO Committee on Food Security (2005), 11% of agricultural land in developing countries was affected by climate change that caused the declining production of beans in 65 countries and 16% reduction of their GDPs.

In general, the impacts of climate change fall into two categories: biophysical and socioeconomic. The former includes psychological effects on food crops, forests and cattle, changes in land and water, more pests and weeds, shift in spatial and temporary distribution impacts, and increase in salinity and sea level. The latter includes declining productivity and productivity, declining GDP in agriculture, and fluctuating agricultural product price on the international market. In addition, increasing population also increases risks of famine and food insecurity.

Now, only few countries attempt to achieve food selfsufficiency. Food conditions are more or less dependent on international trade patterns. Food security is determined not only by domestic production but also the price of imported and exported food.

The impacts of climate change can affect these three factors. Prices of imported and exported food, for example, are influenced by how extensive agricultural land is functionally converted to meet biofuel production need.

Adaptation to climate change is where communities can develop practices that can reduce the adverse impacts of climate change by making appropriate adaption and changes to their activities. This may range from technological adaptation to changes in individual behaviors such as changing species when water is scarce.

The most important aspect of adaptation is how to find the least-cost adaptation measures to help communities to adapt. This involves not only adjusting planting patterns and kinds of seed, use of pesticide and fertilisers, but also finding sources of income from outside the agricultural sector, in addition to mitigating the impacts.

Live with Drought

ncreasing variability of water availability, among others due to climate change, has brought more obvious impacts. Compared with floods, drought brings much more impacts with regard to the size of the affected areas, the duration as well as the rehabilitation cost and time. However, drought management is much less intensive than flood management (Gatot Irianto, Agroclimate and Hydrology Research Office, the Kompas 21/08/2003).



In the last decade, the blame for drought has been put on global climate change. In fact, degradation of land and water resources has been increasing without enough control from the related enforcing institutions. On the other side, communities have become more pathetic and only wait for

even have big holes on the bottom, caused by rotten roots. The conclusion is drawn after the community observes that leaves gathered in certain locations are carried away by

water current from the bottom. Some people construct embankment out of limestone. Some others reinforce the embankment with cement. Diversification of attempts is allowed and developed or solutions are sought.

Community organisers have asked the community to grow erosionpreventing plants as an alternative because some people believe that it is forbidden to cement the bottom of the lakes.

Some people plan to overlay the bottom with thick plastic. Those who believe that this practice is forbidden can plant the bottom with trees/ species having spreading roots to help prevent water from being absorbed into the soil. Or at least they can plant such trees on the banks.

Community organisers have asked the community to seek interpretations that are relevant to conservation. Some believe a given lake was created by 'the god' for a given period. Most lakes in the region just collect water; they do not have any spring inside. Palgading Lake, for example, is believed to last only for another 20 years. Rather than influencing the community to believe that the belief is not true, community organisers asked the community to develop conservation strategies

Primary Needs Minimising the Media

Lakes Palgading, Seperang, Thowet, Gunung Kidul District, Jogjakarta

Lembaga Nawakamal Duration & Project Cost 2004-2005 US\$2,000 2004-2005 US\$41,867

Tater need of the community of Mt. Kidul has never been fully fulfilled for decades. But, water is fundamental to survival, so they never give up trying.

The community's awareness that conservation of the lake is the core of their problem is acknowledged by Nawakamal as the factor that

has facilitated the community's agreement to implement various lake conservation and well being improvement programs. However, it must also be acknowledged that efforts to ask the community to learn about the history of their lake is an accurate approach made by Nawakamal. The community of Mt. Kidul, as well as Yogya in general, is very much aware about and respects their history. Reflecting

the fact that most of the lakes were made by their grandfathers has successfully created a concept that lake conservation is a communal problem.

Program realisation and group work have often been hampered by lack of fund. But, initiatives with low fund have been implemented as well. More importantly, the community implements these by fully understanding the reasons and the calculation. Some lakes are made

smaller in size in order for them to hold water longer. Some parts of the bottom are more porous than others. Some lakes



Inside this limestone cave, not far from Watumbelar village, Sumba, flows an underground river. The local people, however, do not posses the technology and the fund to bring this flow of life to the ground surface.

aiming at prolong the lake's existence.

The community has also tried 'unusual' but logical methods. A given part of the lake is used to bathe cows in an attempt to add the volume of mud to block the porous bottom.

All these practices, according to the community, have achieved something, though not much. Seperang Lake, which previously collected water for 4 months in a year, can now collect water for 5 months.

The community is willing to try various attempts to preserve their lakes as water is fundamental to survival. The kind of media used to raise awareness and mobilise support becomes is not a determining factor. 😫



help from the government.

The irrigation system has been declining since the enactment of the regional autonomy (Bustanil Arifin, agriculture observer, the Kompas, 28 July 2008). President Susilo Bambang Yudhoyono admits that no new irrigation development have been in place in the last 10 years (the

Kompas, 23/07/2008).

In some remote areas in West Java, farmers take turns patrolling every night in the driest months to prevent water theft. Some spend tens of liters of gas to pump water onto their fields.

In another region of the world, Rajashtan, a province in India, spans 10% of the entire country

but only has one percent of the total water springs. Its 60 million population often do not enjoy a single rain throughout the year. The dessert there

has been one of the world's driest region since hundreds of

years ago. In the past, the communities had their own ways underground irrigation system. to collect rain water. In the last few years, such practices The greatest, however, is the organisation of the has been revived. A total 40 practices have been identified, communities, i.e. how to organise the communities to revive from constructing a leak-proof container to collect rain water the hundreds-of-years practices, to channelling rain water on the surface to a complicated and more importantly, how to change the life style: how to see and treat water as a natural resource that cannot just be



Water, Water, Water, ...

Banyu Urip Village, Blitar District, East Java Partne Sitas Desa Duration & Project Cost 2004-2005 US\$2.000 2005-2006 US\$32,000

litar Regency covers part of limestone mountains stretching Dalong most of the southern part of Java Island. The area does not enjoy much water for cultivation in the wet season. The harsh dry wind of the dry season often destroys the communities' secondary crops. Previously, the wind from the nearby coast was blocked by a forest. The protective forest under Perhutani management was however mostly stripped by the local communities during the 1998 crisis. The local communities entered the forest and cleared land for their fruit trees (mangos, edible flat bean, avocado,



jackfruit). The trees were then felled by Perhutani on the grounds that they had to be replaced by production species (teak, mahony, sengon). According to the local communities, the production trees would be felled after reaching the commercial age. Fruit trees would be kept. They agreed on a temporary use scheme: trees belonging to the government, fruits to the communities, and the communities were allowed to cultivate the land to grow crops. Perhutani had agreed but the head was replaced before

the MoU was signed. Cultivation of long-aged trees itself is not running smoothly. The trees must



be planted in the transition period between the two seasons. If the seeds are not planted after the second or third rain, the wet season will end before the roots are grown deep enough. 😫

Coordination between NGO and Selfsupporting Community Organization

Kaur District, Bengkulu Ulayat Duration & Project Cost 2005-2006 SGP Indonesia: US\$45.000 Partner Jurai Tue 2005-2006 SGP Indonesia: US\$15,000 Kelompok Tani Karya Bersama 2005-2006 SGP Indonesia: US\$25,000

Tn the five villages where Ulayat and 'Karva Bersama' farmer's group were working, the outputs of village planning have been passed as bylaws, covering regulations on



and natural resource management. the villagers can manage their life patterns and preserve their natural resources. Rights and obligations to protect the resources are also Barisan Selatan National Park has been decreasing. The community of electrocuting fishing to preserve fish and other biota habitats. The community of Ulak Bandung Village, which borders on the Park. has even formed a forest protection team. In the forest for sale in the town. Furthermore, the communities used all the achievements to raise their bargaining power so that the regency government would provide road infrastructure and clean water

health service (Puskesmas). Unfortunately, the success was not accompanied by activities supporting village planning and regulations. The facilitation slowed down as the number of Ulayat's facilitators were decreasing. Some supporting activities finally were just business as usual to meet the shortterm objectives.

traded commercially.



Fine imposed on violators goes to the village treasury. With certainty in law, better observed. Logging inside Bukit Air Palawan Village no longer practice turn, they prevent timber coming out of

facilities, village hall and public

The community of Tebing rambutan Village, for example, worked together to establish 2-hectare nursery and planted 10,000 rubber and cocoa seeds. The results, however, were not satisfactory, partly to random selection of the seeds and absence of monitoring of the planted seeds. Another example, the housewives in Ulak Bandung could not enjoy abundant harvest as they did previously due to pest, and they did not know how to tackle this. Several fish ponds in Ulak Bandung and Muara Sahung were abandoned. Some of the village level groups formed as a result of the program were idle and were eventually disbanded. The communities tended to return to their individual and shortterm activities.

The three programs are basically under the coordination of Bengkulubased Ulayat. Karya Bersama and Jurai Tue are dependent on Ulayat, among others, for financial reporting. The coordination pattern should serve as a learning process of small grant management by KSM with NGO's facilitation.



Water Resource Conservation Model for Microhydro Plants

Sibolangit Subdistrict, North Sumatra Partne Petra Duration & Project Cost 2006-2007 US\$14,000

ibolangit District contains 12 microhydro plants, built Collectively by the local community more than ten years ago. This GEF SGP-supported program was implemented in Bukum Village, where a 40 kW microhydro plant was built to supply electricity to

three hamlets. This was part of the conservation of Lau Serui basin to preserve and improve the quality, quantity and continuity of the water resource.

For the communities to share a common perception on the importance of water conservation for the continuity of the microhydro, Petra and the microhydro management asked them to make observation along the river. They found areas prone to erosion, thus threatening the water supply. They also found logging activities along the riverbanks. Conducted every week for 4 months, the observation identified declining flow rate and sedimentation.

Based on the findings, Petra assisted the communities to formulate conservation measures to be taken. First, the basin and the canals to the

microhydro plant had to be greened. The owners of the land along the river agreed to let part of their land, 15 meters wide. be planted by fruit trees.



The conservational effort, however, has not been able to be optimised as the upstream area lies in another regency, Karo. The area is being threatened by logging and collection of rotten leaves (fertiliser).

Village-scale Energy

rom 1998 to early 2009 GEF SGP Indonesia helped **F** fund the development of at least 14 micro hydro plants in Java, Sumatra, Kalimantan, and Sulawesi. As the table on the following page shows, more than half of the grants was applied for and used after the year 2006. This indirectly reflects how knowledge and application of alternative energy were growing among villagers and communityassisting groups. As news on micro hydro plants was spreading, the number of micro hydro-related proposals



Biogas Model

Jangkaran, Jogjakarta Yaperindo Duration & Project Cost 2002-2003 US\$35,500 2007-2008 US\$36,000

Tn the grant program Phase I 2002-2003, Yaperindo built two biogas L digester units. The first one cost IDR5.5 millions; the second IDR7.5 millions. It took 15 days to complete each unit. Each unit stores the shit of 3 cows and can supply the gas need for 2 households. The rest of the grant went to coastal greening and propeller-driven water wells.

In Phase II, Yaperindo would build

another 15 digesters, and provide training so the community could build digesters by themselves. Each unit cost IDR9.5 millions, and the training needed IDR8 million,

including the internship during the construction of the first digester.

The cost (IDR9.5 million in 2008) is not high compared with the use of LPG. The price of a 12-kg LPG now stands at ID70,000 or IDR140,000 for two households. IDR9.5 millions divided by IDR140,000 equals 68 months (5 years and 8 months). A concrete digester can last for more than 20 years. Yaperindo plans to make digester of

another kind, among others using non-concrete materials to cut down the investment.



Adapting Action to **Organization Capacity**

Majene, West Sulawesi

Amanat Sejahtera Foundation Duration & Project Cost 2007-2008 US\$25,000

he organization was established in 2005 by a **L** group of university graduates. Among the initial activities were the 'planting tree' program (2006-2007, in cooperation with agricultural, estate crops, and forestry agencies), the '1,000 garbage bags' program (2006, in cooperation with regional infrastructure and housing agencies

(Kimpraswil) agencies, Health Agency and schools), awareness raising about fisher community's cleanliness and provision of public toilets (in cooperation with **Public Works Agency and** Health agency).

The interesting thing is that the organisation and the personnel. They provided math, English and Arabic courses for school children. To date, more than 200 children have been graduated from the courses. YAS conducted various activities to attract the youth of Majene, who had completed their studies. This was also related to the establishment of a new province, West Sulawesi, which used to be part of South Sulawesi

submitted to GEF SGP Indonesia was significantly increasing.

Village Electricity: Rights and Obligations

GEF SGP-funded micro hydro projects are always linked to conservation of hydrology cycle, forest ecosystems, and biodiversity. It has been proven that the existence of Cibuluh micro hydro plant (PLTMH Cibuluh, page 19) has triggered people's motivation to collectively preserve Gunung Simpang Reserve in West Java. Similarly, the Muluy micro hydro plant (PLTMH Muluy, page 26) has increased the local people's bargaining power to prevent the protected area of Mt. Lumut in East Kalimantan from extractive interests

On the other hand, the local people have the right to utilize water resources for micro hydro plants, the same as the right to clean water and to use water for irrigation purposes. While the main interest of people is electricity, the

builder and the funding institution usually have their own interests. If the second parties are environmental groups,





later on YAS 'found' the way to support

Province. From the 5 big cities in the new province, Majene was known as the Education City.

In the beginning, YAS members consisted of education graduates. This is the reason why they provided courses. Then, technics graduates joined the organisation, and hence the initiative to make briquet out of garbage was introduced.



'the message" might be "the local people will be provided with electricity as long as they preserve forests and water sources." Or at least "to strengthen the organization's work in community." Often, certain projects contain the interest of the funding institution to fulfil its CSR (corporate social responsibility). In such a case, the company usually gains more benefits than the fund it

disburses. The question is, where is the balance level of the local and the company's benefits?

Some say that peoples in remote places in Indonesia have not had enough rights to natural resources, including water potential for electricity. They have not been ready yet to get involved in "efforts" to uphold equality and to fight against the excessive interests of funding institutions.

People have the rights to enjoy micro hydro power plants, although the instalment might opens an opportunity for funding institutions to gain more benefits such as to have better image. The non-negotiable factor is the rights of community to access of information. Beneficiaries should have complete information on the good and bad things about a project before the project starts. Fulfilment of the

FPIC (Free Prior Informed Consent) principles will prevent the adverse impacts of interest differences, which may bring conflicts as well as threats to the sustainability of initiatives to enhance community's welfare.

Independent Energy

Long before micro hydro gained its popularity, people had constructed many small-scale power plants. They initiated the plan, from the construction to the maintenance, with their own capital. However, with limited knowledge, the efficiency and safety level was generally low. Many have reportedly been electrocuted due to, for example, the non-insulated cables. The power generated is usually low compared with what can potentially be generated. The equipment used is also of small capacity - people use cars' or motorcycles' starter dynamo, or self-made dynamo. Limited knowledge of hydrological system and its

management possibilities also influence the capacity that can potentially be generated, as explained by Kusetiadi Raharjo, one of micro hydro developers in Bandung.

Consumption and Production Patterns

Apart from the above, this might be a form of energy sovereignty. People can self-fulfil their own need and being independent from external parties. However, problems arise when people's consumption pattern changes. For example, a 100-Watt generator can supply electricity for 3-4 honai (traditional house) in the remote area of Papua. It only requires just one or two 8-15 Watt energy-saving lamps to light a 3 by 5 meter room. The electricity is still even enough to power a radio and a TV. In addition to their low power consumption, these two devices are the sources of information, which is the fundamental need that isolated people do not have so that they can improve their wellbeing. Very often, people will then want a refrigerator. In this case, increasing productivity cannot always answer increasing consumption. Electricity cannot directly be used to increase household's productivity, let alone communities'. Production of ice cubes or ice cream, for example, is still hampered by marketing. Without access to areas outside villages, increasing productivity does not give added values to the villagers as the products are self-consumed by the villagers themselves.

People's Energy

The higher the capacity is to be generated, the higher the working capital is and so are the obstacles to realize the plan. Rough

Mitra	Judul Proyek	kilo Watt	Jenis	Total Dana Hibah US\$	Sipil, Mekanikal, Elektrikal US\$	Durasi Proyek	
lbeka	Revitalisasi fasilitas mikrohidro yang tidak produktif dengan perbaikan rancangan dan pengelolaan. Jabar	80	CF	49,946	47,646	1998- 2000	
Konsorsium Seloliman	Peningkatan kapasitas fasilitas mikrohidro untuk meningkatkan pengembangan aktifitas ekonomi komunitas lokal. Jatim	25	CF	27,388	15,574	2000- 2002	
Walda	Meningkatkan kesejahteraan komunitas dengan energi terbarukan. Sulsel	30	CF	68,375	32,352	2002	
Yayasan Pribumi Alam Lestari	Proyek mikrohidro untuk desa-desa di sekitar Cagar Alam G. Simpang. Jabar	20	Ρ	44,338	25,023	2004-	
Yayasan Padi	Pembangkit listrik mikrohidro, pendidikan komunitas, pemasaran hasil hutan non-kayu. Kaltim	9	CF	45,767	38,033	2005	
Yayasan Tukulon	PLTMH untuk desa Tukulon. Kaltim	4,5	CF	35,000	20,166		
KSU Danendra	Produksi pertanian dan mikrohidro. Bali	12,5	Р	25,000	13,055	13,055 15,555 2006- 2007	
Perkumpulan Hakiki	Model pengelolaan terpadu pembangkit listrik kampung, sumberdaya air, pengelolaan kampung. Riau	18	CF	49,000	15,555		
YLHS Sendi	Pengembangan PLTMH sebagai replikasi PLTMH Seloliman, Jatim	15	CF	50,000	42,700		
YLHS Wot Lemah		7	CF	50,000	19,046		
Yay. Berau Lestari	PLTMH Long Duhung. Kaltim	18	CF	50,000	28,172		
YCHI	PLTMH Pegunungan Meratus. Kalsel	20	CF	50,000	31,075	2007- 2009	
Padi	PLTMH dan konservasi hutan. Kaltim	15	CF	45,000	39,005		

Jenis pembangkit: CF = cross flow, P = open-flume propeller

Devising Energy-Independent Tourism Village

Drini Island, Jogjakarta Sanatha Dharma University Duration & Project Costs 2008-2009 US\$27,000

rini Island is among the tourist's destinations off Yogyakarta's southern coast. In addition to have the unique Drini



tree, which almost extinct now. the island is also home to diverse algae species and coral reefs. Naturally, the island provides protection for the fishermen's village from the rough southern sea's waves. One of the project achievements was to construct a small lighthouse on the island.

the abundant sources of energy in technical calculation shows that, mechanically and electrically, GEF SGP-supported micro hydro plan would cost IDR 10,000-25,000 per Watt. A 10,000 Watt-plant would cost IDR 100-250 millions. Assuming that each household's need for electricity is 100 Watt, the investment needed would reach IDR1-2.5 million per household. Investment needed to construct a 1,000-Watt plant, commonly known as pico-hydro, would roughly reach IDR10-25 millions. Collecting such an amount from

10 households is easier than bringing 100 households to reach an agreement. Organizing the management is then also simpler. If the water source were enough for many small plants, a decentralized system would save the distribution cables. And if it were planned carefully, not much alteration to the

hydrological system would be made, thus reducing potential adverse impacts on the environment, compared with the construction of large dams. In the latter, although the cost of each watt generated is lower, the adverse environmental and social impacts are higher.

Apart from the above considerations, spreading village-



The road to the fishermen's village on the island was asphalted, but the village still had no electricity service. Then, an idea came up to make Drini an energy-independent tourism object. The wind is among

addition to biogas produced from algae and fish waste. If the idea could be realized, the energy independence



scale electricity or energy is generally

hampered by the availability of the equipment. In Vietnam, for example, pico-hydro generators are available on the market, as are diesel generators in Indonesia. Observations during the preparation of the book showed that many households in remote places could afford a gensets. This can show that people actually have the purchasing power. It is even more probable if banks, cooperatives, and credit unions can develop a credit scheme for the home power system. What they need to do is to spread the information to access such scheme, e.g. stickers on public cars and pictures on the back of trucks. Afterwards, the generators and the equipment should be made available. Let people take the global responsibility to mitigate carbon emission.

In Vietnam, at least 300,000 units of pico-hydro plants have been operational. One Chinese-made 300-Watt unit even costs only US\$20! - http://www.reuk.co.uk/Pico-Hydro-Power.htm - http://alt-e.blogspot. com/2005/01/alternative-energy-vietnam-pico-hydro.html - http://resum ises.org/cgi-bin/resum/resum.py?showproject&PHVietnam



could serve as the model for the other coastal villages throughout Indonesia. Sanatha Dharma started with a correct step: effective and efficient, easily-replicable technology using materials widely available on the market. The first device installed in Drini was a mini windmill to light the lighthouse. The propellers are made from sliced PVC pipes. After experiencing some rust on the coil house, the house was replaced by a motorcycle's hub shell.

All the experiments were conducted in Sanatha Dharma University's

laboratory as well as in students' dormitory garages. The university laboratory itself is full of various equipment and experimental devices: solar-powered heaters, mini hydram pumps (made from PVC pipes), and various electric motors.



50,000,00

Learning to Manage Large Fund

Tukulon Village, East Kalimantan **Tukulon Indigenous People** Duration & Project Cost 2006-2007 US\$35,000

lmost all the villagers of Tukulon crossed the Indonesia-Malaysia **L b**order. They were asked to help construct a microhydro plant in Bantul a Dayak Murut village, about 8-hour cruise along the Mansalong River into the interior of Sabah, Malaysia.

The Bantul community received a grant from GEF SGP Malaysia. Returning home, the Tukulon

Microhydro Drawing

Cibuluh Village, Cianjur, West Java

Yayasan Pribumi Alam Lestari (YPAL)

or many years the community

living around Gunung Simpang

Reserve in Cianjur has been

Participation

Duration & Project Cost

1998-2000 US\$1,000

2004-2005 US\$44,338

community requested a similar proposal to GEF SGP Malaysia, which in turn passed it to GEF SGP Indonesia.

On developing the proposal, the Bantul community received assistance from one of Sabah-based NGOs. Considering the limited capacity of the Tukulon to develop a proposal, GEF SGP Indonesia sent a team to help develop a video proposal for the community. The US\$35,000 microhydro plant proposal was accepted by the National Steering Committee of GEF SGP Indonesia.

Unfortunately, the construction of the plant was not as easy and as fast as expected. The community organisers chosen by the Tulon community were not living with the community. In

using water to generate electricity, using small wooden propellers. Of course, the amount of electricity generated is limited. The GEF SGP's project in Cibuluh Village has replaced the traditional plant with a microhydro plant. The Cibuluh Microhydro Plant was officially launched in June 2006. The management has been running quite well. The amount of bill varies with the amount of use. The money is used for daily operational cost and maintenance of the plant. Previously, many of the communities committed illegal logging, now the practice is almost practically





addition, the customary institutions and village government structure were not playing their roles well. Community's organising process almost came to a halt. Even rumors and reciprocal suspicion spread among the community with regard to the use of the grant. However, this is all natural in a community that has never had any experience in managing large fund. Up to the writing of this report, only the construction of the turbine house was completed.

abandoned. The forest protection team formed by the communities, Raksa Bumi, is now more motivated to patrol.

Apart from the above, the plant has entered the next phase. Currently, it can only supply the electricity need of 100 households. However, 10 people constructed a 1.2kW plant all by themselves. The regency government itself gave financial support for the construction of two 20-kW plants to two neighboring villages, namely Puncak Baru and Gelar Pawitan. IUCN even provided not only grant for the microhydro plant but also some related training.

Doping Weakening Body Joints*

Sendi Hamlet, Mount Welirang, East Java ^{Mitra} Yayasan Lingkungan Hidup ^{Durasi & Nilai Proyek} 2006-2007 US\$50,000

Aking a start can be easier than developing something. The Seloliman microhydro plant (PLTMH) was constructed in 2000 and was among the first projects that involved community's participation, in addition to some others in West Java. Seeking the form of community's participation, the Education Center for Education (PPLH) of Seloliman, formed Kali



Maron Association (Paguyuban Kali Maron/PKM) following the operation of the plant. This user's group can now independently operate and maintain the 20-kW plant. It often shares their experience with other community's groups wanting to learn how to independently manage a microhydro plant.

PKM, however, is having a hard time. When first introducing the non-PLN (the National Electricity enterprise) electricity service, the rate the community had to pay was set too low. Now, they reject a hike in the rate to support future investment. In fact, the depreciation value needs to be calculated to enable purchase of

Charging Ecotourism with Microhydro Power

Location Tenganan Village, Karangasem, Bali Partner KSU Danendra Tenganan Duration & Project Cost 2006-2007 US\$25,000

Tenganan Pegringsingan Village has long been known as an independent traditional village. It contains rich resources such as candlenuts, bananas, pineapples, durians, jackfruits, cashew nuts,

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mangos, coffee, snake fruits, melinjo, dukus, as well as forest products such as cang wood, jaka, bayur, belalu, ata, durians, pangi, kepih, mahibu, and others. Awareness to save the village and preserve their environment and resources gave birth to the village ecotourism program, managed collectively by the villagers. GEF SGP once provided a grant to Village Ecotourism Network (JED) to support the program. At that time, the focus was on marketing products of ecotourism villages incorporated in JED such as Tenganan, Sibetan, Kiadan Pelaga, and Nusa Ceningan. Besides ecotourism, Tenganan

Village has another resource: the 255-hectare paddy fields. The village independence is indicated by the large number of village barns. All the production goes to village consumption.

The barns, however, has no longer been working since the villagers shifted to ecotourism. Unhusked rice is sold to the city. The villagers buy rice from outside. Even the paddy fields are now managed by outsiders. To reclaim rice self-sufficiency, rice mills have been built. The electricity to drive the motor comes from a hydro plant in the Bahu River. With the flow rate reaching 350 liters/second, the a new generator when the old one expires.

In addition, PKM, which was not involved from the beginning in the learning and fund raising processes, has yet to fully embrace entrepreneurship spirit to realise its first ambition, that is, to make Mojokerto highland an independent electricity generation model with Seloliman serving as center for environmental education.

In the framework of program development, the Seloliman community constructed two more plants: Wot Lemah some 500 meters away from PLTMH Seloliman, and one in Sendi hamlet. The project aimed at generating more electricity, increasing the capacity of PKM and Seloliman Environmental Foundation (YLHS) as the center for hydro plant development, as well as duplicating the success of Seloliman PLTMH to increase financiers' trust in the plant as a commercial business unit. This was important because if not managed commercially, PLTMH would always depend on grants for the construction of new plants; in other words, PLTMH would not be independent.

Despite the duplication, the project also aimed at extending the learning. Wot Lemah aimed at raising the community's awareness about managing PLTMH as a business unit. It was due to the lack of awareness among the users, who are incorporated in PKM, about the overall pricing process. With all the users being involved right from the initiation and development of new plants, they were expected to better understand the pricing process. On the other hand, PLTMH Sendi aimed at providing lessons

plant can generate 12,500 Watts. The construction of the plant was supported by GEF SGP's grant to



Socioculturally, Tenganan customs date back to hundreds of years ago, compelling all the planning to be decided by customary leaders. Relations / Cooperation with other 'customs' often require different work pace/rhythm. The village's cooperation with PLN can serve as a practice in which the community opens themselves to others while preserving their traditional wisdom. on community's organisation development. The justification, however, was not quite right given the fact that the community had been able to organise themselves proven by the self-development of the plants. The interesting thing to be noted is Sendi has become the center of attraction following its success, attracting aid for the maintenance of the plant, and the Sendi community themselves wanted to construct a new plant with reference to PLTMH Seloliman. Some of Sendi community express great hopes on investors.

* The translation of 'body joints' in Indonesian language is 'sendi', same pronounciation as the name of the hamlet.



Are they Preventing Climate Change?

Maria Hartiningsih, Kompas Daily journalist

Small rivers in rural areas are the sources of life for the local communities. They are used among others for irrigation. If the flow is quite strong (such as in steep landscape), it has the potential to generate energy. The water is collected in small dams, and channeled through large pipes going down to produce a 'waterfall' effect, and turn the turbines.

Solar panel, Sokola, Komunitas Orang Rimba, Jambi



However, the most important thing from this project (construction of

small (5-100kW) plants) is the effort to liberate the local communities by returning their self-sufficiency, both in economy and management and maintenance of forest and water resources. This is the underlying idea behind the construction of PLTMH Seloliman in Trawas District, Mojokerto Regency, East Java Province. The PLTMH is now managed by the local community. "After we have electricity, the time

needed to crush paper has been shortened," said Jayanti (32) of

Sempur hamlet, one of the hamlets that make up Seloliman Village. Since 1999, the mother of a child has started a business called Sempur Peduli Daur Ulang (Sempedu, Sempur Cares for Recycling), which recycles paper into various products. Since electricity came to the village in 2001, the recycling processing time has significantly been shortened, from 4 days to only one day. With a monthly rate of IDR45,000-IDR50,000, carbon



Wind-powered well, RACA, Central Java dioxide emission can be reduced.

"Boiling paper into pulp only takes 20 minutes, without firewood," said Jayanti. "Soaking paper only takes one day."

Efficiency in the processing time affects the productivity. "Previously, it often took more than a week to meet a 200-sheet order. Now, it only takes 1.5-2 days," she added.

The unit, according to her, can produce up to 60 sheets of A4sized paper, which in turn is used to make various products. With constant sunny days for month, the production can be multiplied. The price of a sheet of paper is IDR300. Female cornharvesters help the business to get additional income. Some run the same business. "We share the order among us. The profit is used to run the business and some goes into the saving," said Jayanti.

On the onset, the business tried to employ young women, who did nothing but watch TV all day. They get used paper from Seloliman Center for Environmental Education (PPLH)

at half the regular price. The PPLH in books, etc. at regular price.

A Long Process

For several decades before 1993, Janjing, Biting, Balekambang and Sempur, four hamlets in the village, lived without electricity. The economy went very slow, or was almost static. No progress was made with regard to human development.

"On average, each households has five or six children," said Aisyah of Balekambang hamlet. "After we had electricity, the average number of children dropped to two with a few having three."

Janjing, according to one of the villagers Ma'sum (42), used to have a few school children. "I am just an elementary school graduate," said the father of two children. The firstborn is now studying in grade three of junior high school.

The hamlet is quite isolated although it lies only two kilometers from the road. To get there, one has to go down a valley and cross a river with quite strong current. In the wet season, the trip is very dangerous. Once a boy was swept away by the current when crossing the river. Without electricity. little information reached the hamlet.

Picohydro power plant made by villagers in Mount Halimun, Banten

> Transporting micro hydro pipes, Yayasan Pribumi Alam Lestari, West Java

old to make earthen energyficient stoves, Yayasan onservasi Lingkungan, Central

Cleanong up the micro hydro intake, Yayasan Padi, East Kalimantan



Transporting the micro hydro turbine, Wotlemah, East Java

turn orders some paper for certificates,

In 1993 PLN (the National Electricity Enterprise)

came to Seloliman Village. providing electricity service only for Balekambang and Biting and part of Sempur.

"Janjing was not covered so the community felt being left behind," said Suroso, the Founder Head of Seloliman Environmental Foundation. Facilitated by PPLH, the PLTMH Kalimaron Seloliman came to birth, and officially started the operation in August 1994. The 12kWh plant is used to provide electricity to the entire Janjing hamlet and parts of other hamlets that were previously not covered by PLN service. It also supplies electricity for PPLH, which used kerosene lamps from 1988. The construction cost was shared by the local communities with financial aid from the Germany Embassy.

"To us, PLTMH is not the goal, but the entrance to preservation of forest and water resources," added Suroso, who used to be the 2000-2007 Head of PPLH. For each kWh generated, we need at least one tree to store water. "After the community observed and benefited from the plant, the local awareness was raised. If we do not preserve the forest, the flow rate will decrease and the plant will not work." Tri Mumpuni of Community-based Economy and Business Institute (Ibeka), who along with her team has provided water-generated electricity for some 6,000 villages, always reminds the villagers to maintain the plant so that it can function throughout the year. At least, a 30-km2 catchment area need to be maintained. This means that no logging or clearing is allowed.



Wotlemah

Not having enough electricity to develop home industry, the villagers of Wotlemah in 1999 planned to increase the capacity of the plant to 25 kWh. It was in the same year that they realised that the approach used was not quite right in that only users were approached and all the responsibility of operation and maintenance of the plant lay in the hand of PPLH, which was considered non-educative. GEF SGP's grant was then used to increase the capacity and the management was changed into a paguyuban (association) called Paguyuban Kali Maron (PKM). The unused electricity started to be sold to PLN.

This means that the communities are trained to manage water, maintain the equipment, and calculate the electricity channeled and the cost needed as PLTMH is now selfmanaged. When houses get electricty, economic activities can grow. "On average, we gain IDR5.5-6 millions per month; this is very important for the plant operation, conservation, village infrastructure building, purchase of seed and economic development measures. All are managed by the paguyuban," explained Suroso. The bridge in

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Janjing is one of the paguyuban's contributions.

"Now, the children do not have to cross the river. Parents no longer have to worry," said Ma'sum. "Previously, when the river overflew, we could not do anything, now we are free to do anything."

PKM also gave three cows to the Janjing hamlet to raise, which now have become five. "We use a 50:50 profit sharing scheme. PKM uses the money gained to help other hamlets using the same scheme," he added. As electricity need increased, PKM maximised the water flow used by PLTMH Kali Maron by building PLTMH Wotlemah in Biting hamlet. The landscape has made it possible to duplicate the project; moreover, the new plant is only 200 meters from PLTMH Kali Maron. The fund came from various groups: the regency government, foreign aid and the local communities.

Problems remained

PLTMH Wotlemah has the capacity of generating 20 kWh and started the operation in 2009, mainly to supply electricity to Balekambang and Biting communities. Thus, PKM owns two plants with the capacity combined of 45 kWh. The sale to PLN now increases to IDR7 millions.

Distribution of the world's electricity consumption

"We could gain more," said Suroso, who is also the Head of PKM, "if PLN wanted to buy our electricity in accordance with the new regulation of the Minister of Energy and Mineral Resources."

The Ministerial Decree No. 31 of 2009 on Purchase of Electricity by PLN from Renewable Plants Owned by the State's, Regional-Governments', Private and Community's Enterprises was signed on 13 November 2009. Through the decree, the government set the price for purchase of up to 10 MW of electricity of IDR656 per kWH x F, if connected to medium voltage, and IDR1,004 per kWH if connected to low voltage. F is the incentive factor of PLN purchase for Java and Bali regions, which varies with location.

"With the help of all the facilitating organisations, we have tried to renegotiate PLN. We asked for a rise from IDR533 per kWH to Idr607.77 per kWH. To us, the rise is not significant; however, PLN has not answered us yet," Suroso added.

Another problem is the availability of electric poles. According to Rahmadi, the local communities use bamboos for the poles and many have been deteriorated. "We are not allowed to use the existing PLN's poles; PLN says this is dangerous," said he.

Non-partial

We cannot look into energy problems partially. This might have been the reason for a massive peaceful rally held by 6,000 people in Sao Paolo during Bush's visit a few years ago. They protested against the Brazil's ethanol program, which was supported by Washington. Following the same program in USA. ethanol was to replace gas for 8 out of 10 new cars in Brazil.

The program met a strong opposition from the communities and activists because producing one liter of ethanol would need 4 liters of water, and large-scale monoculture sugarcane plantations would ruin the exceptionally rich biodiverisity of Brazil. The program would also potentially ruin soil structure and deplete ground water sources, not to mention the social impacts.

The news provides an example of integrated approaches to energy as noted by Dr. Hendro Sangkoyo, a regional planning and development researcher from School of Democratic Economy.

"It is not possible to look into energy problems as an independent factor. Energy problems are derivatives," said he. This means that there are politics, economic, and socioecological aspects of energy consumption management. He said that our survival will depend on how we get, change and use energy. In Indonesia's experience, this involves inter-relation between growth, productivity, energy sufficiency, and

Tidal power plant

richness in raw material sources on the one hand

and changes in the nation's life quality on the other hand. Socioecologically, according to Hendro Sangkoyo, in the last generation exploitation of primary energy sources has not been laid in the framework of energy consumption budget to meet long-term socioecological quality requirements. In addition, there have been no public regulations on socioecological requirements of economic growth. He said further that the concept of islands' ecology has never become the reference to planning, and that energy planning, and socioecological wellbeing has never been the main goal. He proposed energy consumption management as the exogenous requirements for socioecological improvement. This will give birth to different public politics models.

Not immediately

Agreement to prevent biosphere warming rate from increasing GHG emission does not mean that it has a socioecological solution to the earth. The biofuel program campaigned for in many countries, as Hendro Sangkoyo said, brings serious problems with regard to competition to use land for food or for fuel, and the socioecological impacts have not been much considered. All the energy planning so far, according to Fabby Turniwa of

Leadership Program for Sustainable

Development, has been based on an assumption that Indonesia is a continent country.

"Indonesia has similar characteristics to the Philippines or Japan. There must be special approaches to energy planning," he said and went on explaining various energy sources in Indonesia's islands and unequal access to energy.

Tri Mumpuni said that more than 115 million people (more than 48%) do not have access to electricity. More than 90% of the electricity is generated by kerosene. The electricity generated is of low quality and supply while the production cost exceeds the average purchasing power. She emphasises community-based approach to environmentally-friendly, economically feasible, just and politically empowering plants. And that is what is happening now in Seloliman.

Sea current power plant

Wind-powered plant in the waters

Small-scale sea wave power plant 25



Fencing the Forest with Electricity

Gunung Lumut Protected Area, Paser District, East Kalimantan

Partne Yayasan Padi

Duration & Project Cost 2004-2005 US\$2,000 2004-2005 US\$ 45,767

The hydrological function of **Gunung Lumut Protected Forest** L is very important as the forest is the catchment areas of the Telake and Kendilo rivers, the source of livelihood and fresh water for some 70 villages. The 35,350-hectare primary forest is threatened by the presence of HPHs and palm plantations. On the other hand, the indigenous Dayak Paser living around the forest have long been conflicting with the regional government because, according to them, the area is their customary forest. It is this unsettled conflict that still prevents land conversion in the area.

Muluy is one of the outermost villages, which is the entrance to the area. If the village lets their land be converted, slow but sure the other villages will follow.

The operation of a microhydro plant increases the Muluy's bargaining power as well as strengthening their motivation to conserve the forest as the plant will not be functioning if the customary forest is degraded.

PLTMH Gunung Lumut has the capacity of 9,000 Watts, with only 8,000



Watt being usable after travelling 4 kms to the villages. The electricity is used by 55 households, 1 community-based forest coffee industry, 1 small mosque and schools.

There was once a suggestion to make Gunung Lumut a national park but the villagers rejected it. They keep fighting for their involvement in the area management.

Tackling Thieves with Coffee

Hyang Argopuro Mountains, Jember Lembaga Studi Desa untuk Petani SD Inpers Duration & Project Cost 2007-2008 US\$7,000

n the past, many villagers in Hyang Argopuro mountains Lin East Java left their villages to work abroad. The number is now decreasing as more coffee plantations are being established and offer a bright future ahead.

Coffee is a shrub growing in the shade of a tall tree. This characteristic is used by LSDP to blend community's need for coffee gardens and industrial need.

HGU (land use permit) concessions



in the area, both state-owned or private, are often threatened by forest degradation, including timber theft, which is done in secret or in cooperation with the forest rangers. A large landslide in 2005 killed tens of people and devastated part of the forest in southern Argopuro. LSDP invited the community to rehabilitate the forest by forming a

Forest Ecosystem

ndonesia's forests are very important for global interests as they encompass approximately 4 percent of the world's forest frontiers (IBSAP Document, 2003). Forest frontiers are vast natural relatively undisturbed forests having complete ecosystems that allow natural ecological processes and succession. One example is the forest in Gunung Lumut Protected Forest, from which the Muluy community get water to run their microhydro plant (page 26). Many intact forests like this are threatened by logging, fragmentation and conversion into other uses.

From 1996 the deforestation rate in Indonesia reached 2 million hectares annually (Forest Watch Indonesia, 2002). Even the Forestry Statistics came to a conclusion that the deforested areas reached 32.2 million hectares between 1993-2001 (IBSAP Document, 2003).

In addition to this kind of forest, Indonesia also recognises community's forests such as what has been developed inside Hyang Argopuro Protected Forest in East Java (page 27). The land use system applied around the conservation area was well-planned and intensive, in accordance to the values expected from the buffer zone management (Bismark and Sawithi, 2006).

It can be seen that the community-based forest has less variation of tree types. Density per hectare in community's forest and agroforestry is higher and more diverse in type.

Diversity of plants in the buffer zone of Gunung Ciremai National Park in West Java			Tree species composition		
Management system	Number of tree species	Density per hectare	Timber	Fruit tree	
Community- based forest management	13	120	4-7	3-5	
Community forest	22	352	6-7	7-9	
Agroforestry	21	300	6-7	5-9	

Community's forest system can provide economic values throughout the year according to the types and the productivity of the trees. This can be seen in the buffer zone of Meru Betiri national Park in East Java (page 28).

The experience gained by several GEF SGP Indonesia's partners with the facilitated communities shows that communities tend to invest in hard crop species on vast land. One example of this is in the buffer zone of Manupeu Tanadaru in Sumba (page31). However, there is a problem with legality. No formal recognition from the government is in place, making agreements related to community's forests dependent on the related officials' decision. No written contract is in place, placing communities in a very fragile condition.

> forest farmer group, Kelompok Tani Rengganis, consisting of 400 farmers. **Rengganis worked with Perhutani** in Forest Village Community Body (LMDH). The management concept Rengganis adopted is forest as social jungle. In the locally-rooted concept, what is meant by tree stands includes not only perennial species but also hard crop ones such as durians,



Tackling Thieves with Asphalt Roads

Meru Betiri, Jember

KAIL (Konservasi Alam Indonesia Lestari) Duration & Project Cost

2004-2005 US\$2,000 2005-2006 US\$38,000

imilar to what has been adopted in the neighboring Village in Hyang Argopuro Mountains, the general concept adopted by KAIL is community-based forest management. Here, the land is the

degraded buffer zone of Meru Betiri National Park. The

timber

are at

sight.

Timber

thieves

will be

driven away by farmers because

protection for their coffee shrubs.

The approach used by LSDP in

organising the communities is to

can initiate ideas. The measures

taken include reviving traditional

processions such as slametan and

return their confidence so that they

losing big trees means losing

jackfruits, rambutans, coffee). Thus, the communities can gain profit while preserving the forest. Their daily needs will be fufilled by seasonal species grown in between the trees. When they go to the forest, they sometimes bring some seeds with them. Time passes, and rare species used to grow there have started to return.

Secondly, timber theft has significantly been declining and so has land degradation. Now the rangers have more leisure times as almost no trucks loaded with stolen

land with seasonal species as long as they are the long-age ones. Should they be fruit trees, the communities may take the fruits but the trees and the land belong to the Park. In the Park, 2,250 hectares have been included in the rehabilitation process by the communitis of 5 villages, comprising 104 groups, 3,556 households. In Alas Purwo, however, the project area is not clear yet as the management is being transferred from Perhutani to Park's Buffer Zone, resulting in absence of

demarcation process to date. Overall,

1,300 hectares of the forest are to

local communities may cultivate the



others. In addition, the communities' capacity has been improved so they can process their own products, thus increasing the value. One of the activities currently underway is making biogas from cow shits to dry coffee beans.

be rehabilitated. When the planted trees are still small, intercropping is applied with trees such as corns, paddy, peanuts, soybeans, long beans, and green beans. Also planted are hedging trees such as bananas and cassava. When the main crops get taller, the intercrops are replaced with species that do not need much sunlight such as ginger, turmeric, pule pandak, kumis kucing, kencur, temulawak, and kunir putih. Most of these are medicinal plants that have driven the development of the local traditional concoction industry, which was awarded the Upakarti Award.

A study by KAIL show that the intercropping system can fulfil 50%

Most of the 7 acres of land that had been destroyed and replanted in 1995 by the community assisted by Kail, with trembesi, picung, kedawung, and pecan trees. Starting in 1999 the area was expanded in stages until 2250 ha. The trees planted more varied: medicinal plants (kedawung, walnut, grip/kluwek, joho, tamarind), fruit crops (bananas), fruit trees (jackfruit, rambutan, mango, soursop, jamblang), plant food reserves (breadfruit). Selection of the types that can be harvested by the community ensure trees are not felled.

etc.)

to report.

Independence of the Facilitating Organisations

There has been a tendency that facilitating organisations need to pay these COs. KAIL pioneered the condition by have problem with community organisers (COs) inviting the communities to calculate the revenue gained recruitment, especially large organisations with many from each harvest of the intercropping plants. When the fruit freshly graduate members. They often have the high rate of trees are productive, the communities can pay COs, who members replacement so they have to do orientation and now get paid by KAIL using some of the grant. training programs again and again before the new members According to Francis Wahono, the founder of Yogyabased Cindelaras Foundation, the problem is much more fundamental. It is about the mindset. Facilitating organisations are often unrealistic. He gave an example:

are ready to fully serve. This does not always conform to the field dynamics, both the ones already existing among the facilitated communities and the ones introduced by the facilitating organisations. while some of the facilitated community may be able to One suggested solution to the problem is to 'educate' afford to buy cars as the agricultural products are getting COs from among the facilitated communities. This better, the COs do not enjoy any economic improvement. increasingly popular method can help reduce the facilitating According to him, this is due to the lack of the organisation' organisation's overhead. Furthermore, as done by KAIL managerial capacity. Cindelaras, for example, develops the Credit Union scheme. Under the scheme, not only do the (page 28), the COs recruited are those having fixed income so that they will not be affected by the organisation's staffs have economic back-ups but indirectly they are also financial status. In many cases, the organisation does not taught to improve their respective well-being. The same

28

of the farmers' basic needs. Socially, togetherness develops, leading to the forming of forest/land management groups and institutions. Partnership also exists between the communities and the Park as well as with other parties (the regional government, regional House of Representatives,

Close ties between the communities and the Park are demonstrated by the communities reporting any timber theft or fires to the Park. As a consequence, the Park needs to respond promptly or else the communities will be reluctant

In relation to the above, the communities dismiss the theory saying the asphalt road going into the Park lures timber thieves to come. Instead, a good road will make it easy for the rangers to go and verify the communities' reports. The rangers' work is lighter now as the communities also protect the forest. The rangers themselves admit that the degraded forest is getting better and better. The ecological sources once vanished have now returned. Some fauna species such as snakes, deer, lutung (a type of black monkey), birds, and hedgehogs are coming to the forest. The partnership program in Meru Betiri National Park will be duplicated in 10 national parks.

approach has been adopted by another GEF SGP's partner, Bogor-based Perkumpulan Telapak, to improve the staff's economy. Telapak runs a cooperative, which is a branch of West Kalimantan-based credit union Pancur Kasih, and even allows anyone to become members.

Facilitating Organisations' Independence

Definitively, NGOs are non-governmental and independent organisations, not affiliated to any governmental institution and the state. They are not oriented towards their own profit, let alone the individual staffs'. They are founded on the basis of idealism to serve and to develop marginalised communities. However, they also need financial support to run their programs. In the end, they are dependent on financial support, from both the government and international donors.

It is not a new story that the dependency limit their activities. Proposals have to conform with the donor. As a result, NGOs are often portrayed as project-oriented organisations. Can NGOs self support themselves? NGOs are required to develop strategies to maintain their existence and continuity of their support for communities. One classic solution is to form a business unit. Many have done this and have been successful. In most cases, however, the successful business units then separate themselves from the organisations and grow, and no longer support their mother organisations. Still in most cases, the units fail due to lack of entrepreneurship and lack of learning.

Telapak is among the successful examples, Its business unit – Kedai Telapak (coffee shop) – has recently opened a branch in Purwokerto. Its another business unit – an extension of one of its activities, has developed into an audio visual business called Gecko.

The second option is innovative solution, a breakthrough: introducing conservation initiatives along with fund raising programs to various stakeholders, including the opposing ones. For example, Jakarta Green Monster (page 35) works with the industry: Bahtera Nusantara (page 41) proposes a collaborative program to the regional government.

There is also another strategy to maximise the organisation's resources such as done by Yayasan Amanah Sejahtera, a Majene-based NGO in West Sulawesi (page 15). It develops business units based on the capacity of its resources. The results are achieved more instantaneously without having to go through a long 'learning' process. Below are several other strategies adopted by GEF SGP Indonesia' partners to reduce their dependency.

Wisnu Foundation

Yayasan Wisnu was established in 1993 upon concern

about the environmental problems in Bali. In its first five years, Wisnu focused on integrated waste management, industrial waste management, sea water quality monitoring, and environmental education. One of its pioneer activities, independent hotel waste management, has now transformed into a commercial unit. Wisnu also has paper recycle business unit under the paper pick-up program, which can independently support itself.

In 1999, Wisnu worked with villagers to identify the potentials and the problems in villages along the Yeh Ho River in Tabanan, and conducted participatory spatial planning in five villages. The latter is then developed into a community-based ecotourism model. In 2002 Wisnu formed Village Ecotourism Network (page 20), owned by the villagers. In 2006 the management of the recycle business was handed over to Multi Business cooperative 'Wisnu Bali Mandiri'. Wisnu once developed cow fattening business, managed by one of its facilitated groups. The business was terminated in 2004, however, due to lack of facilitation.

In January 2008 Wisnu formed a business unit, which was combined with the environmental and ecotourism education program, called Wisnu Agricultural Resources Management (WARM). Its programs include recycling village waste, and organic farming, including pig and cow raising. The manure is processed into biogas and organic fertiliser. Vegetables are produced throughout the year. The organic rice farming now enters the third planting season. Pig husbandry has enjoyed its first yield, but is now suspended due to lack of labor.

Starting from Community's Activities

Unlike Wisnu, which still needs some cost for its operation, KSM Wana Lestari (page 37) has managed to reduce its overhead cost, as all the members come from the community themselves.

To operate the organisation, Wana Lestari develops collaborative business units, among others Pokja Mina Bahari. The pokja (working group) now has 10 crabcatching boats. Some of the profit goes to KSM. Previously, the crabs were sold to middlemen. Now, there are women groups processing the catch. In principle, the selected activity is labor intensive and not necessarily something new.

Maintaining Group Business

The significance of selecting a business activity that roots at local level gets confirmation from the experience of Yayasan Ekowisata Sumatra (page 39). On introducing beekeeping and honey and wax production, the organisation trained only several individuals. However, it turned out that the trainees did not share the knowledge to the community. As a result, the program intended to serve as an alternative source of livelihood becomes individual business.

However, individual initiatives often play an important role in the running of an organisation. A practical example can be seen when Urban Poor Linkage (Uplink) had to attend a meeting in another city. The urban poor could not afford the travel cost. A member of Uplink Pare-pare Node recklessly went aboard a ship without a ticket ('ngedingdong' in local term). On the ship, he negotiated with the crew to allow them to board without tickets as they were going to attend an urban poor. The network's member housewives applied another strategy: they brought along goods for sale every time they attended a meeting. The income was used to pay the travel back home.

Renting Land, Creating Forest

Watumbelar, Sumba

Partner KMPH Watu Uma

2004-2005 US\$43,000

The delineation under the TGHK (Forest Land Use Concession Plan) has changed many boundaries of Manupeu-Tanadaru National Park set during the Dutch colonization. Much of the local people's cultivated land was included in the Park in 1998 and has since been banned for the former farmers. Community groups assisted by Pakta and Birdlife Indonesia filed an appeal for some adjustment. As a result of the appeal, the TGHK boundaries

have been changed. Local people can still cultivate the land that, according to the Head Chairman of the Delineation Committee, is more suitable as cultivated land. The land in question is almost bare but can be converted into paddy fields or cropland. In some location, the National Park Management has even granted short-term concessions to the people to turn the Park's border into cropland on one condition: the cultivators have to plant trees. Upon expiration of the concessions, the cultivators should

of District as the

leave the area.

Along with some other villages in West Sumba, Watumbelar has obtained a concession to manage some land inside the Park's Interaction Zone. Each entitled household got 0.5-1 hectare of land, where the family grew corns, beans and perennial trees. A piece 200 hectares land in size, which had been dry land, was cultivated by candlenuts, mangos, sandalwood, mahogany, coffee, pineapples, and others. Some of the

This Uplink-style recklessness may be easily learned and imitated but there are many other strategies that need knowledge and skills. That one person manages to do something does not mean others can do the same. The question is "Is there any documentation at organisation level on success stories done by its COs?" If there is not, when the COs quit, the organisation has to start all over again.



villagers owned some land although it was not fertile.

The villagers of Watumbelar, who fall into categories: poor (local term: tau mayila) and very poor (tau marihi mayila), had been living in and around what is now the National Park, long before the designation, and depending on forest products. Traditionally, landless farmers can approach Umbu - the landlord owning much land - to use some of the land under a profit-sharing scheme. Forest cover in Sumba Island has been drastically declining in the last few years. In addition to clearing forest, the local people have often slashed and burned the forest to hunt boars. The concession granted to the local people is actually developed from the tradition to use landlords' land, and is expected to be able to eliminate the destructive slash-andburn practice.

Conservation Areas: Asset or Burden?

Management of a conservation area is generally considered as a burden. This happens due to underestimation of environmental services. Economic evaluations of several conservation areas show that the total values for the economy by far exceeds the values of the production and of other uses. Gunung Gede Pangrango National Park in West Java, for example, provides tourism and environmental services (fresh water for agriculture, industry, households, as well as hydro control) equivalent to at least 40 billion rupiahs annually. (IBSAP Document, 2003). Whereas, the income from logging inside the Park, after deducted by the operational cost, only stands at less than 30 billions.

Economic Valuation

Environmental service are generally valued by two components: consumption and production values.

- Consumption values are the direct benefits for humans, especially food, clothes and shelters. Indonesian people consume at least 100 kinds of beans and tubers as the source of carbohydrate; 100 kinds of nuts, 450 kinds of fruit, 259 kinds of vegetables and mushrooms. At least 940 plant species, including those grown in the wild, are used for traditional medicines. Some wild species have even been used in modern medicine. For construction purposes, human use more than 100 timber species, 56 bamboo types and 150 rattan types (KMNLH, 1997).
- Production values, on the other hand, are calculated from trade values. In Indonesia, forestry products from 1970 to 1980 were important exported commodities in addition to gas exportation. Fish product export in 2000 stood at US\$2 billions. Domestically, the total processed traditional concoctions in 1999 fetched IDR200-400 billions. Nontimber forest products such as turpentine, eucalyptus, resin and silk accounted for IDR41 millions.

The economic growth attempted to be achieved in communities facilitated by GEF SGP's partners is mostly related to consumption and production values. It is to be achieved by more efficient use natural resources, improved land productivity, and added values from post harvest management.

In addition to the two values, biodiversity offers other values. Although difficult to calculate, these values are often higher than the two values.

Existence values. One of the existence values is the

aesthetic value. The nominal value is difficult to calculate. but the psychological benefit is easy to perceive. It is the reason why people from developed countries, who have higher economic well-being, are willing to pay much for conservation. The aesthetic values are generally easy to be

packaged and sold as tourism packages. The existence values are related not only to the potential of certain flora and fauna, but also to their right to live as part of nature.

Environmental services values. Biodiversity benefits both ecology and humans. Forests maintain water system equilibrium, prevent erosion, maintain soil fertility and control micro climate. Coral reefs, mangroves and seagrass prevent abrasion. Mangrove forests provide a breeding ground for fish and shrimps. Biodiverisity in an ecosystem guarantees continuity of food chain and living space, including for species used by humans as commodities. Forest and marine ecosystems can absorb carbon and are therefore very important for climate change mitigation. Heritage values. The farmers in Mt. Halimun put aside some seeds of each paddy type to maintain their diversity. Many community groups have traditions to prevent customary forests from extractive exploitation to ensure their existence

for future generation.

Option values. Only a few flora and fauna species have so far been utilised by humans. Some still have not although humans have known the values. Most have not been utilised. It is estimated that there are still many species waiting for identification. If an unidentified species becomes extinct, it will be a great loss to humans.

If the heritage, environmental, existence and option values are taken into account as an asset, the burden people have to bear in conservation measures can be reduced. In other words, neither

ecological significance nor people's economy is to lose, for example, the mutual symbiosis between farmers and Manupeu-Tanadaru National Park (page 31), Meru Betiri National Park (page 28) and Hyang Argopuro Mountains (page 27). The community of Tangkahan uses



So, conservation areas are great assets. The challenge is how to develop a multistakeholder's sustainable management. Problems can arise from different viewpoints at local level on the one hand and at regional, national and even international level on the other hand.



Selling Elephants and Rafts

Tangkahan, North Sumatra Lembaga Pariwisata Tangkahan Duration & Project Costs 2006-2007 US\$30,000

he region of Tangkahan lies adjacent to Gunung Leuser **L** National Park. Lembaga Pariwisata Tangkahan (LPT) was formed to develop the region as an ecotourism object. Some of the people

involved in LPT were formerly illegal loggers; some of them even had been imprisoned. Then, a number of activists brought the people together, including the ex-illegal loggers, to develop ecotourism in the region. The ex-

tour guides. Among the tourism packages offered are trekking to the forest, caving, and having a look at bunga bangkai (Rafflesia arnoldi). Guiding tourists or doing a research for days pose no problems to these people. LPT also offers the tubing package. Sailing on the river on rafts made from inflated inner tubes is commonly done by the farmers going to and returning from their cropland or rubber gardens.

elephant safari. The Park's elephants commonly used by the patrolling rangers are used to take tourists to enter the forest, cross fast-flowing rivers, and even climb the mountain. As a consequence, the patrol is less

By offering packages that meet the current trend, long distance, bad roads and limited facilities pose no real problems.

Global	Local		
Indirect use values and non- use are the priority	Direct use values (consumption and production values) are more or equally important.		
Focus on conservation, with or without sustainable use.	Focus on sustainable use.		
Highly valued endemic and rare species.	Endemic species' values = others'		
Wild biodiversity and culture are treated differently	No limitation to treatment of wild and cultured biodiversity.		

Source: IBSAP Document

illegal logger consciously used their long experience of forests for ecotourism development. They were trained to become forest guards and

The star of the tourism packages is the

intense. However, patrolling is not as intensive as it used to be as the exillegal loggers now think they should preserve the forests.

In 2008 LPT was mandated to be the manager of Gunung Leuser National Park, managing a 17,500-hectare area. Some rangers were sent to a tourism school. To strengthen the conservational aspect, they worked together with Flora Fauna Indonesia.



Selling Education

Laikang Bay, Takalar, South Sulawesi Partner

Pusat Pendidikan Lingkungan Hidup Puntondo

Duration & Project Costs 1998-2000 US\$11,334 2006-2007 US\$32,000

Dusat Pendidikan Lingkungan Hidup Puntondo (Center for Environmental Education of Puntondo) encompasses 4 hectares, and is located about 60 kilometres (about 4-hour drive) to the south of Makassar, Similar to PPLH Seloliman in East Java, PPLH Puntondo offers architecture designing and unique menus in addition to environmental education. This institution applies a payroll system like companies. The approach used is built on awareness that environmental education must be self-sustained.

However, PPLH Puntondo faced external and internal obstacles. The construction started in 1998 and the institution was inaugurated in 2001. To date, the income from the education programs and bungalow rents has not

been sufficient to cover the operational costs. It turns out that urban communities, assumed to be richer and more lavish, seem uninterested in the programme offers. And it is even getting more difficult given the fact that the metropolitan city of Makassar is growing north instead of south.

Another target group is the surrounding villagers. PPLH Puntondo also has some skill courses such as cake and chip making, whose products are to be sold to visitors to the venue. Besides intending to provide some additional income for the villagers, the courses are intended to introduce the villager to the meaning of certification, i.e. through quality control.

Another programme, mangrove planting, is hampered by the feature of the coastal bottom, i.e. hard rocks. Not all places can be cultivated, and the soil is often very thin. Ponds with stone walls must be constructed to lessen the waves' force to allow the roots of mangrove, generally relied on to prevent abrasion, to grow. Fences must also be built to prevent



wandering goats and cows.

The alternative energy programme the jatropha planting - is stagnant. The development is very slow possibly due to the brackish water and sandy soil. In fact, jatropha trees are free from animal threat as cows and goats do not like them.

Fences are also built around the coral reefs and they can serve as the model. Since late 2007, the conservation of the coral reefs has become easier following the issue of a village regulation on mangrove, coastal, and marine protection. When there are fishers using dynamites, the villagers report to PPLH, which owns a speedboat. PPLH also has a glassbottom boat, which attract children to enjoy observing the coral reefs. Puntondo has been working with a number of both domestic and foreign institutions to help fund physical development, to provide education for schools and the surrounding communities, and to conserve the environment. PPLH also launch campaigns through the mass media, including regular radio broadcast in Makassar. Despite all these, the weak marketing makes all the activities functioned less optimally.

Marketing Local Community Products

ailure in marketing often terminates a community's economic improvement initiative. Many activities successfully drive community's production but do not prepare a marketing network strategy. A classic example is the ecotourism development. Not developed on a basis of market demand and characteristics, it not only leaves unused infrastructure and facilities but also kills community's enthusiasm for other sources of livelihood. Some try to explain marketing using a shrunken structure of 4 components, commonly called 4P: products, price, placement and promotion.

Farmers in one of the centers of red onion production, Product Prupuk in Central Java, are now practising a rotational Large producers usually control what the market should planting system. Onions are no longer planted in the entire want. It looks as though whatever they produce would be land. By doing so, the price will not drop during harvest due accepted. The success of RIM's Blackberry phones started to too many competitors.

Selling Waste, Seeking Friends

Muara Angke, Jakarta Jakarta Green Monster 2006-2007 US\$45,000

Takarta Green Monster (JGM), founded in 2005, is a organisation concerned about the conditions of the northern coast of Jakarta, in particular Muara Angke Reserve and Pulau Rambut Reserve. JGM's activities are facilitated by Fauna and Flora International - Indonesia Programme and Balai Konservasi Sumber Daya Alam (BKSDA) DKI Jakarta (BKSDA=Natural Resource Conservation Office). GEF SGP Indonesia gave support for the establishment of the Environmental Education Center.

JGM opens opportunities for anyone willing to join and get involved. Currently, it has 700 volunteers, 10% of whom are active, comprising individuals from various backgrounds. JGM also approaches the industry, which are often blamed for environmental degradation. According to JGM, this is due to the industry's lack of knowledge of environmental management. The industry's responses are quite positive. JGM invites schools throughout

Jakarta to participate in its Environmental Detective program, CNNI Goes to School program, and many others. JGM also offers school children EduAdventure, an environmental education tour package, at IDR250,000 for a visit to Pulau Rambut. Is there any difference between networking in cities and rural

with in-depth market studies. Its main strength is the pushemail feature, allowing users to receive and send e-mail with ease, as easy as sending SMSs. So, the key is not what we want to produce but what consumers need.

For mid-to-low class producers, market researches are even more crucial. Ornamental fish fishermen of Les (page 41), for example, focus only on mostly-sought species.

Researches on competition is also important. When the number of producers grows, supplies increase, meaning that opportunities to sell similar products gets narrowed down.



areas? Is

JGM benefited by its operational location, which harbors more educated and richer people? JGM thinks that networking in rural areas can be benefited by the relatively strong togetherness compared with the individualism in big cities. The problem is the organisations have not fully understood how to start and package inter-sectoral programs. To this end, creativity and innovation in program development become important when one wants to start and manage the network.



Price

In general, the selling price is the production cost minus profit percentage. Community often fails to improve their economy because they set the production cost units (labors and raw materials) too low. Profit percentage is reduced in fear of overprice. As a result, continuity of the production is threatened, let alone product development. And when the raw materials come from nature, nature will also 'suffer a loss'.

In addition, they often do not take the values of local knowledge and tradition into account. In fact, these two can be compared to investment in education in a modern society. Salaries will increase with the level of education, in addition to experience. Prices of traditional concoctions and woven clothes should include the 'research and development' cost borne by the previous generations in their 'tradition laboratory'.

Furthermore, many community's products have unique features that differentiate them with the competitors. However, the tendency is that they standarise the products

in the hope of

reducing the



Finding Markets for Sialang Candles

Gunung Sahilan Village, Riau Partner Kudapan Duration & Project Costs 2006-2007 US\$ 22,500

G located on the bank of the Kampar Kiri river in Riau. It has a lot of large, tall, much branched trees such as rengas, durians, nangka air, and kayu aro. What makes the

Placement

In retail and restaurant business, for example, selection of location is very important. Housing developers even think that the first consideration is location, the second is location and the third is location.

The well-known pecel (vegetables in peanut sauce) will be hunted for even if they are sold in a narrow road in the suburbs. However, ecotourism needs to work hard first to prove its 'delicacy' before customers are after it. The introduction phase may cost a lot if not supported by a good location. Puntondo Environmental Education Center (page 34), for example, finds hard times to attract visitors partly due to its remote location, no matter how creative the packages are.

Kudapan, an organisation facilitating women groups in Sumatra (page 36), introduces and sells candles made of honeybee's hives to the association of honey candle

trees differ from trees in other places is the large number of beehives in the trees. These trees with beehives are locally called sialang. In some hamlets, the beehives have been decreasing in number due to the expansion of the people's gardens. The village forest has also been shrinking.

A series of dissemination and joint planning undertaken by Kelompok Diskusi Perempuan (women's discussion group) abbreviated to Kudapan emphasized, among others, the significance of recalling the awareness of local natural resource management knowledge, including the local wisdom that regulate Sialang Trees must not be felled. A four-hectare piece of land was also determined to be collectively used to grow Sialang Trees, which were also intended to prevent floods. In addition to this long-term program, Kudapan asked the female to embark on shorter-term programs so that it can produce quick results. Previously, the villagers used to harvest the honey and get rid of the beehives. Three women's groups from each hamlet had been experimenting with making candles out of the hives. The wicks, dye, and candle moulds were made from local materials and using local skill. Kudapan did not teach its assisted women groups how to sell, but teach them the business concept, starting

from determining and maintaining the quality, packaging, recording financial accounts, and developing business plans and products. The groups were also introduced to various networks such as associations of honey





producer and traders in Surabaya and Jakarta. Les and Serangan communities (page 41) actively offer their products to international networks. As the local demand for honey candle and ornamental coral fish is low, it will be more profitable to approach buyers although this will need some delivery cost.

Promotion

Another important aspect is promotion. The effectiveness of an advertisement depends on the selection of the media, in accordance with the target market characteristics. Putting advertisements everywhere is not always effective to boost the sale as only a few will be read by the target groups.

In addition to boost the sale, promotion can also aim at creating a brand image. As far as community's products are concerned, the brand image particularly applies to non-timber forest products.

Nonetheless, the requirement for a successful marketing of a community's product is quality control. PPLH Puntondo has started to apply this in their snacks production.

> candle traders and producers in Surabaya and Jakarta. In turn, the groups' representatives were invited to training on product development.

The number of group's members one year after its establishment was in fact declining. It is true that producing

candles does not bring immediate results, unlike becoming daily-paid workers in palm plantations. Wider candle markets are needed to accommodate the products. As one of the good exit strategies, Kudapan has facilitated cooperation with Sumatera Sustainable Support to continue the learning process for the women groups of Gunung Sahilan.

Women's Role

U involvement been increasing on women issue Groups wanting women's involv Indonesia requi up to the impler check whether to avoid false in emerging trend There are in fac credit project in products in Ria women involve account, such a cloth, whose de Despite these, involve creative



Seeking the Benefits of Mangroves for People

Kuala Indah, Batubara District, North Sumatra Partner KSM Wana Lestari

Duration & Project Costs 2006-2007 US\$ 20,000

Location 2

Mengkudu Bay, Serdang Begadai District, North Sumatra

Partner

Serikat Perempuan Petani & Nelayan

Duration & Project Costs 2006-2007 SGP Indonesia: US\$ 25,000

hen a tsunami devastated Aceh in December 2004, most of the mangrove forests were severely destroyed. However, houses in the areas were less affected due to

U pon entering the third operational phase, women's involvement in GEF SGP-supported programs has been increasing. This is partly due to the emphasis on women issue in global sustainable development. Groups wanting to submit proposals are driven to include women's involvement in their programs. GEF SGP Indonesia requires gender participation from the planning

up to the implementation of projects. The National Committee will carefully check whether there is women's involvement when selecting proposals, to avoid false involvement such as where the applicants just follow the emerging trend to include women participation.

There are in fact some activities better done by women, such as the micro credit project in Aceh (see page 49) and diversification of honey candle products in Riau. Apart from those mentioned above, there are a lot of women involvement strategies that take women's characteristics into account, such as the Lawe group in Yogyakarta that deals with traditional cloth, whose development and marketing are both done by women. Despite these, only few proposals are submitted by women's groups or

involve creative women's participation.





Villagers learning to make 'kolangkaling' from nipah fruits.

the mangroves protecting them from the violent waves. This inspired the residents of Teluk Mengkudu, Serdang Begadai district, and of Kuala Indah,

Batubara district – one-hour drive from Teluk Mengkudu - to grow mangroves on their coasts. However, linking the mangrove planting to daily needs, notably the economic ones, had been proven to be very important for the continuity of the people's participation. The species grown in Kuala Indah were mangrove (Rhizopora sp.) and nipah (Nypa fruiticans). Nipah plantation was intended to restore the nipah forests degraded by rampant harvest of the leaves for building's roofs. KSM Wana Lestari asked Kuala Indah communities to learn how to make brown sugar from the sap of nipah flowers and to make kolangkaling (a kind of dessert) from the fruits. The communities learnt how to grow the seeds and mangroves from the academicians brought to the area by the assisting NGO. Now, they even sell their self-grown seedlings.

Meanwhile, SPPN and the residents of Teluk Mengkudu, thousands of whose mangrove seeds died, learnt from the neighbouring village until they were able to grow the seeds of api-api (Avicennia sp.) and mangrove by themselves. The people, which daily collected shells sticking to the trunks and roots of the mangroves and the api-api, directly felt the benefits of the mangroves.

With regard to economic activities, KSM Wana Lestari conducted joint programs that could become a source of income for the organization in addition to improving the members' well being. KSM formed a working group called Mina Bahari, which owned a boat to catch kepiting rencong (crabs). Before Wana Lestari was established, the catch used to be sold to middlemen. Then, the women were taught to boil and skin the crabs, producing better products and hence enjoying higher prices.

Another economic activity was cultivating green mussels. Kuala Indah is one of the main producers of mussels, but not green mussels, which have better economic values. With their fund, KSM Wana Lestari built two floating cages to cultivate green mussels. KSM has also approached companies operating in their village area. One of them, an aluminium

company, has agreed to fund the purchase of mangrove seeds and the maintenance. The company also agrees to purchase brooms made from nipah leaves made by the local people, preventing the people from harvesting all the nipah only for roofs. In the meantime, the activity done by the residents of Teluk Mengkudu in cooperation with SPPN relied primarily on the project's funding although the group had tried to self-support the activity. Some of the residents worked for others who had large capital. While the planting in Kuala Indah involved all elements of the community, the work in Teluk Mengkudu was done only by women's

groups. 😫

Addressing Needs with Networking

Adiankoting Sub-district, Dolok Ginjang, North Sumatra Partner Yayasan Ekowisata Sumatra Duration & Project Costs 2004-2005 US\$2,000 2005-2006 US\$40,000

Dolok Ginjang is the buffer zone of the Asahan Dam, one of the remaining catchment areas in North Sumatra. Unfortunately, the people live in the area – especially in Adiankoting sub-District – faced various problems, which might threaten the sustainability of the catchment areas' functions. YES developed programs to address each of the problems. Some of the local people lived on farming and fruit

Answering the Rhymes of Two Jorongs

West Sumatra

AWSC Jorong Taratak & Madan Suri

Duration & Project Costs 2005-2006 AWSC Jorong Taratak US\$40,000 AWSC Madan Suri US\$40,000

The region of Jorong Taratak was threatened by the expansion of local *gambir* (*Uncaria gambir*) gardens. As there were no alternative livelihoods, it was a common practice for a young couple to open land for gambir gardens. The species, however, cannot absorb water, threatening the local water sources. In the meantime, bird habitats in Jorong Madan Suri at the foot of Mt. Singgalang were threatened to extinction due to the disappearing of large trees where birds usually nested. Moreover, many people were hunting birds for sale.

The Andalas Wildlife Study Club (AWSC) programme was intended to improve the quality of the local agricultural land and raise environmental awareness. AWSC once held a seminar at Andalas University to gather input on and support the activities in these two Jorong regions. The seminar identified the stakeholders and environmental conservation efforts and

raised awareness, improved the economy, and disseminated the activities. Unfortunately, it was not followed up by active actions to involve the people.

in Tarata

The AWSC activities in the two regions



were initiated when the members had to complete the final task of their bachelor degree by having field research of tapir conservation in Taratak forest and bird habitats in the region of Madan Suri. The group of university students, who are also animal lovers, were very

> careful with their first experience in assisting people, especially in involving people. Besides, the existing social network was not utilized optimally.

When the task was over, some of the groups' members could not keep the commitment to continue the activities. Lack of the group's initiatives and infrequent monitoring by GEF SGP made AWSC freeze the activities for eight months as they lost confidence in assisting the people. Communication and networking between GEF SGP and partners, among partners or between partners and other organisations are very important to enrich knowledge. Mutual responses will be crucial, among others is to discuss the dynamics in the field, which might entail changes to the detail in activities.



gardening (snake fruits, mangosteens, durians, langsat) while some tapped rubber and *kemenyan* (local incense). However, many of the rubber trees were old and produced little sap. YES initiated replacement of natural rubber with hybrid rubber. Most of the land in Adiankoting was neglected. YES asked the people to develop policulture or mixed garden programmes, including the application of organic fertilizers and pesticides, and the introduction of natural pests.

Some of the villagers grew coffee and cocoa. However, the cocoa trees were not maintained well and the species were not superior ones. The fruits were not much and it was prone to disease. YES brought agricultural extension workers to train the farmers to maintain the cocoa trees, brought some of the farmers to Deli Serdang for a comparative study to learn how to graft superior species on their cocoa trees, and brought 27,000 superior cocoa seeds from Jember.

These series of problem solving activities by YES were made possible due to its wide network.



Networking, is it Important?

es Initiative: Coral reef rehabilitation and community's economic improvement through ornamental fish trade are two examples of biodiversity conservation where external factors are dominant to form networking. Market demand requires replication of the program to form a supplier network.

Such a network will comprise like members: for example ornamental fish fishermen. The form of the network is similar to Koalisi Perempuan Indonesia and urban Poor Linkage (Uplink). Another form is Jaringan Kerja Pemetaan Paritispatif (JKPP), whose members are from various backgrounds and work scopes but are related to spatial plan issue. Another is the mailing list through the internet, which is very loose, similar to many NGO networks in Indonesia. The main issue in a network, and the topic discussed in the mailing list become very important. There should be clear advantages from this collaborative work for all the members. If there is not any, the mailing list will be left and finally dead. Quite often, a mailing list is less active after the workshop despite the agreed issue and a realistic follow-up plan. That is why a motivator is required. Jaring Pela, a coastal and marine conservation network, for example, once agreed to a rotational motivator service among the members to revive discussions and collaborative work.

The role of a motivator is crucial in Uplink's strategies. The coalition of various community groups working on urban poor issues has 14 nodes in 14 cities. Uplink has two kinds of networks: horizontal and vertical networks. The horizontal network is an inter-node network, connecting urban poor groups, pedicab drivers, and saving groups. The vertical network links urban poor groups to other social groups such as NGOs, academics, university students as well as reporters, who are all concerned about urban poor issues. The vertical network builds cooperation with outside groups. In addition to the substance of the cooperation, one important thing here is strategies to minimise operational cost and each participant's tasks. For example, when the community living along a river in Surabaya was to be displaced, Komunitas Strenkali, an association of 12 villages, intensified the vertical network with planologists, hydrologists and architects to support proposition of a counter concept. The architects from various universities helped the community develop a village blueprint. The

hydrologists calculated the flow rate. Creation of positive public opinion and pressure on the government were supported by mass media. As a result, the proposed provincial government regulation on re-arrangement of the riverbanks of the Surabaya River and of the Wonokromo River was totally revised. The community was allowed to live there but they must not build more houses, must manage waste and household's liquid waste, green the area, etc. One can imagine if all the work were to have been done by the community and Uplink alone.

Knowledge Exchange to Support Program Implementation

According to Wardah Hafidz of Uplink, the most effective media for community learning is to pay a visit to another group. People will be more motivated if they have firsthand experience in another area. In waste management, for example, Uplink encourages the Jakarta community to learn from the Strenkali community in Surabaya, who has had experience in managing household/village waste. Previously, it was COs/activists that were sent for knowledge exchange. The method proved to be ineffective to encourage the community to act.

Uplink has even sent some people to Pakistan, India and South Africa to learn the community's saving systems. In the countries, community's saving is a forum to organise and not a mere money collecting forum. Uplink also sent some members of Strenkali community to see first hand the upgrading of a poor village in Bangkok. Although the waste management technology adopted by Strenkali is not what was learned in Bangkok, the visit has aroused curiosity to seek and find solutions to problems faced by the community

Learning visits have also been practiced by some GEF SGP Indonesia's partners. Yayasan Ekowisata sumatra encouraged the community of Adiankoting in North tapanuli to learn cocoa maintenance to maximise the harvest from cocoa farmers in Deli Serdang Regency. As a matter of fact, they also learned about organic fertiliser. Previously, it had been very difficult to ask them to stop using chemical fertlisers.

Media

The learning visit, however, does not directly encourage others to do the same. The key is how the observers share the experience and the knowledge with others. One of the techniques used is demonstration plots (demplot) to allow others to observe and experience first hand.

The community of Strenkali Surabaya uses the demplot system to spread the waste management system. Rapidly, all the other communities can do it by themselves. As a matter of fact, the year 2003 saw the agreement to an independent waste management scheme for Jogo Kali renovation. The scheme, however, has yet to be realised.

The demplot system is easy to learn and implement if it is related to activities whose results can be observed in a short time. An example of this is the waste management system. However, it may take years to learn how to build demplots for hard crop trees as Babad's experience in Purwokerto (page 8).

Despite all these, demplots are not the answer to all the problems. Travel cost has often delayed the sending of the learning teams. Uplink Tasikmalaya Node cleverly solved the problem by videotaping. A videographer was sent to Surabaya to videotape the waste management system. The video was then discussed and successfully drove the community to adopt the system.

More Demands Less Fish

Les and Serangan Village, Bali Bahtera Nusantara Foundation Duation & Project Cost

2002-2003 US\$45,000 2004-2005 US\$50.000 2009-2010 US\$15,000

es initiative developed by Yayasan Bahtera Nusantara Lahas become a success story cited in various comparative studies and reports. Les Tejakula Village in Buleleng Regency has become an example of how fishermen have



Video is easy to attract people, and can be watched together, and easily proliferated. These potentials gave birth to an idea to prepare a videotaping comic (page 44), which describes how to create a simple video and how to use videos as a learning and advocacy tool.

The comic has been used by GEF SGP Indonesia's partners and some other groups for three years. Uplink, for example, used it in its community video training programs in 14 cities. Later, the comic was used by the community without being assisted by facilitators. The housewives' group of Majelis Taklim Al-Hidayah, a community group facilitated by Rahima, the Jakarta-based Center for Islamic Education and Information and Women's Rights, also used the comic. They said that the pictures were a really great help to better understand the videotaping process.

Not all GEF SGP Indonesia's partners consciously develop networking with outside groups. Some are even trapped into ineffective networks. According to Francis Wahono, horizontal networks are often not prioritised. For example, the founder of Yogya-based Yayasan Cindelaras thinks that we should let farmers communicate with one another for they must have a lot in common. "Because so many factors need to be considered: technology, customs, culture, durabilty, ..." he said.

managed to abandon destructive fishing practice and shifted to non-destructive one. Fishing reform here did not stop at termination of cyanide fishing 2001. The reform was applied in the entire ornamental fish industry, from catching, to post harvest management, to packaging, to international marketing. From managerial aspects, a business unit, PT Bahtera Lestari, was established, some of whose stocks are owned by the fishermen through their group, Kelompok Nelayan Ikan Hias Mina Bhakti Soansari. In addition to Bahtera Nusantara, the initiative was also supported by Telapak and GEF SGP.

Coral Reefs & Coastal Area

ssues on problems surrounding coral reefs and coastal areas grew as slowly as the growth of coral reefs. There was relatively a lot of publication, but most raised general potentials and threats. Besides, most of the data used were relatively old.

Data on Indonesia's coral reefs vary greatly. They were said to encompass 21,000 km2 (Coremap, 2003) or 50, 020 km2 (Moosa et. al., 1996), and even 85,700 km2 or 14% of the world's total (Dahuri, 2002).

However, a research by the Oceanographic Research Center of LIPI (the Indonesian Institute of Science) during 1996-2006 showed that Indonesia's coral reefs tended to become better. The observation had also taken into account the mass destruction caused by El Nino in 1998.

As incorporated in the IBSAP document, the estimates of the benefits from Indonesia's coastal and marine ecosystems are as follows:

- 1. The use and non-use values of mangrove forest is US\$ 2.3 billions (GEF/UNDP/IMO, 1999)
- 2. The economic value of the coral reefs is US\$567 millions (GEF/UNDP/IMO, 1999)
- 3. The sea grass value is US\$3,858.91/hectare/year (Bapedal and PKSPL-IPB, 1999)
- 4. The ecological and economic value of the seaweed is

around US\$16 millions (GEF/UNDP/IMO, 1999) 5. The economic value of the marine fish is US\$15.1 billions (Dahuri, 2002)

Coastal and marine ecosystems also embrace social benefits, i.e. providing livelihoods and jobs for millions of coastal communities. From the environmental service value viewpoint, they can absorb carbon (seaweed) and protect coasts (mangrove forests). In relation to global climate change, the value of seaweed's carbon sequestration might fetch US\$180/hectares/year (GEF/ UNDP/IMO, 1999).

On the other hand, climate change and local problems have posed a threat of extinction to one third of the world's corals. One of the indications is the inclusion of 845 coral species into the IUCN's Red List. The declining number of coral population was allegedly caused by bleaching and the rise in sea temperature (Yayasan Terangi, www.terangi. or.id, 2009).

With all the potentials and threats, Suharsono, the Head of P2O of LIPI notes that the biggest challenge of the recent coral reef management is to change fishermen's way of life, from harvesters to cultivators.

Is Les initiative successful? It depends on what measuring stick we are using.

Bahtera Lestari has exported ornamental fish several times. Importers have come to a conclusion that Les ornamental fish are much more profitable than those caught using cyanide. A formula developed by Bahtera Lestari, which is added to the water bag, can reduce mortality rate during delivery to less than 1%. Even during the economic crisis, the sale has been increasing.

However, the core of the environmentally-friendly ornamental fish trade is the capacity to access international market. Thousands of ornamental fish demanded by European importers have still been too many for Les to supply. This means that environmentally-friendly ornamental fish industry has to be developed in other locations throughout Indonesia. This is the only way to meet the demand if we want to avoid overfish in certain locations. Replication of the initiative is a must

before the big idea can be realised, i.e. coral reef rehabilitation and community's economic improvement through environmentally-friendly ornamental fish trade.

Based on the facts, similar initiatives are being implemented in Buton, Belitung, Batam, Palu, Kendari, and Pulau Sembilan in South Sulawesi to name a few.

All Efforts for Coastal Conservation

Kendari, Southeast Sulawesi Yayasan Bahari (Yari) Durasi & Nilai Proye 2002-2003 US\$41,000 2005-2006 US\$50,000

The vicinity of Teluk Luar in Kendari is the key to coastal and marine conservation of the southern part of South East Sulawesi. Yari tries to encourage the coastal community's participation in addressing ecological threats. In addition to blast and cyanide fishing, and coral harvest, threats come from meti-meti practice, i.e. local practice in which the communities collect marine biota during the tide. The threat comes

from the use of wooden sticks and even crowbars to turn corals upside down in search of the biota. Yari invites

the communities to be aware of the danger of overuse of sero and pukat balubba. (Note: The former is a kind of fishing gear and the latter is a kind of trawl).

In the course of the program, problems have been arising, from those related to fishermen's daily lives to land-related conflicts. Entering deeper into many aspects of their lives. Yari tries to address every need, anticipating possibilities by practically utilising all means.

Turun ke jalan ANYE PELESTARIA TEM TERUMBU KARANC ku Rusak Manusia Sengsa



Mengajak anak-anak sekolah terlibat dalam restorasi manoro

Transplantasi karang

jak masyarakat membersihkan anthaster plancii, angsa yang merusak terumbu karano

ini areal terumbu Karang rusak. itaan ekar ikan kehilangan tempat hidupnya eso depan terumbu KARANG berada ditangan kita an seKARANG atau tidak untuk selamanya





Initiating Village-to-Village Media

Jakarta

Partner Kelompok Ragam Duration & Project Cost

2006-2007 US\$13,000



NAAH... ! SAYA SUKA HASIL VIDEONYA NANTI ... SEMUA ADEGAN DITAMPILKAN. TAK ADA YANG DIHILANGKANI

company says that who **L L** controls the media controls the future. What has happened to many community groups is proof of the statement: the groups are controlled by outside interests because they do not have any media to voice their problems and position.

n owner of a large media

In 2004 GEF SGP Indonesia pioneered the development of video proposal, documenting the aspirations of the

indigenous Anak Rimba in Makekal Hulu, Jambi. Following the introduction of this modern technology, the communities started to learn videotaping and participated in video production. The year 2005 saw a video training session in Ngata Toro, followed



Warga dan

SEBAGAI "PELAKU" ATAU PEMAIN, ATAU AKTOR. HASILNYA ADALAH 3EBUAH UNGKAPAN YANG JUJUR DAN BERANI MENGUNGKAP ENTANG JATI DIRI SENDIRI DAN KEHIDUPAN YANG DIALAMI.





TAPI BAGAIMANA YA??? ... KALAU BILA IKAN PUNAH, KITA SEBAGAI NELAYAN AKAN REKLAMASI ITU BAGIAN DARI PROGRAM KESULITAN UNTUK MEMENUHI KEBUTUHAN PEMERINTAH? HIDUP SEHARI-HAR

TAPI, KERUGIAN YANG DITIMBULKANNYA JAUH LEBIH BESAR LAGI. KERUGAKAN ALAM BAWAH LAUT AKIBAT REKLAMAGI ITU PERLAHAN-LAHAN AKAN MENYUGUTKAN JUMLAH IKAN HINGGA PUNAH SAMA SEKALI.

33



by training on developing video of the

village from constituents' perspective

The comic on videotaping is expected

to rapidly spread the learning to cover

wider-range of communities.

BAGIAN (SEGMEN)

PENGENALAN

MASALAH

in Bali (2006) and Aceh (2007).



knya hutan











AKU TAHU...AKU TAHU!







44

Community Video Network

Location East Java

Urban Poor Linkage (Uplink) 2008-2009 US\$35,000

norong Sidoarjo region suddenly became very popular due to **I** mudflow from the bowels of the earth at the end of 2006. Dozens settlements were buried or can not be inhabited again. Uplink was one of many NGOs facilitated community groups to survive and obtain their rights.

Uplink program, among others in collaboration with the GEF SGP establish community-based environmental information center and participatory video networking community. The initiative was preceded by a participatory video workshop, July 2008, a ten-day activity facilitated GEF SGP and Insight.

The training methodology was experiential learning. Two-day

The process of making a video in Strenkali Surabaya on the role of women in the struggle of citizens, involving 30 women from 5 villages. Editing done by three local youths, who then make more videos of Strenkali community.

classroom session followed by field practice, inviting

residents of the Lapindo mudflow disaster refugees to document their own life problems. Video editing was submitted back to the workshop participants, only because it needs technical skills. Then the edited video was played in the refugee camps, so that participants can evaluate how the strategic target group responded to their work.

The alumni then create a mailing list and join an already established website www.videokomunitas. com, created after video trainings facilitated earlier by GEF SGP.

Development of the community video network was made easy

because Uplink itself is a network organization. After attending the workshop, more members of Surabaya Uplink are involved community video. Participatory video is used as a medium of organizing and advocacy.

The plan to establish of a participatory video learning center in East Java has not been functioning optimally. However, some civil society organizations actually take advantage by borrowing the equipments. Substantial and technical discussions are held, to enrich the storyline, techniques and software.



by Rubby Emir, a videographer

Lapindo"

The above is the opening message of a video made by Kopi Permisan group. If you expect to watch a documentary video on the mud volcano like the famous "Mud Max", just forget this video. After the opening, we'll see a fictitious satirical video on the villagers of Permisan, who have lost everything following the mud eruption, with a mad man as the main character. It depicts a group of young men drinking and laughing at their dim future. The dialogs bring so much strength as they are uttered in a typical and natural way, with no intention to teach.

Another video shows the struggle of 6 students of Kupang 4 elementary school in Jabon, who study with minimum facilities. They are few who still linger on from a once glorious coastal community, which used to be well known as the center of shrimp, bandeng and other fish producers. When the sea from time to time flooded their ponds and even houses, they had to abandon the village. At a glance, the movie is like Laskar Pelangi (a famous movie about 10 poor children studying at schools with poor facilities). The only difference is that the Jabon children's problems still remain.

The Coffee Community (Kelompok Kopi; 'kopi' = 'komunitas pideo' local slang for 'video community') was formed by some youths of Permissan, one of the villages destroyed by the mud. It was Hadi who inspired and organised his friends in the village to develop the so-called village videotaping. Hadi acquired the skill from the Human Right-Based Paticipatory Video workshop held by GEF SGP in 2008. After the workshop, the desire to produce videos kept growing despite absence of the equipment and fund. The coffee group has been producing videos using borrowed equipment.

Sustainable Trainings

C everal trainees of GEF SGP-facilitated participatory video training Ocontributed to the preparation of the book as well as the video documentation. Those living in Aceh were responsible to videotape in Aceh and North Sumatera; those in Jakarta covered the process in Jakarta all along the way to West Sumatera; those in Bandung covered West Java; those in Sidoarjo covered East and Central Java; and those in Palu covered Sulawesi region. Thus, the participatory video community started to get active. Similarly, in other events GEF SGP always tries to engage these videographers when necessary.



"Attention! All the scenes and characters in the movie are fictitious. The only real thing is the mud volcano of

- No strict rules and procedures are applicable in this collective learning process. To Hadi, skills and knowledge are to share. Through spontaneous and trial-and-error processes, sometimes at the cost of the equipment, new findings emerge, enriching their knowledge and skills. In fact, it is through the learning process that they find the real values and benefits of village videotaping.
- Permissan is one of the villages that are indirectly affected by the mud. Lying in a flat and swampy area, the village is ideal for pond cultivation. Unfortunately, the Brantas River, which is the main source of water for the village's ponds, is contaminated by the mud.
- There are two groups in the village that have never met in any event for generations because each has their own leader. Although living in the same village, they refuse to sit together in a meeting, and even in Koran recitals.
- Since the Coffee Community was active in producing videos, the tension between the two community groups has started to melt. The Coffee Community's members come from both the groups. They gather together for one reason: to produce videos for far-reaching and beneficial goals.
- The Coffee Community keeps producing videos, using the borrowed camera. And not only making wedding videos, they do commercial activities. They even managing a coffee corner! The profit gained is used to buy cassettes or repair broken equipments. They are determined to produce videos based on coffee philosophy. People drink coffee in order to stay awake, don't they?

Sprouting on Top, Rooting at the Bottom

The presence of LEM proves that communities have a position in struggle for dignity and independence. Sense of belonging is the key. Mardiyah Chamim

unday morning, 26 December 2004, the world was rejoicing Over the coming of New Year's holiday. On the same morning, a great earthquake occurred and caused a giant tsunami that devastated the coasts of eleven countries. Humans submitted to nature force. 180 thousands of people were killed in Aceh and Nias.

Immediately, all the eyes turned to Aceh. Hundreds of thousands of volunteers from all over the world came to lend a hand. Both local and international NGOs flooded the province.

Four years have passed. Aceh starts to be forgotten. All but a few humanitarian organisations have ended their programs. Then, a question arises, "How much have the trillion rupiahs of aid and countless work contributed to the rise of Aceh and Nias communities?"

The answer is not simple. It needs courage of the Acehnese and local and international NGOs to look into themselves, "Has the aid been able to make the people of Aceh rise with dignity?"

Physical development is obvious. Roads, bridges, houses, schools, governmental buildings, hospitals, and health centers have been built with the quality that will make outsiders envy. However, post disaster rehabilitation is not of mere physics. Non-physical rehabilitation is in fact a

piece of much harder work. It should be admitted that the problems are not that simple. Aceh is not wounded by the tsunami alone. It has scars of physical and mental wounds from prolonged and bloody conflicts during the New Order regime. The fragile trust, solidarity, and social order resulting from the conflicts have made post disaster rehabilitation rather difficult.

While many NGOs have done exceptionally helpful work, they have also brought bad impacts. Some say that work ethics has been deteriorating. Some of the Acehnese are dependent on aid. The dependency is common in disastertorn areas such as in Iran and Afghanistan following a disaster. Usman, the Geuchik of Suak Sikke Village, Samatiga District, Meulaboh, complained about the difiiculty to ask people to cooperate. "People have been spoiled by the cash for work program. Do a little cleaning work and get IDR35,000 per day," he said. Whereas, "Climbing coconut trees all day will only pay IDR5,000." When asked to work, they would ask, "Cok peng? Where is the money?" Non-physical rehabilitation, however, is not totally dim. In some areas community groups have arisen working in togetherness, fighting for the future. It is these groups that raise hopes of a better future in the midst of the chaotic post disaster rehabilitation. The emergence of LEM

Teuku Irwansyah, the Executive Director of Yayasan Pembangunan Kawasan (YPK), Meulaboh, West Aceh, is one of the local figures promoting community's role in the rehabilitation and reconstruction of Aceh, particularly in Meulaboh.

Irwansyah is not new to community empowerment work. Since 2000, he and YPK have been trying to improve community's capacity through various programs, among others the community's self-help group program. Economic improvement will have to be an important activity for fragile communities often trapped into conflcits. "Without a strong economy, it is impossible for people to rise. Without economic improvement, people are easily provoked," said he. Soon after the tsunami, Irwansyah understood that Aceh once again was at a critical point, not because of the tsunami but because of the enormous aid. "Almost all organisations have given aid, be it money or things."

He said. "Very often, the aid was not distributed properly, in accordance with the need." If this continued, the Acehnese would be trapped into dependency. Always begging for help would not keep them doing. Therefore, awareness to support themselves must be raised. The way, according to him, is "by forming micro economic institution or LEM."

The institution, according to Irwansyah, should become a trust fund institution at the grass roots level, which coordinates village level development, and links NGOs, donors and the community. But few are willing to listen."

GEF SGP is among the few which was willing to listen to the grass roots' voice. Along with GEF SGP and the facilitator team, YPK in the last week of April 2005 held a workshop on the forming of LEMs in Gampong Suak Pantei Breu. The participants were members of YPK- facilitated community in Samatiga. The workshop was the critical phase to pursue the future. In June 2005, the first LEM was founded, namely LEM Maju Bersama in Pucok Leung. Other LEMs followed: Mitra Abadi in Suak Sikke, Ingin Makmur in Lhok Bubon, and Karya

grants recklessly have been exacerbating the situation. One British organisation distributed IDR3,5 millions per household in various villages. Claiming it as an economic improvement program, it did not have clear criteria and mechanism, and the receivers were not obliged to return the money. As a result, the money was spent on consumptive goods such as clothes, sandals, parabola antenna, and cell phones. None went to productive activities.

Five Strategies to Grow

Based on the field observation in early 2008. the writer found out that there were five ways to make LEM develop well.

First, LEM management had to be solid to gain the communities' respect by approaching them. "We come to

Has the aid been able to make the people of Aceh rise with dignity?

Tabina in Desa Gampong Cot. Besides GEF, several other organisations also supported the program, among others Oxfam and Islamic Relief.

There is something unique about YPK's LEM. The institution is named by the villagers while the others are named after the donors. "The villagers themselves chose the name. We were just supporting them," said Irwansyah. LEM's course is not always smooth. Encouraging villagers to participate is not easy. One of the most commonlycomplained obstacles is the cash for work program by many working NGOs in Aceh. "This has hampered cooperative work or village meeting," said Safri Medi, the manager of LEM Mitra Abadi, desa Suak Sikke. Hundreds of organisations disbursing

each house, collecting installments and explain that it is the loan and has to be paid off," said Ramadan, a staff of LEM Mitra Abadi. Second, LEM had to reach village officials and leaders through regular meetings in the village. "Officials' involvement is the determining factor,' said Safri Medi. "Pak Geuchik can encourage the villagers to pay the installments on time." Currently. 60% of the Suak Sikke community have enjoyed loans from LEM Mitra Abadi. If the institution keeps maintained and developed well, Pak Geuchik is convinced that it can serve a wider range of community. Raifudin, the Geuchik of Desa gampong

Cot, will boldly reject donor's aid that does not conform with the spirit of



participation. "We once rejected a micro economic program offered by a big institution because they did not want to use LEM. They wanted to form their own institution," he said. "What for? We already have LEM Karya Kabina." Third, LEM had to be fully involved in the village life. This was important to raise the villager's sense of belonging towards LEM. Safri Medi had successfully applied this approach in Suak Sikke. He involved in various activities in the village: becoming a member of the mosque building committee or of the election committee during regional head election.

Fourth, LEM had to engage women. Experience learned from several LEMs show that women had more concerns about the institutions' development and continuity. Women members, according to Safri, were more obedient to paying installments. They also made careful consideration before borrowing money and running a business.

Raifudin, the Geuchik of Gampong Cot, even thinks that LEM should focus on women. "Let the men find working capital from other institutions," said he. Desa Masjid Baru even has a LEM with all the members being women. LEM Tunas Baru, formed in 2003, incorporates 68 women and disburses loans ranging from IDR1.5-6 millions per individual with 100% payment. "It is a shame not to pay off," said Dahniar, one of Tunas Baru staffs. Selection of the applications is a bit complicated; applicants have to attach a recommendation letter from the staffs, one from the husband and one from the Geuchik. The procedures turn out to be effective to arouse caution. "And also for the women not to be used by the husbands to borrow money for their interests," said another staff.

Suak Seuke Afraid to Fail

tranquil lake borders Suak Seuke Village, Samatiga District, South Aceh. The banks are filled with pandanus. In the distance appears the blue sea behind rows of waving coconut leaves. Suak Seuke is an example of a community working hard to put their life together after being devastated by a disaster. Four years ago, the village was devastated by the tsunami. More than half of the villagers were killed. The coastline has shifted 1 kilometer deeper into the interior. "The trees used to grow so close side by side that we could not see the sea." said Dewi. one of a few survivors. "Now, we can see the sea from our windows." Houses are lined up neatly on both sides of the road. Euphorbiaceae flowers shine a blasting red proudly in the yard. The road is covered by asphalt. Suak Seuke is an example of a village that can rise again with dignity. "This is a village that can manage to process artificial rain into a productive asset," said Irwansyah, the director of Yayasan Pembangunan village after the tsunami. The rise of the village cannot be separated from

the presence of the micro economic institution (LEM) Mitra Abadi, currently headed by Safri Medi. The institution was founded in September 2005. "It was not easy in the beginning. We, the management, were not ready," said Medi. The villagers were still bombarded by free services and grants from a number of organisations. The money, however, was mostly spent on clothes, cell phones and parabolic antennas. LEM Mitra Abadi came in with a revolving fund program - a concept that requires hardwork and mutual respect from all the community. Applicants had to demonstrate their seriousness, become a member and pay a IDR5,000 monthly fee. During the first three months, they were not allowed to borrow money. As a result, many became hesitant and complained: "Joining LEM turns out to be complicated." Slowly, along with the village officials, Medi made some approaches.

"We have to help ourselves," said Usman, 47, the Geuchik of Suak Seuke. He admitted that at first he himself had a misconception of LEM. He thought that LEM meddled too much in village affairs. But he realised that that was the way the staffs approached the villagers. "Now, when the village needs money, say to furnish the mosque, we come to LEM," he said. "When someone gets sick and does not have any money to go to a doctor, the village holds a meeting and decides to come to LEM for help." It is true, LEM is more than just an economic institution; it is also a socially binding agent. "Now, the villagers live in harmony. Togetherness is somewhat higher," said the Geuchik.

Unexpected Access to Capital

Hasyimi, 34, borrowed some money from LEM Mitra Abadi twice; one under his name; the other under his wife's name; each time he borrowed IDR5 millions. The money was used to open a bike repair shop and a small grocery store, run by his wife and his younger brother. He has a daily IDR100,000 turnover now. He is enjoying a better life than that before the tsunami. "I used to work as a rubber tapper for somebody," he said. He used to rent a house but now he lives in an aid house, which has been renovated and enlarged. Hasyimi has also been able now to buy a pick-up truck on installment.

Salmiyah, 57, lost her husband, three daughters and grandchildren in the tsunami. In early 2006 she borrowed IDR2.5 millions from Mitra Abadi to start a coconut oil processing. A hundred coconuts were peeled, grated and steamed for two hours. The grated coconut was pressed until the all milk came out, then boiled in a large pan until it produced oil. "Out of 100 coconuts I can extract 7-10 liters of coconut oil," she said. The oil was sold at IDR24,000 per liter. Every three days she went to the market to sell the oil. The loan has long been paid off.

Cut Ani, 36, with her husband, runs a copra incinerator. The couple has borrowed money from LEM three times, totalling IDR 9millions. The incinerator has the capacity to burn 400 kgs of coconuts. Once a week, agents from Medan come to buy the copra.

All the loans mentioned above were working capital Hasyimi, Cut Ani and Saliyah had never thought possible to access. "If we borrow from the bank, we have to answer a lot of questions. Besides, we have to put up our land, house or garden as collateral. In the event of a one-month default in payment, the collateral will be seized," said Hasyimi.

In the end of last year, on Idul Fitri, LEM shared the profit among its members . "Can banks do so? They eat up all the profits," said the Geuchik.

Later, Mitra Abadi applied a collateral system. "To raise accountability among the borrowers," said Medi.

Very Eager to Succeed

"We are really afraid we'll fail so we work hard to succeed," said Medi telling the reason why he worked so hard for LEM Mitra Abadi.

"Our salaries are not very good but there is a satisfaction in accompanying the villagers towards independence." Medi is just a senior high school graduate and has never studied financial management. All the villagers are involved in LEM decision making. The Geuchik, young figures, and housewives are invited to the meeting. Agreements and rules of the games are decided together, not an easy process.

"The villagers are often cheated. It is natural if they were suspicious

The fifth strategy, LEM should have a good administration. According to Irwansyah, the better the administration is, the better the institution grows. Villagers will put more trust if their data are managed well.

Kawasan (YPK), an NGO assisting the

On top, LEM has a good networking with many supporting groups – NGOs, donors and the government. At the bottom, LEM is much respected by the villagers and the staff. "Sprouting on top, rooting at the bottom," said Irwansyah.

It is true that things are not always black or white. The five strategies cannot be applied 100% in each village. Suak Sikke can be said to be the most comprehensive village to help drive LEM, from villagers and officials engagement, solid staffs, active participation in village affairs, and well-managed administration. It is no surprise LEM's performance is quite impressive (see "Suak Seuke Afraid to Fail").

LEM Maju Bersama in Pucok Leung performs relatively slower than LEM Mitra Abadi. "The officials are not supportive, particularly in dealing with provocation from borrowers who do not want to pay off their debts," said Ali Hasyimi, the field manager of YPK (see "Advancing Together in Pucok Leung").

LEM Ingin Maju in Desa Lhok Bubon, has more problematic situations. The management is not solid and lacks confidence. The management has difficulty in delivering programs and engaging the officials, let alone promoting villagers' participation (see "Lhok Bubon Wants to Prosper").

"Lhok Bubon Wants to Prosper"). It should be noted that the success of LEM is not limited to the amount of the revolving fund. The institutions have managed to restore the social tie, which was ruined after the tsunami.



and reluctant during the first few years of LEM service, Medi said. Prior to the tsunami. there were many village cooperatives. But, all used a top-down approach; all the initiatives were decided by the head office. The cooperatives seemed to benefit themselves only, leaving nothing for the members. Learning from cooperative's failures, LEM is determined to do its best to involve the villagers. It is not an easy process, though. "It took a year until the villagers realised that they had to work as well." said the Geuchik. Full support from the village officials is key to Mitra Abadi's success. Through village meetings, the Geuchik stressed the significance to maintain LEM. "It also belongs to us, isn't it?" he said. Discipline for payment and membership fee are for our own good. "So that more villagers can benefit from the service."

Officials' support is accompanied by the staffs' hardwork – visiting houses to collect installments. Not all the visits are successful. "There are always naughty people," said Ramadan, a LEM staff. The currently frequent global monetary crises are the most favorite excuse for not paying.

Efforts to build social relationship and social order deserves higher appreciation.

LEM is an effort to take control of the future. Rather than becoming the object, the community tries to take control, to determine what they are up to, i.e. to rise with dignity. Muchlis, for example, borrowed money twice; first IDR3 millions, then IDR5 millions to run a small grocery store. "In the beginning I always paid regularly, but in the last four months I have defaulted," he said. "Where should I find money? Everywhere people are facing a hard time in economy. Copra price is going down and so is rubber's. In the end, I owe my store. How can I pay to LEM?" LEM management is serious in improving the administration. The financial report is put on the office wall so everybody can have a look at it. "Including the names of those who defaults," Medi said. Doing so will produce a social sanction.

Managing to get out of all its problems, Mitra Abadi achieves the best performance among YPKfacilitated LEMs. The fund managed by Mitra Abadi since its inception in September 2005 has totaled IDR348 millions with 56.7% payment - the highest among the other LEMs, which range from 12 to 53 percents.

Currently, the revolving fund at Mitra Abadi, according to Safri Medi, amounts to IDR110 millions. Payments from the 121 members stand at IDR217millions. Medi and the management should feel proud of this. Of course, aid from outside groups is still needed, not necessarily in the form of capital but training on and management of home industry. Four years after the tsunami, Medi and Suak Seuke community should be proud. Mitra Abadi keeps growing, supporting the villagers. Medi even convincedly said, "We are convinced we can be independent although the donors no longer accompany us." **S**

Advancing Together in Pucok Leung

ne and a half year after the tsunami, when millions of people were busy receiving many aid packages, Pucok Leung took one step ahead. Several meetings were held by the coastal village in West Aceh. They were discussing a dream to create a better future. On June 12, 2005, after a long meeting, LEM Maju Bersama was formed, the first LEM in Aceh after the tsunami. Currently, it has 114 female members and 127 male members. Not less than IDR341 millions has been used by the members to run various businesses: home-based 'kasab' embroidery industry, furniture and chicken breeding.

"I borrowed IDR700,000 from Maju

Bersama to buy equipment and embroidery thread," said

Rosnilawati. Her business was developing fast. "On last Idul Fitri, I got an order to make 13 sheets of 'kasab' embroidery, each sold at IDR300,000," she said. Rosnilawati's 'kasab' not only has traditional peacock embroidered with golden thread on it. She always paid LEM timely and was trusted to take the second loan amounting to IDR5 millions. The money was used to run a chicken slaughter house. Every month the order might fetch more than 400 chicken. "Thanks God. I can save for my children's education," said the mother of two children.

Syaifuddin, 33, borrowed IDR5 millions to run chicken breeding. Lasting only for three months, he changed the business. "Now, I plant chilies.

Lhok Bubon Wants to Prosper

he Lhok Bubon villagers named their LEM 'Ingin Makmur' (want L to prosper). "Who does not want to prosper?" said Vijay Kumar, 25. LEM Ingin Makmur was founded in late 2005. It can be said to be the slowest in progress of all YPK-facilitated LEM. Many factors are responsible for this. "Personnel replacement is not good and has brought about so many consequences," said Ali Hasyimi, the Field Manager of YPK.

Ingin Makmur management fails win the villagers' hearts. The villagers are less involved. For example, the greening program in 2006 had planted hundreds of coconut trees, mangroves, and ketapang trees on the beach, but none took care of the trees. They are all gone now.

Communication between the management and the 168 members is poor. The office is idle.

No meetings have been held for two years. Vijay was once disappointed by the management. "I proposed to get a boat but was rejected without clear reasons," he said. In fact, Vijay thought he was a competent fisherman. "Other fishermen got a boat, why not me?" According to the management, Vijay's proposal far exceeded LEM's platform/regulation. Vijay applied for an IDR15 million loan while the regulation set the maximum to be IDR5 millions. However, the point is that no communication is in place.

The management once planned to put up an announcement in a coffee shop. "Who pays regularly and who does not" would be publicly announced. "Then, the community got angry and wanted the announcement removed," said Rustam, the manager of Ingin Makmur.

I turn out to have a small lot on the mountain," he said. Now, he is quite successful. Every three days he collects 20-25 kgs of chilies. If prices are good, one kilo costs up to IDR25,000. He has a better livelihood than before the tsunami. "I used to work as rubber tapper for someone. Now, I am very happy to have my own garden," he said.

Pucok Leung Trade Center

Who says trade centers can only be found in big cities with their splendid buildings? One can also find not one but two trade centers in Pucok Leung, a coastal village in West Aceh. Although they are not as splendid as the ones in big cities, they are simple but functional.

Pucok Leung the two trade centers for handicraft products and fishery

The villagers surely do not want their LEM non-operational and eventually disbanded. "We want our LEM to advance like the LEMs in the neighboring villages," said Mahdi, 44. Early 2006 he borrowed IDR3.5 millions; however he paid regularly until the tenth month only. "Why should I pay? People above us - our leaders/ figures do not pay," he said. "I know it is a debt, has to be paid off. We do have money but we just do not want to pay off."

Mahdi's another excuse for not paying off the debt was "We are in an economic crisis, people are not willing to pay the coffee they drank. My coffee shop got stuck." As a matter of fact, the economic crisis has occurred only in the last three months.

Ingin Makmur achievements were relatively poor. The total fund disbursed since its inception amounted to IDR510 millions with 12.79% payment rate. The revolving fund only

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Fortunately, every cloud has a silver lining. In the midst of difficult times, a man came, bringing a hope. Baharudin, about 50, who lost his wife in the tsunami, was a hard worker. He managed a manually-operated copra incinerator. With his brother, M. Yunan, he ran the business diligently. Every week they produced 300 kgs of copra ready for sale. During rainy days, the incinerator could not perform at the maximum capacity, and Baharudin went fishing at sea. "I can't stay doing nothing. I have to work to send my child to university," said the widower, who had married another woman. The result was impressive. He borrowed money from Ingin Makmur three times; first IDR3 millions, second IDR5 millions and third IDR8 millions. The first two loan were paid off before they were due." The first loan was paid off in four months; the second



saving was only IDR31.6 millions in

He admitted that there were some villagers provoked him not to pay the installment." "But I refused. The LEM has helped me much," he added. Baharudin regretted that some villagers did not want to support Ingin Makmur. "It means that they are not grateful. Some people helped us. We should be thankful when there is someone helping us and express this through hardwork and discipline in paying the installments," he added. The installment collecting, according to Baharudin, needed to be stricter, "In banks, two-month default means the bank will seize our house (collateral). In Ingin Maju, one of the staffs will come to us, with a smile," he continued. He is a really simple man but has a strong motivation and wide perspective. He expected that YPK would help improve Ingin Maju. "It is a pity if it is not taken care of," he said.

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Aceh. Sumatra

- 1. Yavasan Puter Setting up Website for Knowledge Management as Follow-up of Coastal Planning and Management for post Tsunami Aceh Recovery 2003-2004. US\$4,000.
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- 5. Lembaga Hukom Adat Panglima Laot Rehabilitation of Mangroves and Economy after Tsunami, Pulau Weh Island 2003-2004 115\$17 000
- 6. Forum LSM Aceh Green Conference & Expo 2004-2005. US\$35.000.
- Bali
- 1. YBLL Riverbank Enforcement with Bamboo, Ayung River
- 1998-2000, US\$7,125, 2. Yayasan Manikaya Kauci Optimalisation on Waste Land Management.
- 1993-1996, US\$13,790 3. Yayasan Bahtera Nusantara Coral Reefs Ecosystem Restoration &
- Community Empowerment in Environment Friendly Aquarium Fish Trade to Raise Fishers Livelihood 2002-2003. US\$45.000. 2003-2004 US\$50.000
- 4. Wisnu Towards Independence Food and Energy through the Village Ecotourism Network. 2002-2003. US\$35.000.
- 5. PPLH Bali Rescueing of Southeast Aru Sanctuary as Turtle Habitat by Cutting Turtle Demand in Bali. 2000-2002. US\$5,788.
- 6. KUB Sumberklampok Ecologic and Economic-valued Plant Cultivation at the Boundary Zone to Improve Public Revenue and Boundary Limits. 1998-2000. US\$1,000. Pengembangan Desa Konservasi Taman Nasional Bali Barat National Park. 2000-2002. US\$22,815.
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DKI Jakarta, Java 1. Klub Indonesia Hijau Conservation Education for Teachers and Students. 1993-1996 US\$11.660 2. Kalpataru Nusa Lestari Revenue Increase and People-based Coral Reefs Conservation 14. Walhi 1998-2000 LIS\$12 251 2002-2003 US\$35,295 3. YKEL Reduction Impact Reduction of Tofu Industry with Waste Recycling and High Protein Feed Production. 1998-2000. US\$7,671. 4. Telapak GEF-SGP's Stakeholders Workshop. 2000-2002. US\$16,000. Development of Local Plant Variety Demonstration Plots for Offsetting Plant 1. Japesda Import. 1998-2000. US\$19,658. 5. Konphalindo Donor Meeting for Mapping Interests/Activities and Seeking Cooperation Opportunities. 1998-2000 US\$8.947 Biodiversity Forum of Indonesia. 2000-2002. US\$6,000. Partners Workshop: 10 + Partnership of GEF-SGP Indonesia with Communities to Develop GLobal Environmntal Through Local Actions. 2003-2004. US\$45.000. 6. Mitra Usaha Seaweed for Community-based Economic Improvement. 1998-2000 US\$10.784 3. Sokola 7. Konfiden Documenting Ecological Changes through the Eves of the Community 2003-2004 US\$45.000 8 PAKTA Strengthening and Improvement of CSO's Capacity in Environmental Conservation. 2000-2002 115\$30.000 4. Skephi 9. KPSHK Workshop on Community-based Natural Resources Management in the Asia-Europe Environment Forum 2004-2005 US\$3100 10.111 Workshop on Awareness Improvement on the Concept of Cost Efficiency of Hotel and 1 VPRR Restaurant Management 1998-2000 US\$16.082 11. Ragam Capacity and Network Improvement of Community Video through the Compilation of Participatory Video Guide Book as part of Knowledge Management. Reserve. 2007-2008. US\$13,000. 12. Aliansi Masyarakat Adat Nasional Dialogue on Village Self-sufficiency (strategy to get community sovereignity of space).

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Cultivation

1993-1996. US\$41,262. 22 PSEL Pengelolaan Terpadu Lahan Kritis Berbasis 4 RM Masyarakat. Development of Traditional Energy Garden to 1998-2000. US\$16.525. Conserve Biodiversity and Develop Alternative 23. Paguyuban Masyarakat Tambun Membangun Energy. 1998-2000, US\$6,166. Pengelolaan Air Bersih Swakelola lewat Capacity Building of GEF-SGP's Partners in Pemanfaatan Energi Terbarukan. Community Forums for Sustainable Livelihood 2004-2005 US\$2,000 and Environment Day 2003. 24. Pantau 2002-2003. US\$21,685. Diseminasi Informasi Perdagangan Jenis-jenis 5 Poklan Burung Langka. Development of Local Poultry with Traditional 1998-2000. US\$2,913. Feed 25. Kopsi Cakra Buana 1998-2000. US\$6,793. Promosi Pupuk Organik Picohydro Power Plant and Village Community 2004-2005, US\$2,000. Economic Improvement 26. Darunnaiah 2000-2002, US\$25,000, Pengembangan Pertanian Ramah Lingkungan 6. KSM Cikananga/ YPAL melalui Komunitas Pesantren. Proposal Improvement "Kancil Deer 1998-2000. US\$921. Hushandry" 27. CRAD 1998-2000, US\$1.000. Peningkatan Partisipasi Masyarakat dalam 7. Jaringan Cimanggu Kegiatan Konservasi Alam melalui Pertanian Development of Strategic Plan for Network Ternadu Role and Management. 1998-2000. US\$1,000. 1998-2000, US\$9,112. 28 Inensi 10. Ibeka Pembuatan Puzzle Pendidikan Konservasi Microhydro Power Plant. untuk Anak-anak dari kayu Buangan. 1998-2000. US\$49.947. 1998-2000 US\$1.511 11. Elsppat 29. Bima Lestari Sejahtera Pengayaan Keanekaragaman Hayati di Lahan Konservasi Durian Lokal Berbasis Masyarakat. Tidur secara Partisipatif untuk Pemberdayaan 2000-2002 115\$6 500 Masyarakat 30. Lembaga Advokasi Rakyat (LAR) 1998-2000. US\$5,160. Konservasi Kawasan Pesisir. 12. Biological Science Club 2007-2008, US\$2,000 Pengembangan dan Komersialisasi Anggrek Java. Central Liar Berbasis Masyarakat. 2000-2002. US\$14,799. 1. Yayasan Pembinaan & Pengembangan Swadaya 13 YMD Sinode GKMI Program Pencegahan Abrasi Pantai, Jepara. Implementasi Sistem Pertanian Terpadu 2003-2004. US\$2,000. melaluji Kultur Ayam dan Pemanfaatan Kotorannya untuk Pupuk Organik. 2. Yayasan Konservasi Lingkungan 1998-2000. US\$22,603. Tungku Hemat Energi Solusi Perubahan 14. Yayasan Titian Iklim Global dan Peningkatan Kesejahteraan Lokakarva Penegakan Hukum Peraturan Masyarakat. 2000-2002, US\$15,125, Perdagangan Satwa di Indonesia 1998-2000 US\$1.000 3. RACA 15. Tirta Wahana Pemecahan Kekeringan Tanah Pertanian melalui Mekanisme Lokal sebagai Proses Pelestarian Mata Air Alami dengan Penanaman Peningkatan Demokratisasi Organisasi Tani. Tumbuhan Lokal 2002-2003 115\$22 000 1998-2000. US\$6.743. 16. Sekar Tiara 4. PMPCL Peningkatan Posisi Tawar Petani Bunga Potong Rencana Pengembangan Rehabilitasi Pesisir. dengan Pemasaran Langsung. Pekalongan 1998-2000, US\$16,182. 2003-2004, US\$2,000. 5 Patra Pala 17. Warkop LSM PA Penguatan Ekonomi Masyarakat dengan Pertemuan Mitra untuk Meningkatkan Jejaring Penggalakan Tanaman Produktif Lokal untuk dan Tukar Informasi. 1998-2000. US\$14,370 Mengurangi Tekanan terhadap Warisan Budava Dunia, Borobudur, 18. Yayasan Sadagori 1998-2000 US\$23.709 Institut Pelatihan dan Pendidikan untuk 6. Mitra Dieng Petani. 1993-1996. US\$13,993. Perencanaan Program Partisipasi Masyarakat. 6. Madina Diena 19. Bidara 2000-2002. US\$1.096. Pengembangan dan Pengelolaan Pertanian 7. Lembaga Pengembangan Potensi dan Berkelaniutan 1998-2000. US\$12,044. Keswadayaan Pertanian Organik untuk Kedaulatan Pangan 20. Bina Desa Berbasis Masyarakat. Banyumas. Pemberdayaan Masyarakat melalui 2003-2004. ÚS\$25.000. Pengembangan Pertanian Ramah Lingkungan. 8. Lembaga Pengembangan Pertanian Selaras 1998-2000. US\$10,370. Alam 21. Bungawari Penguatan Partisipasi Masyarakat dalam Menghidupkan Kembali Penyebaran Informasi Penyiapan Perencanaan Strategis Pengelolaan Tradisional lewat Penanaman Kembali Pesisir Berkelaniutan Pati Tumbuhan Penghasil Kertas. 2003-2004, US\$6,000, 1998-2000, US\$6,186 9. Kompos

Studi tentang Produksi Padi dengan Air Sungai 9. Konservasi Alam Indonesia Lestari Bengawan Solo 1998-2000 US\$1.414

- 10. KIH Regional 11 Semarang Perencanaan Strategis Pengelolaan Taman Nasional, Taman Nasional Dieng, 1998-2000, US\$1,000,
- 11. Jaringan Program Mitra Dieng Konservasi Hutan melalui Kegiatan Ekonomi Ramah Lingkungan. Dieng. 2000-2002 11\$\$27.082
- 12. Geni
- Biogas untuk Matapencaharian Alternatif bagi Pemilik Dokar. 1998-2000, US\$10,489,
- 13 YPP
- Pelestarian Jenis Lokal Ipoemea sebagai Sumber Pangan Alternatif. 1998-2000, US\$10.061.
- 14. LPTP
- Pengembangan Pasar bagi Produksi Pertanian Etnobotani.
- 1998-2000. US\$7.784.
- 15 I PM
- Peningkatan Kapasitas Komunitas untuk Pengelolaan Aren Berkelanjutan. 1998-2000, US\$1,000,
- 16. Lesman
- Pengembangan dan Penerapan Pertanian untuk Konservasi Lingkungan. 1998-2000, US\$9,299,
- 17. JKPM
- Konservasi Kanekaragaman Hayati Berbasis Masyarakat melalui Penerapan Pertanian Ramah Lingkungan 2000-2002. US\$23,500.
- Java, East
- 1 YCBI
- Pengolahan Sampah Organik menjadi Kompos. 17. Koperasi Pejuang Siliwangi Indonesia "Kopsi 2. YBLS
- Pemberdayaan Masyarakat dalam Pengelolaan Hutan Berbasis Masyarakat melalui Peningkatan Ekonomi & Pelestarian Durian Unggul Lokal
- 3. Yaseru Konservasi Pengetahuan Tradisional. Taman Nasional Bromo Semeru Tengger. 1998-2000. US\$3,405. Sistem Pertanian Gunung Berkelanitan. Taman Nasional Bromo Semeru Tengger 2002-2003. US\$2,000.
- 4. Solidaritas Masyarakat Desa Konservasi Lahan Kritis dan Penghematan Energi untuk Meningkatkan Kesejahteraan Masyarakat. 2003-2004. US\$2,000.
- 5. Paguyuban PLTM Kali Maron Seloliman Pemberdayaan Masyarakat melalui Pengelolaan DAS Seloliman 2003-2004 US\$27.000
- Penguatan Kapasitas Komunitas dalam Program Pengkayaan Keanekaragaman Hayati melalui Pertanian Terpadu, Tuban
- 2002-2003. US\$2,000. 7. KSM Peduli Seloliman Pemanfaatan Sumberdaya Lokal untuk Energi Alternatif bagi Masyarakat Lokal. 1998-2000 LIS\$8 341
- 8. Konsorsium Seloliman Peningkatan Kapasitas Sarana Mikro Hidro untuk Mendukung Pengembangan Kegiatan Ekonomi Lokal 2000-2002, US\$27,388

- Pengembangan Strategi Perencanaan Pengelolaan Bioregional. 2003-2004. US\$2,000. Strategi Pengembangan Perencanaan Pengelolaan Bioregional di 4 Taman Nasional 2004-2005 115\$38 000
- 10. SPMAA
- Partisipasi Perempuan dalam Pemanfaatan Kawasan Terbatas untuk Pelestarian Keanekaragaman Havati 1998-2000. US\$5,837.
- 11. KSM Bima Konservasi Tumbuhan Obat lewat Demplot dan Koleksi Plasma Genetika Berbasis Masyarakat. 1998-2000 LIS\$1 000
- 12. RAT Optimalisasi Pengelolaan Agribisnis Berbasis Masyarakat. 1998-2000, US\$15.039
- 13. Citra Bangun Indonesia Produksi Kompos dari Sampah Organik. 2000-2002. US\$28,471.
- 14. Lembaga Studi Desa untuk Petani (LSDP) SD INPERS Aplikasi Biogas di Komunitas di dekat Hutan Rehabilitasi Pegunungan Hyang Argopuro. 2007-2008. UŠ\$7,000.
- 15. PPLH Mangkubumi Asesmen Kebutuhan dan Perencanaan Program untuk Konservasi Ekosistem di Danau Buret, Desa Sawo, Kecamatan Campurdarat, Kabupaten Tulungagung 2007-2008. US\$2,000.
- 16. Uplink-Surabaya Pusat Data dan Informasi berbasis Komunitas dan Lingkungan untuk Jaringan dan Pengetahuan Video Komunitas di Jawa Timur. 2007-2008. US\$35,000.
- Cakra Buana" Pengenalan Pupuk Organik. 2005-2006. US\$2,000
- Jogiakarta
- 1. Yayasan Pengembangan Ekonomi Rakyat Indonesia (Yaperindo) Manajemen Sumberdaya Lokal Bagi Pengembangan Pertanian Terpadu, 2002-2003 115\$35 500 Pengembangan Energi Terbarukan berbasis Pemberdayaan untuk Mencapai Kedaulatan Energi dan Pangan di Rumahtangga Petani. 2007-2008. US\$36.000.
- 2 Nawakamal Perencanaan Konservasi Telaga Berbasis Masyarakat. Gunung Kidul. 2003-2004. US\$2.000. Konservasi Telaga Berbasis Masyarakat. Gunung Kidul. 2003-2004. US\$41,867.
- 3. Kelompok Tani Cipto Makaryo Pertanian Organik Terpadu. Gunung Kidul. 2000-2002. ŬS\$27,318.
- 4 Cindilaras Pembangunan Kapasitas Pengembangan Proposal berkaitan dengan Bidang Cakupan GEF-SGP. 2000-2002. US\$15,882
- 5 YSAN Pertanian Organik dengan Metoda LAMP. 1998-2000. US\$6.318.
- 6. Pokja LKMD Reklamasi Lahan untuk Meningkatkan Daya Serap Air dan Konservasi Keanekaragaman Havati 2000-2002. US\$24.172.

Pengembangan Kebun Buah Lokal untuk sebagai Obyek Wisata Energi Mandiri. Mendukung Ekowisata. 1998-2000 115\$9 710 4. Yayasan Berau Lestari (Bestari) Pembangkit Listrik Mikrohidro Long Duhung. I. Yayasan Karya Banua Pulanggana 2007-2008. US\$50.000. Pengelolaan Sumberdaya melalui Rehabilitasi 5. Kelompok Kerja Pesisir dan Nelayan (POKJA Ekosistem dan Pengelolaan Air. 2003-2004. Nelavan) Penguatan Inisiatif Komunitas Nelayan dalam Pengelolaan Kawasan Lindung Laut dan Perencanaan Program Peningkatan Kesadaran Mangrove di Kecamatan Teritip, Balikpapan. Publik dan Komunitas mengenai Dampak 2007-2008. US\$25.000. Merkuri terhadap Kesehatan dan Lingkungan. 6. Yayasan Tukulon Sekayam. 2002-2003. US\$2,000. Peningkatan Kesadaran Publik dan Komunitas Pembangkit Listrik Mikrohidro. 2007-2008. US\$35.000. mengenai Dampak Merkuri terhadap Kesehatan dan Lingkungan. Sekayam. 2003-7. Perkumpulan Menapak Indonesia Pembangkit Listrik Mokrohidro untuk 3. PP-Bahuma Kalimantan Barat Komunitas Adat Dayak Basap di Teluk , Sumbang. 2007-2008. US\$35,000 Pemberdayaan Komunitas Adat dalam Rehabilitasi Kawasan Bekas Tambang Emas Skala Kecil yang Gundul. Bengkayang. 2003-Lampung, Sumatra l Watala Mendukung Peran Desa dalam Pengelolaan Penguatan Masyarakat Lokal dalam Kawasan Sumberdaya Alam Berbasis Masyarakat di Penyangga Taman Nasional Gunung Palung Kawasan Penyangga. Taman Nasional Bukit melalui Peningkatan Pendapatan Alternatif Rarisan Selatan sebagai Upaya Perlindungan Keanekaragaman 1993-1996. US\$12.339. Havati. 2000-2002. US\$20.000. 1993-1996. US\$16,392. 2. Mina Jaya Mengganti Lampu Minyak Tanah Tradisional dengan Lampu Tenaga Matahari Ramah 6. Perkumpulan Jatak Masyarakat Tajur Lingkungan 1998-2000 115\$22.881 Perencanaan Program Pemberdayaan Petani 3. Yayasan Alam Indonesia Lestari (LINI) Aren untuk Peningkatan Kesejahteraan dan Pemberdavaan Nelavan Ikan dan Teurmbu Konservasi hutan Bukit Semahung. Karang di Desa Pahawang, Pulau Pahawang, melalui Pengembangan Pengelolaan Kawasan untuk Konservasi Ikan Hias Berkelanjutan. Penguatan Peran Kelompok Masyarakat dalam 2007-2008 115\$25.000 Pengelolaan Hutan Mangrove Batu Ampar, 4. Jaringan Perempuan Pesisir Lampung Pengelolaan Sampah Terpadu dan Konservasi Pesisir Partisipatif berbasis Kelompok Perempuan di Kawasan Pesisir Lampung. 2007-2008 115\$40.000 Community-based Community-based Forest Maluku I Lus Doan 2. Cakrawala Hijau Indonesia Menghidupkan Kembali Praktek Pengobatan Sustainable Community-based Forest Tradisional dengan Penanaman Kembali Resources Management, Loksado. Tumbuhan Etnobotani. 1998-2000 115\$11.458 3. Aliansi Advokasi Meratus 2 Arman Community-based Natural Resources Peningkatan Kapasitas Komunitas dalam Pertanian Terpadu. 1998-2000, US\$1,000. 4. Lembaga Pemberdayaan Masyarakat Adat Nusa Tenggara, West Pengembangan Anggrek Hutan Adat dan I. Yayasan Koslata Participatory Spatial Planning of Gili Pohon Madu di Hutan Pegunungan Meratus. Trawangan Lombok 2000-2002, US\$2.000. 2. Samudra Lokakarya Parapihak: Upaya KSM/LSM , Pengembangan Listrik Mikro Hidro. Lokal Menjawab Permasalahan Lingkungan Pendidikan Komunitas Hutan dan Pemasaran Nasional/Global pada Tataran Lokal, Lombok. Produk Hutan Non-kayu. 2003-2004. 1998-2000 115525 048 3. Lembaga Solidaritas Bangsa Failitasi Pengembangan Rencana Keria Orientasi Konservasi Hutan Mangrove dan Program Perempuan dan Energi. Pengembangan Masyarakat, Sumbawa, 1993-1996. US\$2.882. 1993-1996. U\$\$6,692. Pengembangan Kawasan Konservasi 4. Paramaloka Tradisional dan Ekowisata Berhasis Dokumentasi Kisah Sukses GEF-SGP: Masyarakat Hulu Mahakam Perempuan dan Mangrove, Labuhan Mapin, Alas Sumbawa 1998-2000 115\$22 222

3. Yayasan Tembak Maris

7. Pusat Studi Lingkungan Sanatha Dharma

2007-2008. US\$27.000.

Kalimantan, West

11\$\$14 500

2. PPSHK Pancur Kasih

2004. US\$33,849.

2004. US\$2.00Ŏ.

Konservasi Tengkawang.

2007-2008, US\$2,000,

7. Mangrove Kalimantan

Kabupaten Kuburaya.

2007-2008. US\$2,000

Kalimantan, South

2002-2003. US\$45.000.

2000-2002. US\$21,714.

2007-2008 115\$15.000

Kalimantan, East

I. Yavasan Padi Indonesia

2003-2004. US\$2.000.

2000-2002 US\$20.000

US\$45.767.

2 Bioma

Management.

Management.

Borneo Selatan

І УСНІ

1998-2000. US\$3.329.

4. Bio Damar

5 YSKM

(lamasta)

Pengembangan Pulau Drini di Gunung Kidul

5 I P2M Pertanian Orgnik Lahan Kering untuk Peningkatan Demokratisasi Organisasi Tani. Pondok Pesantren Nurul Hakim Kediri Iombok 2002-2003. US\$9.398. 6. Lembaga Olah Hidup 2. Belukap Pengelolaan Sumberdaya Alam Berbasis Masyarakat. Pulau Moyo, Sumbawa. 2000-2002 US\$34 274 7. Aliansi Tiga Gili Ekowisata Berkelanjutan Tiga Gili Berbasis Masvarakat Lombok 2000-2002 115\$30 358 8 PSP-NTR Penguatan Ekonomi Berbasis Masyarakat untuk Mengurangi Ketergantungan Masvarakat Lokal terhadap Taman Nasional. 1998-2000 115\$8 092 9. YLKMP Pelestarian Tumbuhan Ketak Bahan Baku Keraiinan Tangan Tradisional lewat Pertanian Berkelanjutan untuk Pelestarian Keanekaragaman Hayati. 1998-2000. US\$8,504. Batam. IO. PSPSDM Pengelolaan Berkelaniutan Gaharu. 1998-2000 115\$8 858 II. IKSMP Penciptaan Lapangan Kerja Alternatif bagi Nelavan 1993-1996. US\$14.703. Nusa Tenggara, East I. KMPH Watumbelar Pemberdayaan Masyarakat dalam Pengelolaan Zona Interaktif, Taman Nasional Manupeu Tanadaru Sumba 2002-2003 115\$2 000 2003-2004. US\$43,000. 2. Yayasan Timor Membangun Recognition of Communal Ownership and Community-Based Coastal Management. 2000-2002 115833 653 Sustainable Community-based Coastal Area Management. Takalar 1993-1996, US\$22.09. 3 Yayasan Haumeni Soe 3. Walda Wind Power for Forest Conservation and Rehabilitation 2000-2002 US\$21 000 4 Yayasan Baiturrahman Pemanfaatan Tanah Wakaf 1993-1996. US\$19,953. 5. Yayasan Baha Eti , Pemberdayaan Komunitas Lokal dalam Pengelolaan Sumberdaya Alam Berkelaniutan 2000-2002 US\$15 741 6. Lembaga Advokasi dan Pemikiran Kritis Flores Pengembangan Economu Komunitas Berbasis Konservasi untuk Pengelolaan Kedaulatan Pangan Masyarakat Adat Wairkung Desa Nanghale, Masyarakat Adat Nian Wue Wari 6 I P3M Tana Kerapu Desa Hikong, Masyarakat Adat Pigang Bekor Kecamatan Waigete, masyarakat Adat Egon Gahar Kecamatan Mapitara. 2007-2008. US\$30.000 Papua I. YDPTB Pengelolaan Berbasis Masyarakat Keanekaragaman Havati Kerkelaniutan dengan Penekanan pada Mangrove, Bintuni 1998-2000. US\$10,234.

Rigu, Sumatra l. Yayasan Hakiki , Pengelolaan Sumberdaya Alam Berbasis Masyarakat melalui Community Logging. Taman Nasional Bukit Tiga Puluh. 2000-2002. US\$17.000. Penyadaran Masyarakat terhadap Upaya Adaptasi dan Mitigasi Perubahan Iklim melalui Proses Partisipatif Pendidikan Komunitas dalam Program Penghijauan Pesisir. 2007-2008 115\$25 000 3. Kudapan Riau Inisiatif Kelompok Perempuan dalam Pengelolaan Koridor Ekologis (Upaya Pelestarian Kawasan dengan Pengembangan Lebah Madu Hutan dan Pohon Sialang) di Desa Gunung Sahilan, Kampar Kiri. 2006-2007. US\$22.500. Riau Archipelaao I. Yavasan Laksana Samudera Transplantasi Karang untuk Meningkatkan Kesadaran Masyarakat terhadap Terumbu Karang di Pulau Kecil, Kecamatan Galang, 2006-2007 US\$40.000 Sulawesi, West I. Yayasan Putra Mitra Masyarakat Desa Pembahasan Perencanaan Komunitas untuk Konservasi Hutan 2004-2005 115\$2 000 2. Yayasan Amanat Sejahtera Provek Briket Ramah Lingkungan untuk Alternatif Pengganti Minyak Tanah. 2007-2008 115\$25 000 Sulawesi, South I. Yayasan Waru Mutahhar Community-based Lake Management. Lake Sidenreng & Lake Tempe 2002-2003 US\$2 000 2. Yayasan Konservasi Laut Sustainable Community-based Mangrove Forest Management. Bauluang & Tanakeke. 2000-2002. US\$22.000 Improvement of Community Welfare with Renewable Energy. Tana Toraja. 1993-1996 115\$21 786 2000-2002. US\$40,285. 2003-2004. US\$28.090. 4. Swakarsa Kolaka Institutional Strengthening and Utilization of Appropriate Technology to Improve Quality of Natural Honey. Ulu Iwoi Protected Forest. 2004-2005 115\$2 000 5. PPLH Puntondo Program and Facility Building for Centerof Environmental Education in Puntondo 1998-2000 US\$11 334 Management of Community-based Marine Fisheries & Agriculture with Solar Tunnel Drver System 2000-2002. US\$27.000. 7. Lembaga Advokasi & Pengkajian Pembangunan Desa & Pariwisata Support for Alternative Energy in Brick Production. Gowa, Takalar. 2003-2004. US\$2,000. 8. Lakpesdam Rehabilitasi Hutan Mangrove untuk Pencegahan Abrasi. 1998-2000. US\$8,562.

9. Konsorsium Pemerhati Kapopposang Otorita Komunitas dalam Pengelolaar Sumherdaya Alam Pulau Kecil 1998-2000 115\$2 929 2000-2002. US\$21.048. 10. Institusi Penelitian & Pengembangan Masyarakat Perencanaan Konservasi Kupu-kupu Berbasis Masyarakat. Taman Nasional Bantimurung. 2000-2002, US\$2.000. Pemberdayaan Masyarakat melalui Pelestarian Kupu-kupu dengan Sistem Penangkaran Semi Natural Taman Nasional Bantimurung 2002-2003 US\$15 000 II. YCMI Rehabilitasi Hutan Mangrove untuk Perlindungan Kawasan Pesisir. 1998-2000. US\$7,054. 12. Yayasan Insan Cita Pengembangan dan Penerapan Kurikulum Dasar-dasar Kesadaran Lingkungan di Pesantren 1993-1996, US\$4,190 13. Yayasan Pelopor Perjuangan Rakyat Perencanaan Partisipatif Konservasi Gunung dan Peningkatan Pendapatan Masyarakat. 2003-2004 115\$2.000 14. Yayasan ASA Nusantara Pengelolaan Air Berbasis Masyarakat. 2002-2003. US\$2.000. 15. Yayasan Aktualita Amanah Hidup Rencana Pengembangan dan pemanfaatan Kuda untuk Transportasi Lokal dan Sumber Pupuk Organik untuk mengurangi Polusi Udara, serta Penggunaan Pestisida tidak Reracun 2003-2004 US\$2 000 Sulawesi, Central I. Yayasan Toloka , Pemberdavaan Parapihak dalm Pengelolaan Sumberdaya Alam Berbasis Masyarakat. Togean. 2003-2004. US\$2,000. 2. Yayasan Sahabat Alam Indonesia , Pengelolaan Berbasis Masyarakat. Togean. 2000-2002 115\$21 000 3. Yayasan Palu Hijau Budidaya Perikanan dan Konservasi Laut. Kenulaijan Banggai 2004-2005 11582 000 4. Yayasan Katopasa Indonesia Penggunaan Tungku Hemat Energi dan Pemanasan Surya untuk Paska Panen Ikan dan Hasil Bumi 2003-2004 115\$15 955 5. Yayasan Jambata Perencanaan Partisipatif Konservasi untuk Perlindungan Burung Maleo (Macrocephalon maleo). Suaka Margasatwa Pinjan Tanjung Matop 2002-2003. US\$2.000. 6. Yayasan Bina Sains Hayati Studi Etnobiologi di Kawasan Konservasi Laut. Togean 1993-1996, US\$46,602, 7 I PA Awam Green Konserbasi Hutan Musim Berbasis Masyarakat. Taman Nasional Lore Lindu. 2000-2002 115\$15 000 8. Lembaga Masyarakat Adat Toro Dokumentasi Kearifan Adat & Penguatan Kebijakan Pengelolaan SDA Berkelanjutan. Ngata Toro, Taman Nasional Lore Lindu. 2003-2004 US\$30.000 9 Awam Green

Masyarakat, Taman Nasional Lore Lindu. 10 Rosontanura Perikanan Karang Berkelanjutan Berbasis Komunitas untuk Membangun Ketahanan dalam Adaptasi terhadap Perubahan Iklim. 2007-2008 115\$50.000 Sulawesi, Southeast I. Yayasan Cinta Alam Pelatihan Investigasi Pengelolaan Hutan untuk Mendukung Konservasi Keanekaragaman Havati 2000-2002 115\$4 270 Partisipasi Masyarakat dalam Rehabilitasi dan Konservasi Hutan Mangrove. Taman Nasional Rawa Aopa. 2000-2002. US\$24.000.) Yayasan Bahari Program Pengelolaan Konservasi Terumbu Karang Berbasis Masyarakat. 2002-2003. US\$41,000. 2004-2005. US\$50.000. 3 SWAMI Pemberdayaan Ekonomi Masyarakat melalui Paska Panen Kakao dengan Sistem Solar Thermal Dryer. 2000-2002 US\$25 000 4. Yayasan Hijau Sejahtera Pengelolaan dan Konservasi Hutan Pegunungan Berbasis Masyarakat. Nipa-nipa. 2000-2002. US\$2.000. 5. Yavasan Mooniana Penggunaan Teknologi Tepat Guna dalam Proses Pengolahan Limbah Ikan. 2000-2002, US\$2.000. 6. Yavasan Bina Insani Perencanaan Pengelolaan dan Konservasi Berbasis Masyarakat, Buton, 2000-2002. ÚS\$2,000. 7 Suluh Perencanaan Pengelolaan Rotan. 2000-2002 115\$2,000 8. Lappam Perencanaan Pemberdayaan Ekonomi Masyarakat melalui Pengembangan Agroforestry 2000-2002, US\$2.000. 9. Lakamali Peningkatan Pengelolaan Sumberdaya Laut dan Pesisir Berbasis Masyarakat. 1998-2000 115\$10 253 10 Asasi Perencanaan untuk Penguatan Kapasitas Perempuan Pesisir untuk Melindungi dan Merehabilitasi Terumbu Karang dan Hutan Mangrove 2000-2002. US\$2 000 11. Cakrawala Foundation Konservasi melalui Pemberdayaan Ekonomi,

Pembangunan Kapasitas, Peningkatan Prasarana dan Penegakan Aturan Desa. 2004-2005. US\$2.000. Sulawesi, North I Yayasan Nano

Pengembangan Model Ekosistem Pulau Kecil Terpadu. Sangihe & Talaud. 2002-2003. US\$2,000. 2. Tangkoko Lestari Konservasi Kawasan Konservasi lewat Pemberdayaan Masyarakat dan Pengembangan Kegiatan Ekonomi. Tangkoko. 2000-2002. US\$27.642. 3 1 P2S Pelestarian DAS melalui Pengelolaan Sumberdava Alam Berkelaniutan Berbasis

Masvarakat, Tondano

Program Pelestarian Hutan Musim Berbasis

2000-2002. US\$12.471.

- 4, 26, Wanuata Wava Partisipasi Perempuan dalam Pengelolaan Sumberdaya Alam Berkelanjutan. Tondano. 2000-2002 115\$17.635
- 5. Jaringan Kampung DAS Tondano Pemulihan dan Pelestarian Lingkungan Berbasis Kampung. 2006-2007. US\$2,000.
- Sumatra, West
- I. Sekretariat Pengembangan Kawasan Mentawai Konservasi bersama Masyarakat. 1003 1006 115€38 6/1
- 2. Yayasan Sepayung Lokakarya Mitra. 2005-2006. US\$40.000
- 3. Yavasan Insan Madani Perencanaan Terpadu Program Pemberdayaan komunitas di Hutan Mangrove Maligi Pasaman Barat 2006-2007. US\$2.000. Perencanaan Terpadu Program Pemberdayaan komunitas di Hutan Mangrove Maligi Pasaman
- Barat. 2006-2007. US\$35,000.
- 4. Masyarakat Jorong Taratak dan AWSCI (perwalian) Inisiatif Komunitas untuk Pelestarian Tapir: "Penguatan Konservasi Tapir Berbasis Komunitas dan Pengembangan Ekonomi untuk Meningkatkan Energi Alternatif di Hutan

Taratak. 2005-2006. US\$40,000.

- Sumatra, South
- I YPD
- Memelihara Populasi Ikan Lokal dengan Memperkenalkan Sistem Budidaya dan Menurunkan Ketergantungan Masyarakat terhadap Stok Ikan Alam. 1998-2000. US\$14.004.
- 2 Kemasda

Penghijauan Desa dengan Pohon Produktif Lokal untuk Peningkatan Pendapatan. 1998-2000. US\$1.000.

3. Kelompok Perempuan Jermun Bersatu Pengelolaan Sumberdaya Alam oleh Kelompok Perempuan sebagai Upaya Konservasi Keanekaragaman Hayati di Kawasan Rawa Gambut, Desa Perigi Talang Nangka dand lermun OKI 2006-2007. US\$10,000

Sumatra, North

- I. Yayasan Pengembangan Sumberdaya Pedesaan Penanaman Mangrove untuk Pengelolaan Keanekaragaman Hayati. Lubuk Pakam. 1993-1996 115\$18 675
- 2. Yayasan Ekowisata Sumatera Building Apiary as an Enterprise of Non-timber Forest Product Dolok Giniang Tananuli 2003-2004. US\$2,000.
- 3. Pusat Pengkajian & Pengembangan Masyarakat Nelayan Pembangunan Kapasitas Komunitas Pesisir dalam Pengelolaan Hutan Mangrove Berbasis Masyarakat untuk Keanekaragaman Hayati Pesisir. Asahan. 2003-2004. US\$ 20.000
- 4. Pesticides Action Network North Sumatra Pengelolaan dan Advokasi Lingkungan lewat Partisipasi Masyarakat. 1993-1996. US\$17.924.
- 5. Yayasan Suka Maju Penguatan Masyarakat dalam Pencegahan Penggundulan Hutan melalui Advokasi dan Penerapan Pertanian Terpadu.

1993-1996. US\$16.710.

- 6. Yapesda Pemanfaatan Produktif dari Lahan di Daerah Tangkapan Air untuk Peningkatan Pendapatan dan Pelestarian Air. 1998-2000 115\$19 428
- 7 Petra Pelestarian Kawasan Tangkapan Air Berbasis Komunitas dengan Konsep Agro-Forestry untuk Peningkatan Kekuatan dan Perdagangan di Kabupaten Sibolangit dan Namorambe. 2006-2007. US\$13.000.
- 8. Yayasan Lintas Cakrawala Pelestarian Empat Desa di Kecamatan Marancar, Kabupaten Tapanuli Selatan. 2007-2008. US\$2.000.
- 9. Lembaga Pariwisata Tangkahan Peningkatan Kapasitas Komunitas untuk Partisipasi Aktif dalam Pengelolaan dan Perlindungan Taman NAsional Gunung Leuser. 2006-2007. US\$30.000.
- 10 Kelompok Nelavan Tunas Muda Pelestarian Keanekaragaman Hayati Perikanan dengan Pengembangan Ikan dan Kerang Hijau serta Rehabilitasi Mangrove. 2007-2008 US\$16 000
- 11 KSM Wana Lestari Pengelolaan Berkelanjutan Mangrove dan Peningkatan Pendapatan Komunitas Berbasis Perempuan Pesisir di Desa Kuala Indah. Kecamatan Sei Suka Asahan 2006-2007 115\$20.000
- 12 (PPN
- Rehabilitasi dan Pengelolaan hutan Mangrove Berbasis Komunitas di Teluk Mengkudu, Kahunaten Sergai 2004 2007 115 22 000
- 13. Yayasan Suluh Muda Indonesia Rehabilitasi Mangrove dan Peningkatan Kesejahteraan Komunitas Desa Sei Beromhang Kabunaten Labuhan Batu 2007-2008 115\$30.000
- Timor, East
- I. Pusat Latihan Wiraswasta Tani Konservasi dan Pengembangan Komunitas melalui Agroforestry Terpadu. 1993-1996 115\$16 505