

# CARE in Indonesia: Cultivating a Fertile Future

## Background

Reference to “environmental hazards” usually conjures up images of industrial development, hulking factories or smokestacks. So it’s hard to imagine that something as seemingly benign as a rice paddy could trigger a major environmental disaster. But that’s precisely what happened in Indonesia’s Kalimantan Province on the Island of Borneo.

Kalimantan is one of the poorest places in Indonesia, and significant economic opportunities are scarce. It is, therefore, ironic that a major effort to reduce poverty through large-scale agricultural development plunged the population further into crisis. The most notable of these failed ventures is the Mega Rice Project. Initiated in the 1990s, it destroyed more than one million hectares of peatland forests and carved 2,000 kilometers of drainage canals into a delicate biosystem—all for naught. The peat proved to be unsuitable for rice production, and the project was soon abandoned. It left behind an ecological, economic and social quagmire of overwhelming scale.

## Effects

- Worldwide, peatland degradation releases more than 2,000 megatonnes of carbon every year. However, peatlands in Southeast Asia still store about 42,000 megatonnes of carbon. Eight-three percent of this total is located in Indonesia where poorly conceived agricultural

development projects, like the Mega Rice Project, have exposed and dried out vast peatland tracts. This makes them far more vulnerable to fire; and, in 1997, it contributed to roughly 2 million hectares of peat swamp forest going up in smoke. Smoke and haze from these apocalyptic fires caused more than half a million people to seek medical treatment. Thousands were hospitalised. For many, respiratory problems persist today. Skies were affected all over the region, with more than 1,000 commercial flights cancelled and millions of work hours lost. The economic fallout is estimated to be US\$8.4 billion. The consequences for climate change are equally startling: fires in the ex Mega Rice Project area alone yielded CO<sub>2</sub> emissions amounting to one and a half times the annual global target of the Kyoto Protocol.

- Drainage also lowered the local water table, severely reducing the availability of fresh water for local communities.
- The Mega Rice Project’s abandoned drainage canals facilitate illegal logging. They make access and log transport far easier – effectively opening the area to pillage by profiteers from the international market in tropical wood.

## Response

CARE has been supporting improved peatland management and fire risk reduction activities in Kalimantan since 2002. Our work was initiated

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# CARE & climate change

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under the auspices of a livelihood and health recovery program (funded by the U.S. Department of Agriculture) and a project to help communities cope with fires (funded by the European Community, DIPECHO). CARE became an active partner in the Central Kalimantan Peatlands Project (CKPP) in 2005. The CKPP's goal is to reduce poverty through environmental restoration and conservation. In addition, CARE is developing community based-water management systems for improved livelihoods (with funding from the European Community).

Our portfolio of integrated activities currently includes:

#### **Fire Management and Prevention**

CARE established volunteer fire brigades in 100 peatland villages. We provided essential equipment, trained volunteers in fire fighting/fire management, and institutionalised the brigades in local government structures. We also formed radio networks that can quickly disseminate information to remote villages about current and imminent fires. Building on these successes, we are working with the International Research Institute for Climate and Society at Columbia University to develop a Forest Fire Early Warning System and Early Response System spanning Central Kalimantan. To aid in fire prevention, we promote the use of fire-resistant and long-term crops as part of a forest re-greening strategy.

#### **Hydrological Restoration**

CARE, in partnership with Wetlands International, is working with local villages to block canals and dam artificial waterways. This restores the water table and impedes illegal logging.

#### **Poverty Reduction**

CARE is working with local stakeholders to develop new, environmentally sustainable sources of income. Examples include:

- The introduction of sustainable agricultural techniques
- A partnership between farmers, government and private investors to cultivate soybean seeds and manufacture tofu
- Bio-rights agreements that pay villagers for conducting conservation activities. These revenues are then leveraged to begin less-invasive ventures, such as rubber tree cultivation.
- Payments for carbon services, where villagers are compensated for sequestered carbon and reduced emissions from deforestation and peatland fires.

#### **Peatlands Restoration**

CARE is promoting a range of activities to rehabilitate or restore peatlands. This includes the introduction of agroforestry systems based on rubber trees (which give communities a cash crop) or fruit trees (which diversify people's diet and improve their health).

#### **Biodiversity Conservation**

Education plays a huge role in the protection of existing forests. CARE is working with local fire

brigades and CARE supported community radio stations to enhance awareness of the need to preserve standing forests. These radio stations also play a crucial role in informing people about sustainable land-use/land-management practices.

#### **Results**

Here's a look at what CARE has accomplished in Central Kalimantan.

- Forest fires are happening less often - and with less impact. CARE has established community fire brigades and linked them to local early warning systems. As a result, the brigades were able to extinguish fires across 243,991 hectares between September and November 2006. And their firefighting capacity is quickly growing: in September 2006, they could extinguish fires at a rate of 0.173 hectare per hour. After additional training, this figure grew to 4.71 hectares per hour.
- Malnutrition has been reduced. There was less malnutrition in children during the 2006 peat fire outbreaks than during the 2002 or 2004 outbreaks (when chronic malnutrition rates exceeded 40 percent). This is a direct result of CARE's work with local fire brigades and health providers.
- Local incomes are on the rise. Alternative farming (coupled with improved access to markets), planned conservation incentives and carbon services are paying off for local communities. Households participating in the CKPP program have been able to stabilize their incomes, currently at less than \$70 USD a month. In most cases, CARE has been able to mitigate the negative impact of peatland fires by helping people recover their assets through replanting and fire protection.
- There's new life in the soil: More than 100 communities have mapped the areas where they plan extensive tree planting and other activities to restore soil quality. The Government of Indonesia has provided funding to implement these plans. More than 500 hectares of rubber tree agroforestry systems have already been established.
- There's renewed respect for the environment. This can be witnessed in the reduction of illegal sawmills in forest reserves and in rising political, public and financial support for peatlands conservation. This is also evident in the actions of the Provincial Government, which recently initiated a Master plan for Peatlands rehabilitation.

#### **Conclusion**

By strengthening local capacity to restore and conserve the environment, and by improving community-government cooperation, CARE Indonesia is simultaneously mitigating climate change and reducing poverty in Central Kalimantan. There is still a long way to go, but the communities CARE works with now have a solid foundation for sustainable development.

