

Environment for the People



Across the world, communities are building natural assets and fighting for sustainable livelihoods

Environment for the People

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Environment for the People



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and JAMES K. BOYCE



Political Economy Research Institute

The Political Economy Research Institute (PERI) at the University of Massachusetts-Amherst, engages in research, dissemination, policy advising, and graduate student education. Established in 1998, PERI is committed to assisting in efforts to improve living standards and to create a more just, democratic, and ecologically sustainable world. For more information, see www.umass.edu/peri.



The Natural Assets Project

The Natural Assets Project seeks to promote critical analysis of the potential for building natural assets – individual and social wealth based in natural resources and ecosystem services – to advance the goals of poverty reduction, environmental protection, and environmental justice. Natural assets include sources of raw materials such as forests, fisheries, soil, and minerals, and environmental sinks that absorb and decompose wastes from production and consumption. PERI's Natural Assets Project is supported by the Ford Foundation. For more information, see www.naturalassets.org.



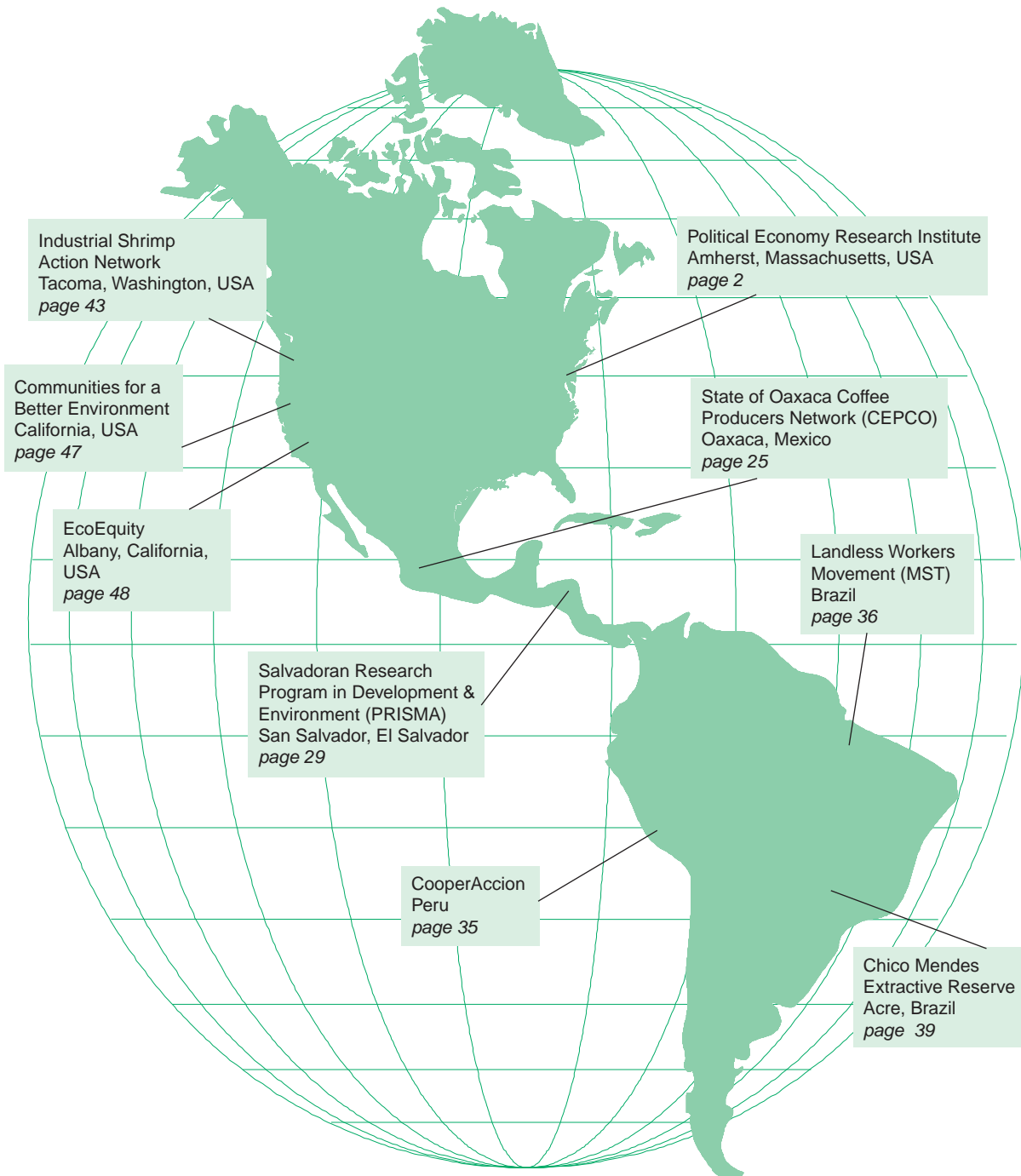
Centre for Science and Environment

The Centre for Science and Environment (CSE) is an independent, public-interest organization based in New Delhi that aims to increase awareness on issues involving science, technology, the environment, and development. Founded in 1980, CSE analyzes environmental challenges facing India; searches for solutions that communities can implement themselves; and challenges the government to create frameworks for people to earn sustainable livelihoods and defend their right to a healthy and safe environment. For more information, see www.cseindia.org.

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In These Pages







Introduction

NATURAL ASSETS are the myriad forms of wealth that nature creates. They include the land on which we live and grow our food and fiber; the water we drink and use to irrigate crops; the air we breathe; the fish in the sea; the trees in the forest; and other plants and animals, wild and domesticated.

Human economic activities often deplete natural resources and overflow environmental ‘sinks’ with wastes from our production and consumption. Today these adverse effects are so widespread, and so severe, that some environmentalists see human beings as a blight on the face of the Earth.

Yet humans can increase the quantity of natural resources and improve the quality of the environment, too. People can and do *invest in natural assets*, both by repairing past damages and by participating constructively in the processes that constantly shape and reshape the living world. One example of such constructive engagement is the domestication of the crops – including grains, vegetables, and fruits – on which we depend for our daily food.

We humans are not apart from nature. We are a part of nature. How well we treat the natural world depends on how well we treat each other. Great inequalities of wealth and power enable elites to squander the Earth’s bounty while other people – of both present and future generations – bear the environmental costs. Human inequality is the enemy of environmental quality.

This booklet describes some of the dedicated efforts by communities around the world to advance the goals of environmental protection and social justice. In these pages, you will meet the new environmentalists – people who are organizing to reclaim nature by adding value to natural assets, capturing the benefits of good environmental stewardship, democratizing access to natural resources, and defending the environmental commons both locally and globally.



Four Routes: Building Natural Assets



Artwork Credit: WARU, Indonesia

Route One: **Adding Value**

Human communities can and do have positive effects on the natural environment. Examples include:

- The domestication of plants and animals
- The cultivation of agricultural biodiversity
- Reforestation
- Restoration of aquatic ecosystems
- Draining stagnant water bodies to control mosquito-borne diseases
- Cleaning up polluted environments
- 'Soil banking' practices that build richer and deeper soils



Artwork Credit: WARU, Indonesia

Route Two: **Capturing Benefits**

Too often, negative actions that harm the environment are rewarded, while positive actions that sustain and enrich the environment are not. Initiatives that reward good environmental stewardship can both protect the environment and improve human livelihoods. Examples include:

- Rewarding communities for land-use practices that protect the hydrological services of watersheds
- Certifying 'environmentally friendly' producers of forest products, coffee, and other goods, so that they can receive better prices
- Support for recycling activities
- Rewarding small farmers who sustain agricultural biodiversity

There are four routes for building natural assets in the hands of low-income communities.



Artwork Credit: WARU, Indonesia

***Route Three:
Democratizing Access***

An equitable distribution of rights to land and other natural resources promotes both poverty reduction and environmental protection. Examples include:

- Land reform
- The creation of 'extractive reserves' for the sustainable harvest of forest products
- Struggles of indigenous communities for control over mineral resources and a fair share of benefits from mining activities
- Recognition of traditional community rights to fisheries, grazing lands, and forests



Artwork Credit: WARU, Indonesia

***Route Four:
Defending the Commons***

Open access resources – such as the use of the air as a sink for pollutants – in theory are available to everyone. In practice, they are used and abused by those with the power to appropriate them. Struggles to establish an equitable distribution of rights to these resources can both protect environmental quality and improve human well-being. Examples include:

- Struggles for clean air, clean water, and environmental justice
- The defense of coastal and marine resources
- The establishment of equitable rights to the carbon-absorption capacities of the atmosphere
- 'Right-to-know' laws that secure public access to information about environmental quality and the use of natural resources



Route One: Adding Value

Human communities can and do have positive effects on the natural environment.

COMMUNITIES CAN ADD VALUE to existing stocks of natural assets. If these assets are in the hands of low-income households and communities, such investment can not only make a bigger natural-asset 'pie,' but also increase the share of the poor.



In Somalia

Horn Relief is helping to renew the traditional pastoralist practice of building rock dams to conserve water and restore the desert ecosystem

Page 12



Small Farmers

throughout the world sustain the rich heritage of agricultural biodiversity bequeathed to humankind by earlier generations

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In Bangladesh

the Centre for Natural Resource Studies is providing support to communities that are re-opening canals to let fish back into the flood plains

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In West Africa

human-made forests benefit people and animals

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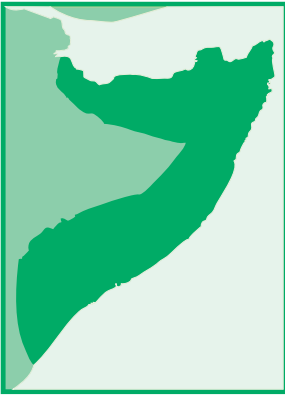


Photo Credit: National Asset Project

FATIMA JIBRELL is the co-founder of the Horn of Africa Relief and Development Organization, and a member of the constitution committee of the Somali Peace Conference. In 2002, she received the Goldman Environmental Prize for her work on behalf of grassroots education, peace, and the environment. Jibrell spent her early years in a community of pastoral nomads, and she remembers a time when the Somali landscape looked different:

"It was a good life at that time. But now it looks like hell, dusty, with lots of gullies, and no grass. Water does not stay. We used to drink water from many places, but it's a very different environment now, a destroyed environment. The cutting of the acacia trees for charcoal has made the land into a desert.

"Somalis are responsible for Somalia's future, and have to play a part in the peace-making initiatives. Peace is a rare commodity. I want to bring the voice of the pastoralists to the center of the constitution, so that it will carry their wants and wishes. As long as I can remember, the pastoralists have never been consulted, yet they are the backbone of the economy.

"Somalia needs advocacy. I think we are suffocating. We are dying. We are becoming the market of guns. Nobody knows about it. We cannot blame anybody, because people do not know. Probably there are a lot of international citizens who would be on our side and oppose the repressive elements, both locally and internationally, if they knew what was happening. But I believe that the positive forces will win in the end."



Acacia trees.

Harvesting Water in the Desert

Somalia's Horn Relief

IN THE HORN OF AFRICA, acacia trees spell the difference between blowing sand and a grassland ecosystem. The keystone species of the Somali desert, the acacias hold water, soil, grass, and shade, making life in the desert possible. Somalia has long been a country of nomadic pastoralists who lead their livestock from the grasslands to the highlands and back again, year in and year out. Now after years of civil war, the old ways of Somali life – caravans and tents, camels and cattle – have eroded along with the desert landscape. Too often, young men growing up in Somalia today have two choices: take up arms for a warlord, or cut acacia trees to burn and sell for charcoal. As the trees have been cut down, water and grass for livestock have gradually disappeared.

Somali pastoral communities are now working together to reverse these trends and restore their ecosystems. Humans cannot turn deserts into rainforests, but they can transform dying deserts into living ones. For thousands of years, one of the most important ways that human communities have added value to local environments is by investing in water conservation. They build check dams and canals to store and redirect water, and plant trees whose organic matter turns the soil into a giant sponge that absorbs rainfall and then slowly releases water over time. Both forms of

storage benefit human communities and wildlife by stabilizing the supply of water through the year.

In Somalia, an ancient technique of water conservation is being revived by the Horn of Africa Relief and Development Organization ('Horn Relief' for short). Established in 1991 in response to the country's profound humanitarian crisis, Horn Relief's first mission was to assist displaced persons driven from their homes by the civil war. Horn Relief now works towards long-term development by supporting community-based projects in education, natural resources management, economic development, and peace building.

One of Horn Relief's successful initiatives has been to bring back the lost art of building 'rock dams.' A wall of rocks is placed in a gully to block the path of water during Somalia's rare rainbursts. The water pools and soaks into the soil, where the acacia seeds are already waiting. In a week or so, the spot is full of seedlings. Most are eaten by goats, but a few survive long enough to grow protective thorns. In the past six years, thousands of rock dams have been built, and the oldest trees are now tall enough for people to sit in their shade. By renewing this practice, Horn Relief is helping the desert ecosystem and the pastoral economy to bloom once more.

An ancient technique of water conservation is being revived



Photo Credit: Cooperación

In Peru, *campesinos* sustain potato diversity.

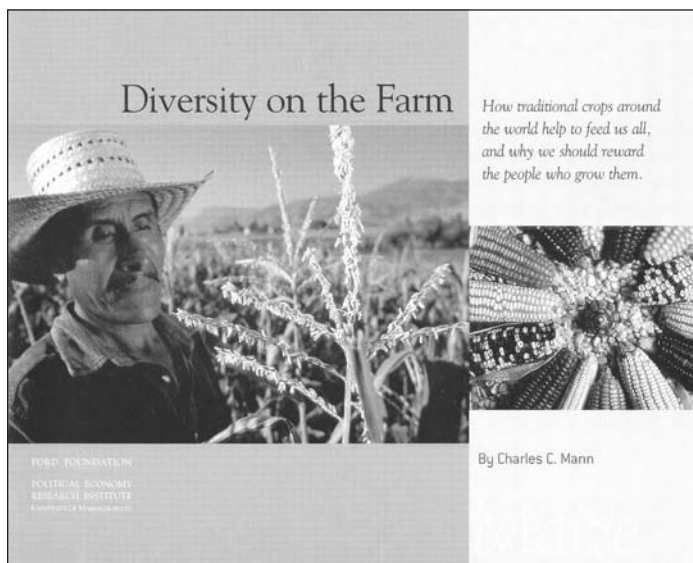


Photo Credit: Peter Menzel

Diversity on the Farm profiles the role of Mexican *campesinos* in protecting maize diversity.

Diversity on the Farm

IN *DIVERSITY ON THE FARM*, award-winning science writer Charles C. Mann explores the cultural richness surrounding the production and consumption of corn in Mexico. He describes the threats faced today by the *campesinos* whose ancestors domesticated corn and who sustain diversity in this key crop. Drawing on initiatives from the local to the global level, Mann advances innovative strategies for sustaining crop diversity and supporting the farmers who cultivate it. *Diversity on the Farm*, a joint publication of the Political Economy Research Institute and the Ford Foundation, is available on the worldwide web at <http://www.umass.edu/peri/programs/development/Mann.pdf>.

Cultivating Biodiversity

Artwork Credit: Melian, CBIK



The indigenous communities of southwestern China cultivate diverse crops.

CROP DIVERSITY underpins long-term world food security, providing the raw material for adaptations to changing insect pests, plant diseases, and environmental conditions. This diversity is cultivated by small farmers in developing countries, especially in historic ‘centers of diversity’ such as Mesoamerica in the case of corn (maize), the Andes in the case of potatoes, and South Asia in the case of rice.

The farmers who sustain this vital resource today receive little if any reward for their services. Increasingly, they are compelled by poverty to give up the cultivation of diverse traditional varieties in favor of a few ‘modern’ highly fertilizer-responsive varieties or to abandon farming altogether.

Strategies to reward the farmers who cultivate diversity around the world would improve rural livelihoods and, at the same time, create stronger incentives for them to continue providing this crucial ecological service to humankind.

Conserving Biodiversity and Local Knowledge in China

THE CENTER FOR BIODIVERSITY AND INDIGENOUS KNOWLEDGE (CBIK), based in Yunnan Province in southwestern China, works with indigenous minority peoples in the fields of watershed governance, community livelihoods, and indigenous knowledge and culture. CBIK explores alternative development approaches to working directly with communities to enhance their livelihoods and maintain cultural and biological diversity through the application of both indigenous knowledge and innovative technology. CBIK also promotes local and regional dialogue among rural communities, non-governmental organizations, academia, and government agencies. Its work demonstrates that livelihood development and environmental protection can go hand-in-hand.



Photo Credit: National Assets Project

MOKHLESUR RAHMAN

is executive director of the Centre for Natural Resource Studies in Dhaka, Bangladesh. As a child, Rahman fished in the floodplains and rivers of Bangladesh. He grew up to become a zoologist and an expert on inland fisheries. His work connects the health of riparian ecosystems with the livelihoods of rural people.

“Our approach is unusual in that the interventions we make differ from those of the multi-million dollar projects funded by most aid donors. For example, previous projects focused only on “fishing” households, but the situation in the flood plains involves all sorts of households – fishers, fish farmers, and rice farmers all depend on the wetlands. So we involve whole communities in management, planning, and decision-making.

“In the floodplains, the fish are not the only resource. There is also farming, animal fodder, aquatic vegetation, water for irrigation, wildlife, and other resources. Our approach considers the whole ecosystem.”



Photo Credit: CNRS

Reopening waterways increases fish populations.



Photo Credit: CNRS

Inland fishing.

Ecological Restoration in the Delta

Rebuilding Fisheries in Bangladesh

IN BANGLADESH, floods are not necessarily disasters. In fact, the annual flooding of the country's great river delta is essential to human livelihoods and natural ecosystems. Bangladesh is blessed with some of the most productive inland fishery resources in the world. But in the last few decades, large-scale flood control projects have disrupted fish populations. Commonly shared open-water fisheries have been replaced by aquaculture in private ponds, endangering both fish biodiversity and the access of the poor to a key item in the Bangladeshi diet. Today communities are investing in natural assets by restoring water flows and the floodplain ecosystem.

Before flood control embankments blocked their movements, fish migrated at the onset of Bangladesh's winter dry season from the floodplains to deeper parts of the rivers and lakes to take shelter and attain maturity. They returned to the floodplains for spawning in the next monsoon. Flood control structures have disrupted fish migrations, leading to population declines of many fish species. Rather than safeguarding the hundreds of species of freshwater fish and prawns in Bangladesh, fisheries 'development' policies have focused on the production of a handful of species through large-scale stocking of domestic and imported carp fingerlings in ponds. This strategy benefits richer landowners whose wealth and power allow them to control access to these ponds – effectively privatizing the country's common fisheries.

Bangladesh's Centre for Natural Resource Studies (CNRS) was founded in 1993 to address the negative impacts of flood-control measures on

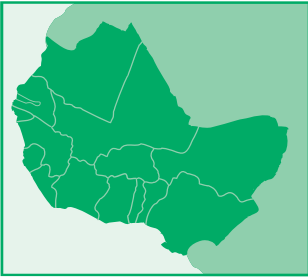
inland fishstocks and the rural poor. Official data on fish production generally count only species of large fish caught or raised for the market, not the smaller fish species that are eaten primarily by poor populations. CNRS researchers documented that in rural areas the poor depend on a remarkable diversity of fish species for their diets and livelihoods, and that most of the 50-75 species routinely consumed by the poor migrate between rivers and floodplains. While farming exotic carps may be good for exports and well-to-do urban consumers, it is the natural fish economy that is critical for the nutrition of the country's poor majority.

CNRS's approach has been to work with local communities to re-open waterways and restore local wetlands. By reconnecting floodplains to rivers and restoring populations of small fish, this community-based habitat restoration builds the natural assets of poor people. The communities working with CNRS also enhance aquatic life by reintroducing locally threatened species, restoring swamp forests and reed lands, establishing dry-season sanctuaries for small fish, and banning harmful types of fishing nets during breeding and migration seasons. The results are more diverse and abundant fish populations, and better human nutrition.

**Floods
are not
necessarily
disasters**



In Bangladesh, fish are crucial in the diet of the poor.



Terra preta

The 'Dark Soil of the Indians' in the Amazon

AMAZONIAN INDIANS literally created the ground beneath their feet. In the late 1990s, when researchers began mapping Amazonian soils, they found many soils that confirmed the paradox that lush rainforest vegetation often disguises land of low fertility. But they also discovered large swathes of *terra preta do Índio* – rich, fertile 'dark earth of the Indians' – that scientists believe were made by human beings.

Terra preta, which dates back more than a thousand years, has retained its nutrients over the centuries. Some scientists believe that it might represent as much as 10 percent of the Amazon basin, an area the size of France. It is scattered across the region: some sites cover 5 to 15 acres, others encompass 700 acres or more. The layer of dark soil is generally one to two feet deep, but it can reach more than six feet. As a rule, terra preta has more plant-available phosphorus, calcium, sulfur, and nitrogen than typical tropical soils; it also has much more organic matter, retains moisture and nutrients better, and is not rapidly exhausted by agricultural use. Ancient farmers apparently made terra preta by a process that has been dubbed 'slash-and-char,' burning organic matter incompletely to make charcoal, then stirring it into the soil. Using a process analogous to adding sourdough starter to bread, they may also have enriched the soil with microorganisms. In other words, faced with an ecological problem, the Indians fixed it. Rather than simply adapting to Nature, they created it.

An international consortium of scientists is now studying terra preta. If its secrets could be plumbed, maybe some version of Amazonian dark earth could be used to improve poor soils elsewhere – another gift from the people who brought us tomatoes, corn, and a thousand different ways of being human.

— *Adapted with permission from Charles C. Mann, 1491: New Revelations about the Americas before Columbus* (New York: Alfred A. Knopf, forthcoming).

Photo Credit: Koji Sebastian Amaror



Makers of Forests

Insights from West Africa

STARTING IN THE 19TH CENTURY with the advent of colonial rule, human-made ‘forest islands’ in the sea of West African grasslands have been misconstrued as the remnants of a vast forest destroyed by African farmers and cattle herders. The stereotype of ignorant local people foolishly destroying their environment was used as one of the justifications for European rule in Africa. Today many government officials and international agencies still mistake the mosaic of savanna and forest patches for evidence of widespread deforestation, despite mounting evidence to the contrary from research into the history of land use in West Africa. In fact, farmers deliberately cultivate and preserve trees on their farms to provide shade, water retention, timber, and a variety of non-timber forest products. In addition, pastoralists help to create and sustain forest cover by controlled burning that prevents fire hazards and by grazing livestock that deposit manure and seeds.

Recent research by Dr. Kojo Amanor of the Institute of African Studies at the University of Ghana has illuminated these positive interactions between humans and the West African environment. In principle, recent initiatives for participatory, community-based forest management could build on this history. In practice, however, the

implementation of ‘community forestry’ projects often remains top-down as local groups are assigned what Amanor calls ‘responsibilities without rights,’ and farmers and pastoralists

continue to receive only a small share of benefits from their ecosystem management.

The anthropogenic (human-made) forest islands of West Africa’s savannas are only one example of human communities adding long-lasting value to the natural environment. Indeed, many of the ecosystems that we think of as ‘natural’ are actually

human-made. From vast expanses of rich terra preta soils in Brazil (see box on facing page) to the underground irrigation canals of the Middle East—the *qanats* of Iran and the *karez* of Afghanistan—humans have invested in their environments in ways that have benefited both themselves and other species. The key to successful strategies for adding value to natural assets is to make sure that participants share in the benefits generated by their environmental stewardship.

For more on West Africa’s anthropogenic forests, see ‘Natural Assets and Participatory Forest Management in West Africa’ by Kojo Amanor, available at: www.umass.edu/peri/pdfs/WP75.pdf.

Many of the ecosystems that we think of as ‘natural’ are actually human-made



Route Two: Capturing Benefits

Too often, negative actions that harm the environment are rewarded, while positive actions that sustain and enrich the environment are not. Initiatives that reward good environmental stewardship can both protect the environment and improve human livelihoods.

THE NATURAL ASSETS maintained by poor people often generate benefits for others. Small landowners, for example, can provide important ecological services through watershed management, biodiversity conservation, and carbon sequestration. Rewarding the poor for these and other benefits flowing from their resource management can enhance their livelihoods and strengthen their incentives to provide these services.



The Forest Stewardship Council

certifies products from sustainably managed and socially responsible forestry, enabling producers to reap a price premium

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In Oaxaca, Mexico

a network of coffee cooperatives enables small farmers to receive a fair price on the world market

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In the Philippines

waste-pickers at the country's largest dump are taking the lead in recycling materials

Page 26



In El Salvador

researchers are studying the effects on poor communities of payment for environmental services

Page 28

A sign at a Mexican *ejido* proclaims, 'Here forestry sustains more than 200 families—demonstrating that rational management can guarantee a healthy environment for future generations.'



Photo Credit: FSC

Photo Credit: FSC

FSC certification is based on social as well as environmental criteria.

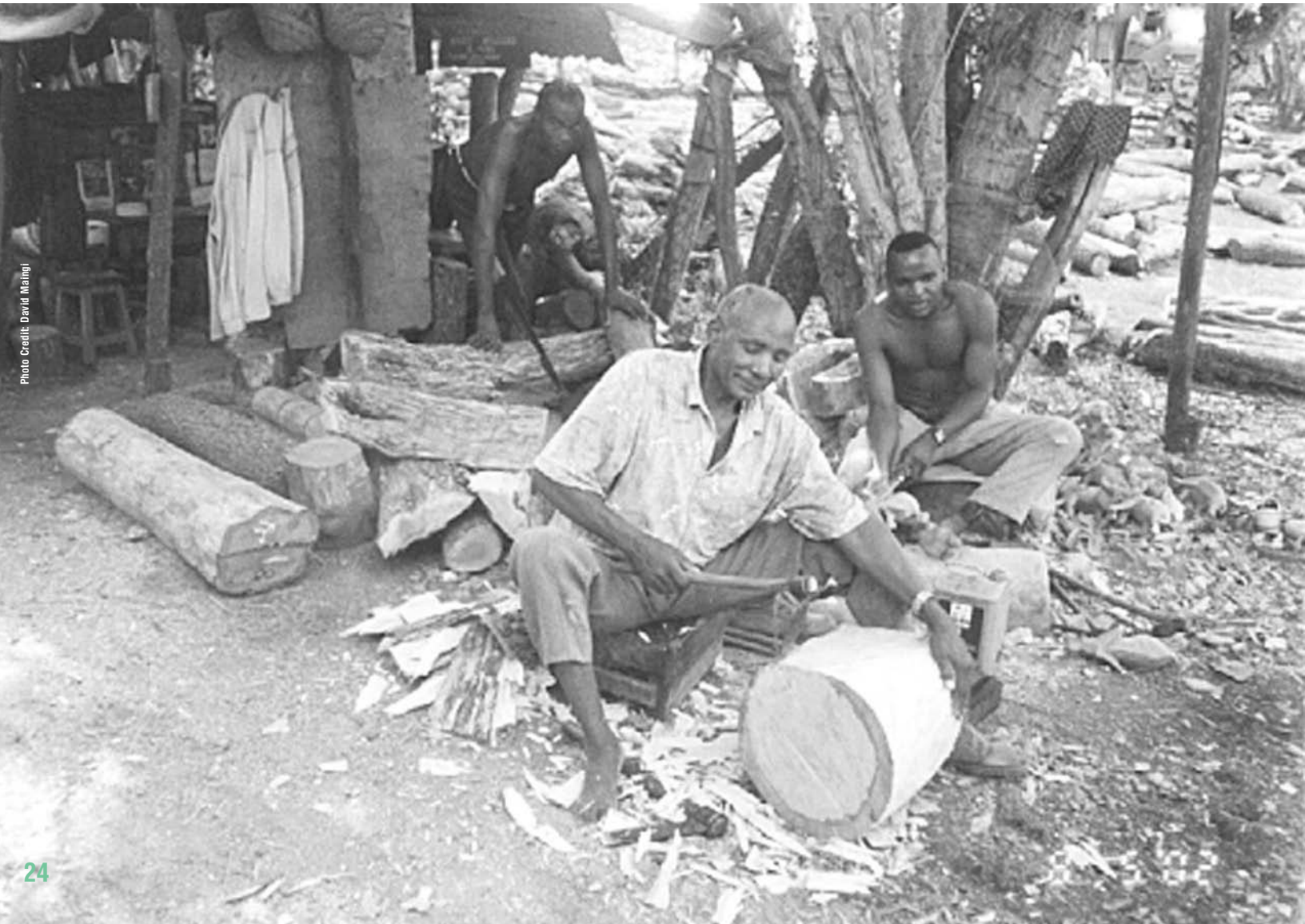


Photo Credit: David Malangi



The Forest Stewardship Council

Certification is having an increasing impact on how forest resources are managed around the world.

FOREST CERTIFICATION increasingly is seen by consumers and governments as an important tool for identifying and rewarding responsible forest management. Forest certification, a market-based system that identifies products coming from responsibly managed forests, is a relatively new concept. The Forest Stewardship Council (FSC), an international third-party certification system available to forest operations in both developing and developed countries, was established in 1993. The FSC is a membership organization, representing social, economic, and environmental interests. By August 2004, over 100 million acres of forests worldwide were FSC-certified.

**Over 100 million
acres of forests
worldwide are
FSC-certified**

Within a decade, forest certification has grown from an idea to become standard practice in some parts of the world. Groups of retailers and manufacturers that market only FSC-certified products have been formed in many countries, and some European governments are considering using certification as a means of meeting

their commitments to purchase timber products from legal and sustainable sources only.

At the same time, certification has evolved beyond a market-based tool: it has become an important means for measuring good forest management, prompting some countries to incorporate certification into their national requirements for forest management. In Bolivia, for example, the government now accepts third-party forest certification as an equivalent to government audits, enabling

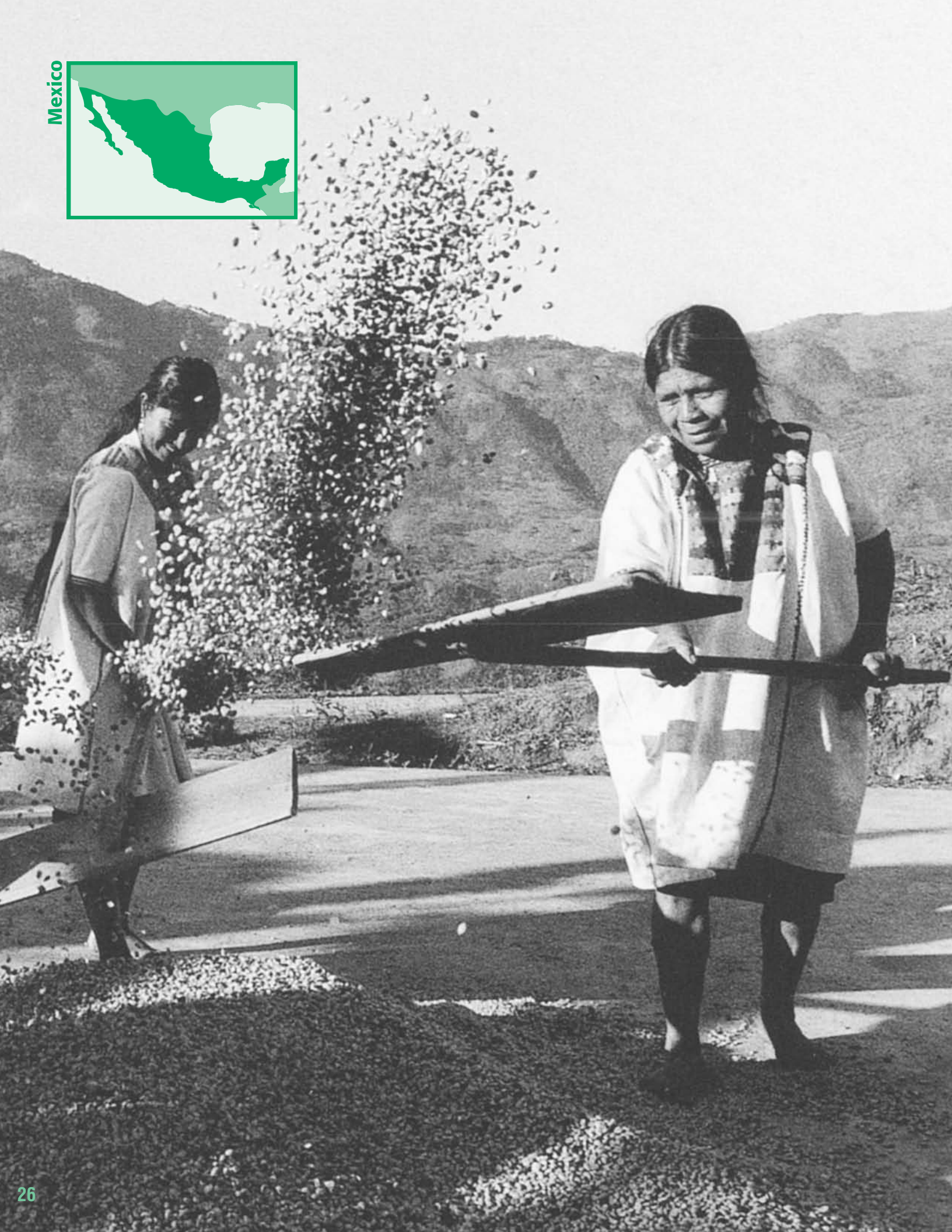
certified forest operations to forego official inspections for compliance with national standards. In Guatemala, certification is a requirement for forest management concessions in the Mayan biosphere reserve. In Mexico, the government offers subsidies for certification evaluations. Both as a market tool and as a regulatory mechanism, forest certification is increasingly having an impact on how forest resources are managed around the world.



Photo Credit: FSC

FSC's logo.

Mexico





Fair and Sustainable Coffee

Rewarding Growers in Oaxaca

CERTIFIED FAIR TRADE AND ORGANIC COFFEE helps small-scale growers and workers to capture the benefits of sustainable coffee production. To receive the 'Fair Trade' seal of approval, coffee roasters must pay a minimum of US\$1.26 per pound to growers for coffee beans, and US\$1.41 if they are also certified organic. For most of the past ten years, these prices have been well above those at

which most coffee is bought and sold. When world market prices fell to historic lows in the period from 2000 to 2002, the fair trade price was nearly double the market price received by most growers. Membership in the Fair Trade registry of producers is available only to small-scale producers organized in democratically managed cooperatives that commit to sound environmental management of their coffee farms. Price incentives encourage growers to move to certified organic production. Certification systems thus enable growers to enjoy a larger share of the benefits that they generate through sustainable use of the land.

In the Mexican state of Oaxaca, coffee farmers have organized to better their lives. In 1989, indigenous Mixteco, Nahuatl, Zapotec,

and Mazateco farmers created the State of Oaxaca Coffee Producers Network, or CEPCO. The network is composed of 45 cooperatives, representing 23,000 farm families. The average family tends a five-acre plot, harvesting about 280 kilograms (620 pounds) of coffee each year. CEPCO assists its members in organic production, coffee processing, joint marketing, and direct export to increase the value-added that stays with the farmers.

Several years ago, CEPCO started its own bank and credit union to provide members with loans. This has evolved into a source of funding for local projects to support communities beyond their coffee crops, including microenterprises in which community members raise pigs, chickens, and other livestock. The members of CEPCO also seek to restore traditional foods and herbal medicines. For the indigenous coffee farmers of Oaxaca, CEPCO has served as a vehicle to maintain a measure of autonomy in an export-oriented economy whose dynamics too often threaten the survival of indigenous communities.

Mexican coffee farmers are organizing to safeguard the environment and better their lives

CAPTURING BENEFITS

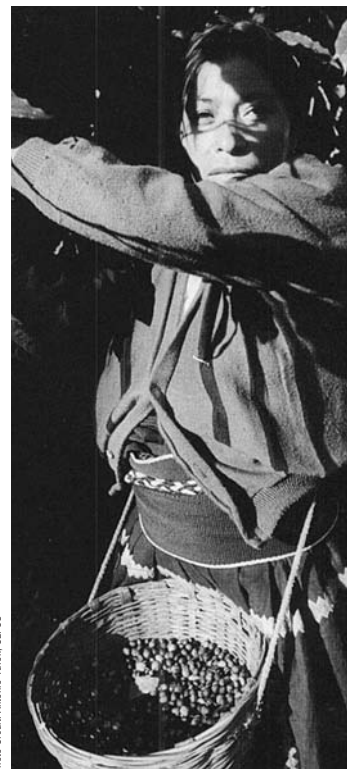


Photo Credit: Antonio Turok, CEPCO

Families in the CEPCO network tend, on average, a five-acre plot.

Philippines



Every day, dumptrucks bring 1,200 tons of trash to Payatas.



Photo Credit: Sid Batatan

The Payatas dumpsite is home to some 6,000 scavengers.



Turning Waste into Wealth

A Scavengers' Association in the Philippines

PAYATAS is the largest dumpsite in the Philippines, occupying 50 acres of land in Metro Manila and receiving around 1,200 tons of trash per day. Some 6,000 waste-pickers make part or all of their livings by combing through this mountain of garbage. On July 10, 2000, more than 200 of them lost their lives when a huge section of the mountain collapsed after heavy rains. After this tragedy the government closed the site, but it soon reopened, in part because the city has nowhere else to dispose of its trash.

To outside visitors, the dumpsite is at best an eyesore, and at worst a vision of hell on Earth. But for the families who earn their livelihoods by recycling materials in Payatas, garbage is a form of wealth. In 1993, the Vincentian Missionaries Social Development Foundation helped to organize a savings and credit program for the scavengers of the Payatas dumpsite, catering mainly to women and using a modified Grameen Bank approach that emphasized savings rather than outside funding as a source of capital. The borrowers then founded a people's organization, the Lupang Pangako (or 'Promised Land') Urban Poor Association, Inc. (LUPAI). From its initial seed capital of US\$2,000, donated by a government agency, LUPAI has grown to manage US\$300,000 in savings accounts. Today, many LUPAI members engage in microenterprises that

provide goods and services to the scavenger community and other residents of the surrounding area. In addition to revolving credit, LUPAI has piloted a community mortgage project, through which some members have acquired ownership of the land where their houses stand.

The organization has also improved streets and water systems.

By treating wastes as assets, the scavengers of Payatas not only secure livelihoods, but also help the Philippines to address its garbage crisis. The total financial cost of handling solid waste in Metro Manila is estimated to be around US\$56 per ton. If the scavengers were

paid for the environmental service they now provide by removing 65 tons of recyclables per day from the waste stream, they would earn an additional US\$3,600 per day, equivalent to 30% of the total income of all the waste-pickers in Payatas. If the regulation and eventual closure of municipal dumpsites like Payatas leads to the proliferation of illegal dumpsites across the country, both the environment and public welfare will suffer. But if creative strategies building on the efforts of groups like LUPAI are adopted to address the country's waste disposal crisis, the Philippines could seize an opportunity to advance the twin goals of environmental protection and poverty reduction.

By treating wastes as assets, the scavengers of Payatas not only secure livelihoods, but also help the Philippines to address its garbage crises



Terraces can improve both the quality and quantity of water supplies for downstream users.

Photo Credit: Barry Shelley

Photo Credit: Barry Shelley



In the highlands of El Salvador, farmers not only produce crops; they also produce water for downstream consumers. But they receive no reward for this environmental service.

Payments for Environmental Services

THE CONCEPT OF PAYMENT for environmental services (PES) recently has emerged as a way to reward producers for positive side-effects generated by their natural resource management. Economists call this 'internalizing positive externalities.' PES schemes aim to maintain and expand the flow of these external benefits by paying individuals and communities for good environmental stewardship. Examples include payments to landowners for watershed management, biodiversity conservation, or carbon sequestration. Like certification systems for forest products, shade-grown coffee, and organic produce, PES systems encourage activities that protect the environment and valuable ecosystem services.

Economic instruments can be powerful tools for achieving environmental objectives in a cost-efficient manner. But if these instruments are to promote equity and poverty reduction as well, they need to be designed with this goal explicitly in mind. The rules must ensure not only that benefits flow to poor communities, but also that the rights of the poor to natural resources are pro-

tected. Governments and international agencies typically define the framework for PES schemes, and in so doing, they help to determine the potential for inclusion or exclusion. Economic instruments can be effective tools for strengthening the livelihoods of poor rural communities, but only if rules and rights are crafted to ensure this outcome.

The Salvadoran Research Program on Development and Environment (PRISMA) in El Salvador is at the forefront of research on PES. PRISMA promotes and develops approaches to improving rural livelihoods while furthering the sustainable management of natural resources.

In El Salvador, a major focus of PRISMA's work has been the water crisis faced by the San Salvador metropolitan area. PRISMA has promoted public policies and investments that recognize and support the contributions of the poor farming communities to watershed management in the catchment area for the city's water supply.

For a review of experiences with PES strategies in the Americas, see www.prisma.org.sv.

Economic instruments can be effective tools for strengthening the livelihoods of poor rural communities, but only if rules are crafted to ensure this outcome



Route Three: Democratizing Access

An equitable distribution of rights to land and other natural resources promotes both poverty reduction and environmental protection.

WHERE the total stock of natural assets is fixed – as in the case of land – democratizing rights of access can expand the poor’s share of these resources. This requires redistribution from the asset-wealthy to the asset-poor.



In India

Ekta Parishad struggles for a fairer distribution of land and forest rights

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In Peru

CooperAcción defends mining communities’ rights to a healthy environment and equitable sharing in benefits

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In the Philippines, South Africa, and Brazil

community-based organizations are assisting farmers and new cooperatives in the wake of ‘bottom-up’ land redistribution

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In the Brazilian Amazon

the government has recognized the rights of rubber tappers and forest dwellers by establishing extractive reserves

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India



Photo Credit: Simon Williams

India's *adivasi* (tribal) and *dalit* ('untouchable') communities face land encroachment by more powerful interests.



Taking inspiration from Mahatma Gandhi's Salt March, Ekta Parishad organizes marches to defend the rights of poor people to land, forests, and water resources.

Defending Indigenous Land Rights

India's Ekta Parishad

ON NOVEMBER 24, 1999, over 300 tribal people broke into the World Bank's headquarters in New Delhi, India, and covered the building with posters and graffiti. They blocked the gates and sang traditional songs until the Bank's national director publicly received an open letter that read, in part:

We fought against the British and we will fight against the new form of colonialism that you represent with all our might...For the World Bank and the WTO [World Trade Organization], our forests are a marketable commodity. But for us, the forests are a home, our source of livelihood, the dwelling of our gods, the burial grounds of our ancestors, the inspiration of our culture. We do not need you to save our forests. We will not let you sell our forests.

Among the letter's signatories was Ekta Parishad, a Gandhian organization that is at the forefront of indigenous land claims in India. Ekta Parishad uses marches, protests, and occupations to press the government to address the inequitable allocation of land and other natural resources, and to protect the rights of adivasi (tribal) and dalit ('untouchable') communities against encroachment by more powerful interests. The aim is to

push the state to implement existing laws and, where necessary, to pass new laws that are more favorable to the poor and landless.

Taking inspiration from Mahatma Gandhi's famous 1930 Salt March, Ekta Parishad organizes yatras (long marches) to press the authorities to implement land reforms and defend the rights of poor people to water and forest resources. In the year 2000, for example, Ekta activists walked 3500 kilometers (2200 miles)

across the states of Madhya Pradesh and Chhattisgarh, passing through more than 7000 villages. They persuaded the state government in Madhya Pradesh to establish a task force on land issues. This led to:

- the distribution of more than 350,000 acres of surplus land to approximately 180,000 landless families
- the return of lands illegally taken by landlords to more than 10,000 landless tribal families
- the government's withdrawal of more than 500,000 cases filed against indigenous people in disputes over access to forest lands

For more on Ekta Parishad, see www.ekta-parishad.org.

**We will
not let
you sell our
forests**

Peru



Photo Credit: Cooperación



Community members monitor water quality.





Artwork Credit: Beatriz Mosquera

Democratizing Mining

Peru's CooperAcción

THE WORLD MINING INDUSTRY experienced unprecedented expansion in the 1990s, particularly in the global South. Latin America became the world's most important destination for mining-related investment capital. This expansion was driven by rising mineral prices, and promoted by policies of the international financial institutions that favored privatization and permitted foreign investors to enter sectors and exploit resources that previously had been inaccessible. The mining boom brought profits to investors, but high environmental and social costs to local communities, in some cases threatening their very survival.

A recent study by Oxfam-America reveals that twelve of the world's 25 most mineral-dependent states are classified by the World Bank as 'highly-indebted poor countries.' The study also documents a strong correlation between mineral dependence and income inequality, and suggests that mineral exports not only fail to alleviate poverty, but often exacerbate it.

Serious social, health, and environmental impacts are borne by local communities, and indigenous peoples frequently are among those most adversely affected. For example, it is estimated that two-thirds of world copper production will take place in the territories of indigenous people by the year 2020.

Two-thirds of world copper production will take place in the territories of indigenous people by the year 2020

Founded in 1997, CooperAcción is a Peruvian non-governmental organization whose aim is to bring about a better balance between the exploitation of natural resources and human development. To this end, CooperAcción defends the rights of mining communities, promotes environmentally sound technologies, and fosters dialogue among social organizations, local governments, businesses, and the state. In some cases, Peruvian communities have opposed mining projects in their territories, judging them to be incompatible with local development. In other cases, communities have accepted mining activity and attempted to establish equitable relationships with industry that integrate mining into local strategies for sustainable development. CooperAcción supports their right to choose which course of action to pursue.

For more on CooperAcción, see 'Mining and Communities: Poverty Amidst Wealth,' by Karyn Keenan, José de Echave, and Ken Traynor, available at: <http://www.umass.edu/peri/pdfs/CDP3.pdf>.



DEMOCRATIZING ACCESS

Photo Credit: CooperAcción

The Tintaya copper mine in Espinora, Peru.

Photo Credit: CooperAcción



Brazil's Landless Workers' Movement

BRAZIL'S LANDLESS WORKERS' MOVEMENT (Movimento dos Trabalhadores Rurais Sem Terra, or MST), founded in 1985, peacefully occupies empty or underused lands, invoking a provision in the Brazilian constitution that ties land ownership rights to responsibility for socially beneficial use of the land. In the face of violent repression from gunmen hired by large landowners, the MST has succeeded in winning more than 20 million acres of land for over 350,000 families. Historian Eric Hobsbawm calls the MST 'probably the most ambitious social movement in contemporary Latin America.'

Initially, MST settlers often tried to imitate the agricultural methods used on large farms, including heavy pesticide use and energy-intensive mechanization. Faced with the high financial and environmental costs of this technology, many now have switched to sustainable farming techniques. Moving beyond land occupations, the MST has set up progressive schools and educational programs across the country and helped to establish an organic seed production firm.

For more, see the MST's website, <http://www.mst.org.br/>. See also the resources listed at the end of this booklet.

Photo Credit: CARRD

TRAC-MP

The Rural Action Committee - of Mpumalanga Province



Established 1982

(Land rights is the first step in development)

South Africa's Transvaal Rural Action Committee – Mpumalanga Province

THE TRANSSVAAL RURAL ACTION COMMITTEE – Mpumalanga Province (or TRAC-MP) grew out of South Africa's Black Sash Movement, which gave support to victims of forced land evictions under the apartheid regime in the 1980s. TRAC-MP's work on land rights and rural development aims to promote gender equity, security of tenure, and environmentally sustainable development. To these ends, TRAC-MP provides legal advice on land rights and land access options to farmers, tenants, and laborers; assists victims of forced removals to reclaim lost lands; assists groups to access land through redistribution; and defends the tenure rights of residents on private and state lands.



Photo Credit: CARRD

Harvesting (top) and planting (middle) sugarcane in Batangas, the Philippines.

The logo (above left) of the Transvaal Rural Action Committee - Mpumalanga Province (TRAC-MP) depicts the victims of forced land evictions carrying a bedframe as they walk.

Reclaiming the Earth

Popular Movements for Land Reform

Land reform – the redistribution of rights to own and use agricultural land – is one of the most important ways to democratize access to natural assets. Land reform promotes:

- *Equity:* In agricultural societies, a fair distribution of land is the single most important guarantee of a fair distribution of income and economic opportunities.
- *Efficiency:* Given access to water and other inputs, small farmers generally produce higher yields per acre than large farms by virtue of higher labor intensity.
- *Sustainability:* Small farmers are stewards of agricultural biodiversity, and their labor and

knowledge facilitate less chemical- and energy-intensive farming techniques.

- *Democracy:* In predominantly agrarian societies, an equitable land distribution is the key to an equitable distribution of political power.

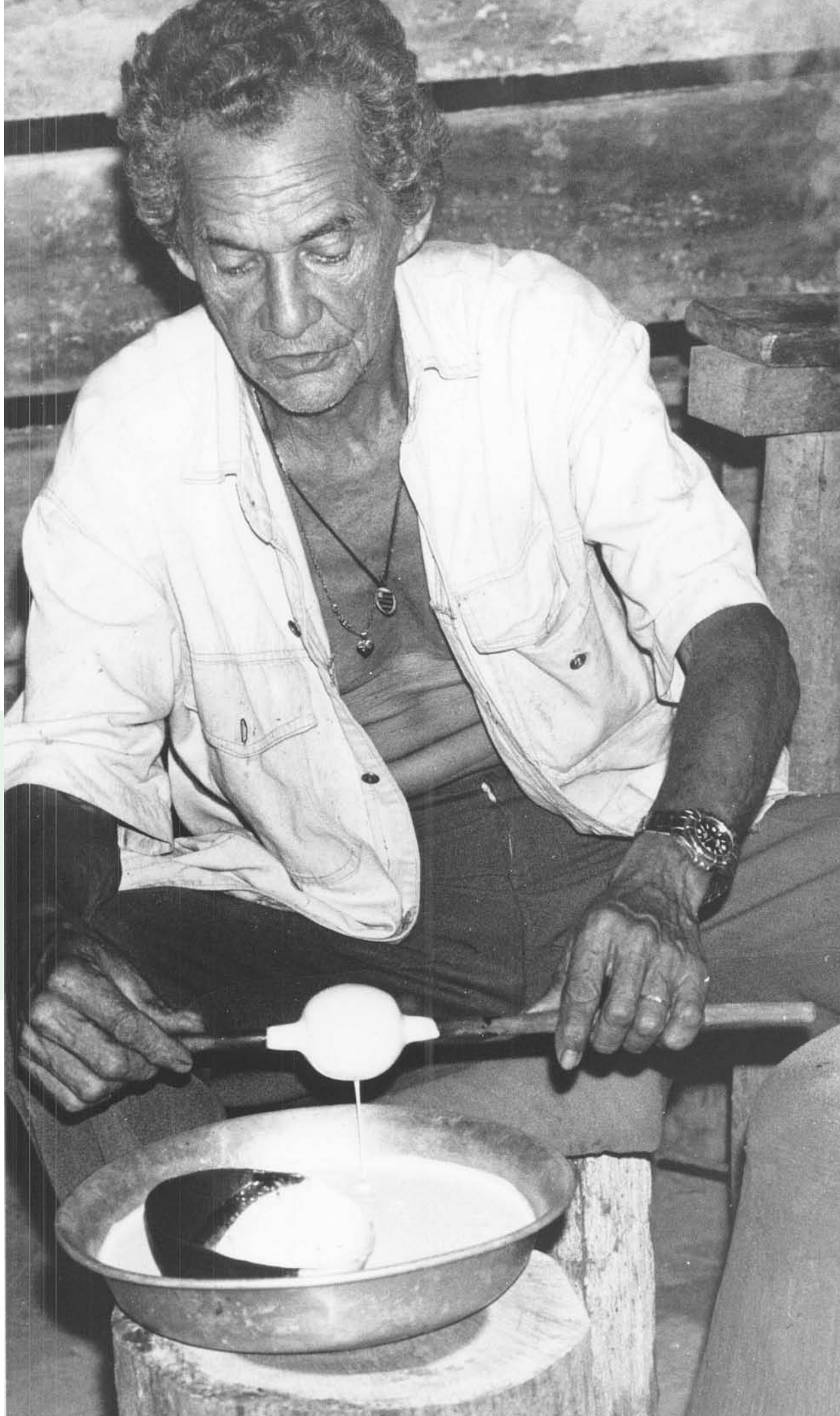
Land reform was the common theme in the post-war development strategies of China, Japan, South Korea, and Taiwan, laying the foundation for broad-based growth in each of these East Asian societies despite the sharp contrasts in other aspects of their economic philosophies. Today, popular movements around the world are carrying forward the struggle for land reform.



Sugarcane is an important crop in the Philippines.

The Philippines' Center for Agrarian Reform and Rural Development

THE CENTER FOR AGRARIAN REFORM and Rural Development (CARRD) in the Philippines provides support for direct land occupations and farm takeovers, land management planning, and cooperative farming. CARRD was founded in 1988 to press the Philippine government to implement agrarian reform by waging a nationally coordinated campaign for land redistribution and sustainable rural development. CARRD promotes cooperative farming arrangements on occupied lands to ease the transition from being a farmworker to being an owner/cultivator.



A rubber tapper processes latex into balls for sale.

Photo Credit: Anthony Hall

Extractive Reserves in the Amazon Rainforest

AMAZONIA has the world's largest remaining tropical rainforest. The region's natural assets are important for regional and national economic growth, and provide livelihoods for several million people. In addition, Amazonia supplies key environmental services in the form of the conservation of biological diversity, climate regulation, watershed management, and sequestration of global carbon emissions.

Traditional forest-dwelling populations, including rubber tappers and indigenous people, have long used non-destructive technologies to tap the natural resource base of Amazonia. As the frontier has advanced, however, their lives and livelihoods are imperiled by deforestation, primarily to open land for cattle grazing by large-scale ranching operations. Official government policies have rewarded predatory forms of land occupation with generous subsidies, and powerful outsiders often have been backed by corrupt politicians and the repressive apparatus of the state.

Brazil's rubber tappers organized to defend the forests on which their way of life depends, posing a major challenge to this 'development' model. Cattle ranchers and land speculators responded

with violence. Many of the rubber tappers have been killed, including their leader, Chico Mendes, who was assassinated in 1988 (see accompanying box). Yet the rubber tappers' movement persevered and ultimately succeeded in persuading

the Brazilian government to set up 'extractive reserves' – conservation areas protected from deforestation, where local communities can harvest non-timber forest products such as latex and nuts.

The first extractive reserve was established in 1990. Since then, four more federal extractive

reserves have been created and another 14 decreed, covering almost 10 million acres. In these reserves, rubber tappers set up local associations to help design and implement environmental management plans and to sub-lease rubber stands to individual households. Destructive forms of land use, such as clear-felling of trees, are prohibited. Brazil's extractivists were politically 'invisible.' Their incorporation into a new natural resource management strategy marks a conceptual break from the earlier philosophy that assumed all human presence in conservation areas to be harmful to the environment.

Brazil's rubber tappers organize to defend the forests on which their way of life depends



Photo Credit: Anthony Hall

This portrait of Chico Mendes now hangs in the Chico Mendes Environmental Park in Xapuri, Brazil.

CHICO MENDES was born in 1944 in the state of Acre in the Brazilian Amazon. He grew up in the forest, learning to be a seringueiro, or rubber tapper. At the time of his assassination by a cattle rancher in 1988, Chico was president of the Rubber Workers' Union in his hometown of Xapuri and leader of the state's 300,000 rubber tappers. Shortly before his death, he explained the origins of the idea of extractive reserves:

"We realized that in order to guarantee the future of the Amazon we had to find a way to preserve the forest while at the same time developing the region's economy. So

what were our thoughts originally? We accepted that the Amazon could not be turned into some kind of sanctuary that nobody could touch. On the other hand, we knew it was important to stop the deforestation that is threatening the Amazon and all human life on the planet. We felt our alternative should involve preserving the forest, but it should also include a plan to develop the economy. So we came up with the idea of extractive reserves."

The Fight for the Forest: Chico Mendes in His Own Words, London: Latin American Bureau, 1989, p. 41.



Route Four: Defending the Commons

Open access resources – such as the use of the air as a sink for pollutants – in theory are available to everyone. In practice, they are used and abused by those with the power to appropriate them. Struggles to establish an equitable distribution of rights to these resources can both protect environmental quality and improve human well-being.

WHEN THERE IS NO FRAMEWORK of rights to govern access to natural resources – when harvesting fish, or cutting trees, or discharging pollutants into the air is simply a free-for-all – the result often is serious environmental degradation. In the scramble to exploit open-access resources, the advantage goes to those who wield the most power and the most ruthless technologies. At the same time, the costs often fall most heavily on low-income people. To combat these ‘tragedies of the commons,’ communities around the world are fighting for environmental justice.



In Thailand

the Yadfon Association is defending the coastal commons and restoring mangrove forests

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In the Philippines

the SAMMACA federation is reclaiming traditional fishing grounds that were plundered by industrial fishers

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From Delhi to Los Angeles

communities are fighting for the right to clean air

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In response to the threat of global warming

activists from both the South and the North are putting forward strategies based on the principle of ‘greenhouse equity’

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Thailand

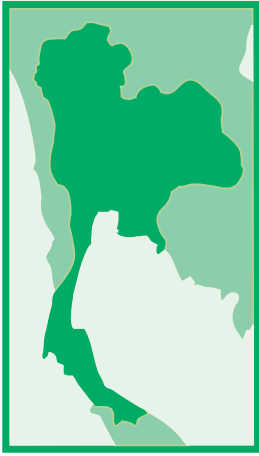


Photo Credit: YaiJorn Association

Replanting mangroves in Ban Leam, in southern Thailand.

A community-managed mangrove forest.



Photo Credit: YaiJorn Association

Restoring Mangrove Forests

Thailand's Yadfon

IN 1986, the Yadfon ('Raindrop') Association began working with low-income fishing families in seven coastal villages of Trang province in southern Thailand. The livelihoods of the fisherfolk were being endangered by the destruction of mangrove forests that provide critical habitat for aquatic life. The villagers petitioned the government to prohibit private concessionaires from extracting mangrove wood and converting the forests into shrimp aquaculture ponds. This precipitated an intense confrontation in which one of the village leaders was shot dead, a not-uncommon outcome in the Asia-Pacific region when ordinary people challenge powerful commercial and political interests.

Faced with violence, the villagers adopted a new strategy. To demonstrate their genuine concern for the forest, they started replanting degraded mangrove areas that had been allotted for their use. The mangroves are like the roots of the sea, without which the coastal ecosystem would die. They explained this to their fellow villagers and invited government officials to take part. When the provincial governor visited, he was surprised to see an impoverished community, one rife with child malnutrition, with such

enthusiasm for conserving natural resources. This action helped to win legal demarcation of an area of about 250 acres as a 'community-managed mangrove forest.'

The rewards to ecological restoration were immediate and obvious. Fish, shellfish, squid, and turtles returned. Fishermen needed to travel less far out to sea, saving fuel. Children and women could catch enough crabs in the seagrass and mangrove swamps to earn as much or more than they previously earned by chopping down mangrove trees for fuelwood. The most remarkable consequence of their efforts, however, was the return of the dugongs, an endangered marine mammal also known as 'sea cows' because they nurse their young from udders between their pectoral flappers. As the dugongs returned to the revived seagrass, they became the greatest symbol of the success of the community's investment. Government officials who had once pleaded lack of enough manpower to enforce a ban on mechanized trawlers now were compelled to be more active: no one wanted to be accused of endangering the dugong. Yadfon's defense of the coastal commons has marked an environmental turning point.

Mangroves are like the roots of the sea, without which the coastal ecosystem would die



Photo Credit: Natural Assets Project

Aquaculture ponds along the coast of Pagapas Bay, the Philippines.

ISANet, THE INDUSTRIAL SHRIMP ACTION NETWORK, assists non-governmental organizations like Yadfon in addressing the impacts of the explosive worldwide growth of large-scale shrimp aquaculture on local communities and ecosystems. Representatives of environmental and community groups from 14 nations organized ISANet in 1997 as an umbrella group that would help to defend com-

munity rights to coastal resources and encourage environmentally sustainable and socially responsible shrimp farming.

For more information about ISANet's campaigns against irresponsible shrimp aquaculture and for wetlands conservation, see www.shrimpaction.org.



Fishermen in Madagascar.



Photo Credit: ICSF

Fisherwomen holding crabs, Brazil.

International Collective in Support of Fishworkers

THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS (ICSF) is an international non-government organization, based in Chennai (India) and Brussels (Belgium), that works to establish equitable, self-reliant, and sustainable fisheries by defending the rights of fishworkers in the small-scale, artisanal sector. ICSF's mandate is drawn from the historic International Conference of Fishworkers and their Supporters held in Rome in 1984, parallel to the World Conference on Fisheries Management and Development that was organized by the United Nations Food and Agriculture Organization.

For more information about ICSF, see www.icsf.net.

Aquarian Reform

The Philippines' SAMMACA

THE COAST OF PAGAPAS BAY in the Philippines traditionally has been the main source of livelihood for the residents of 25 fishing communities. Until the 1980s, the bay was a common-property resource, governed by norms that ensured that it was fished sustainably. Then wealthy Filipino fishing businesses arrived with big boats, big nets, and high-tech equipment. Disregarding the informal rules that the fishing communities had long followed, they overfished the waters and dredged coastal mangrove forests to make fish farms. The fisheries quickly became an open-access resource, where the only rule was 'use it or lose it.'

The privatization of the foreshore between the high-water and low-water marks was the last straw for the fishing communities. Almost 5000 acres were sold to a wealthy landowner who blocked traditional access to the ocean. The new owner built fences, cut mangrove forests, dug private ponds for commercial fish farming, and razed fisher families' homes to make way for a beach resort. In response to these threats to the ecosystem and their livelihoods, the fishing people in 1992 formed SAMMACA (the Association of Small Fisherfolk in Calatagan), a federation of 18 fishing cooperatives along the coast.

SAMMACA's first priority was to educate the fishing communities about their property rights and the local ecology. As the group gained experience and strength, members organized actions to assert their right to coastal access and to prevent further destruction of the local environment. As a result of SAMMACA's organizing efforts, the municipality of Calatagan declared the entire extent of its waters a marine

reserve and prohibited the fishing methods used by industrial trawlers. The Philippines Department of Environment and Natural Resources also intervened, issuing cease-and-desist orders to several of the most environmentally irresponsible fish farms.

SAMMACA's members continue to work to restore the coastal environment through projects like mangrove reforestation and the construction of artificial reefs. Each cooperative also



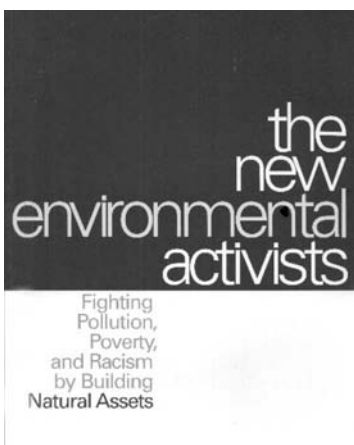
Artwork Credit: SAMMACA

runs credit assistance programs, manages stores for fishing and household supplies, and helps transport fish to the market. As SAMMACA's members can testify, open-access resources – in which no one has the responsibility of environmental stewardship – lead not only to overuse but also to unequal access. SAMMACA has demonstrated that an equitable distribution of rights can provide the foundation for sustainable use of resources.

Fishing communities have organized to prevent further destruction of the coastal environment.



Children demonstrating for clean air outside the Prime Minister's residence in New Delhi.



The New Environmental Activists

THE NEW ENVIRONMENTAL ACTIVISTS profiles 24 community-based groups in the United States that are fighting pollution, poverty, and racism by building natural assets. Among those featured are:

- residents of Louisiana's 'cancer alley' who are battling the corporate Goliaths of the petrochemical industry
- Native Americans and their allies who are fighting the spread of military poisons in Alaska
- inner-city Boston residents who won the power of eminent domain to reclaim vacant lots and transform them into community assets
- Hispanic farm families in southern Colorado who are struggling to retain

access to the water that is the lifeblood of unique agricultural ecosystems created by their forebears

- the descendants of immigrant workers in the meatpacking plants of Omaha, Nebraska, who are now fighting to break the hazardous government-business alliance that risks the health of their community

The New Environmental Activists is a joint publication of the Political Economy Research Institute at the University of Massachusetts-Amherst and the Center for Community Action and Environmental Justice in Riverside, California. It is available online at: <http://www.umass.edu/peri/newenviron.htm>.

Defending the Right to Clean Air

DOES THE AIR BELONG TO POLLUTERS, or to people who breathe it? In major cities across the globe, air pollution has become an environmental nightmare and the cause of widespread respiratory illnesses and premature deaths. Low-income communities often suffer the most from air pollution. The poor cannot afford to live in affluent neighborhoods with better air quality. They cannot afford adequate med-

ical care when they fall victim to respiratory ailments. And often they lack the political clout to prevent industries and municipal authorities from siting hazardous facilities in their neighborhoods. Today, however, communities around the world are fighting to clear the air. They uphold the principle that clean air is a right for everyone – regardless of income, race, or ethnicity.

Photo Credit: CSE

Communities for a Better Environment

COMMUNITIES FOR A BETTER ENVIRONMENT (CBE), based in California, works with low-income urban communities and communities of color to combat pollution of their air and water. In 1994, U.S. President Bill Clinton signed an executive order directing every federal government agency to identify and rectify 'disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.' Ten years later, however, African-Americans, Latinos, Asian-Americans, Native Americans, and low-income communities across the country still face disproportionate environmental hazards. The environmental justice movement rejects the 'not-in-my-backyard' approach that pits one community against another, instead advancing the demand: 'Not in anybody's backyard.'

For more on CBE's work, see www.cbecal.org/.



Photo Credit: Ford Foundation

In Los Angeles, California, community 'bucket brigades' test air quality.



Photo Credit: CSE

Sunita Narain of the Centre for Science and Environment.

The Centre for Science and Environment

THE CENTRE FOR SCIENCE AND ENVIRONMENT (CSE), based in New Delhi, India, has been at the forefront of efforts to defend the right to clean air. CSE's clean air campaign began by exposing the sources of noxious pollutants in the nation's capital, where, according to health experts' estimates, a person dies every hour from air pollution. An initial focus of CSE's campaign was particulate pollution from trucks and buses. In a series of landmark rulings beginning in 1998, India's Supreme Court ordered New Delhi's bus fleet to convert from diesel to compressed natural gas, a cleaner fuel, and banned the entry of thousands of polluting trucks into the city. CSE is now working for 'second-generation' measures to address pollution from cars and scooters.

For more on CSE's clean air campaign, see www.cseindia.org/apc-index.htm#.



EcoEquity

ECO EQUITY is non-governmental organization based in California that aims to advance the principle of equal rights to global common resources:

"We take up this project because while we know that the costs of emissions reductions have been vastly overstated, and know that a green technology revolution is waiting in the wings, we do not believe that markets and technology alone will suffice. We take it up because the United States, the last superpower, is also

the world's largest emitter of greenhouse gases, and the nation with the largest carbon debt of all. It thus had a special obligation to sharply curtail its emissions, and to help open 'environmental space' for the developing world. If it refuses to do so, the rest of the world may not be able to get around its intransigence to find a new future."

For more information, see www.Ecoequity.org.

Greenhouse Equity

SUNITA NARAIN AND ANIL AGARWAL of India's Centre for Science and Environment began to develop the idea of 'greenhouse equity' in the late 1980s. For two years they had been traversing Indian villages, searching for policies to reforest common lands. Although India's forests are mostly owned by the government, it is poor communities that actually depend on them for survival, and it quickly became clear that reforestation was not possible without community participation. For the people to be involved, they realized, the rules for engagement had to be respected. And to be respected, the rules had to be fair.

Narain and Agarwal were drawn into the global climate debate when a flummoxed state chief minister called them. He had received a central government circular asking him to discourage rural people from keeping animals. Data released by a U.S. research institute had convinced India's environment minister that the rural poor contributed to global warming by doing 'unsustainable' things like growing rice and keeping livestock. 'Do the cattle and goats of the villagers really disrupt the world's climate?' the chief minister asked. Narain and Agarwal were puzzled. They knew people living in poverty were victims of environmental degradation. Yet now they were being cast as complete villains. Why?

With this question in mind, Narain and Agarwal embarked on their climate research journey. They learned that there are similarities between managing a local forest and managing the global climate. Both are common property resources. And in both cases, what is needed most is a framework of rights and responsibilities that encourage cooperation. They advanced two main arguments:

- First, the world needs to differentiate between the greenhouse gas emissions of the poor – say, from subsistence paddy or farm animals – and those of the rich – say, from cars. Survival emissions are not equivalent to luxury emissions.
- Second, managing a global commons means cooperation among countries. Just as a stray cow or goat can chew saplings in the forest, any country can harm the global climate if it emits more than the atmosphere can take. As in the forests, cooperation is possible only if the rules are respected, and that is possible only if they are fair.

Artwork Credit: From the cover of *Global Warning in an Unequal World*, by Anil Agarwal and Sunita Narain. New Delhi: Centre for Science and Environment, 1991.



Greenhouse equity is based on the principle of equal per capita entitlements to the carbon-absorption capacities of the Earth and its atmosphere. Agarwal and Narain suggested that countries that use less than their share could trade unused emission rights, giving them an extra incentive to invest in technologies that do not increase their emissions. Most importantly, they brought to international climate negotiations a down-to-earth insight: think of the forests, and learn that equity is not a luxury. It is a necessity.

The New Environmentalism

ACROSS THE GLOBE, a new environmentalism is stirring. It is not a centralized movement, but rather a shared set of commitments born of common experiences, some of which have been described in these pages. The central tenets of the new environmentalism include the following:

- *People are a part of nature, not apart from nature:* Humans are neither omnipotent masters of the Earth nor powerless spectators in the drama of the planet's natural history. Instead we are part of the web of life.
- *People can sustain and enrich the environment, as well as degrading it:*



Humans are not invariably a blight on the face of the Earth. We can choose to sustain and enrich our environment, or to degrade it. Environmentalism is not just about restraining our destructive capacities. It is also about harnessing our creative capacities for ecological restoration and investment in nature's wealth.

- *How we relate to nature is tied intimately to how we relate to each other:* Unlike other species, humans are differentiated in terms of wealth and power. Elites often benefit from environmentally destructive activities by shifting the costs onto others – those whose natural resources are depleted and whose environment is fouled. For this reason, social justice and environmental protection are bound together: neither can succeed without the other.
- *Every person has an inalienable right to clean air, clean water, and a healthy environment:* These are basic needs of all, not luxuries for the few. They are human rights, not commodities to be allocated on the basis of purchasing power, or privileges to be distributed on the basis of political power.
- *Environmental quality and economic well-being go hand-in-hand:* Far from being subject to an inexorable tradeoff – ‘jobs versus the environment,’ for example – a healthy environment and a strong economy can and must go together. Investing in natural assets creates both employment and wealth.



- *Low-income communities are the heart of the solution, not the heart of the problem:* The poor bear the heaviest costs from resource depletion and pollution, but get few of the benefits from the economic activities that cause these environmental ills. The new environmentalism does not blame the victims. Instead it draws its strength and inspiration from the struggles of communities throughout the world to defend the environments and natural resources on which their lives and livelihoods depend.

THE NEW ENVIRONMENTALISM is *diverse*, spanning issues from defending the forests to reclaiming the right to clean air in urban communities.

It is *multiracial, multiethnic, and multinational*, bridging social divides to forge powerful alliances.

It is *progressive*, founded on concern for the well-being of ordinary people rather than the self-interest of the privileged and the powerful.

It is *optimistic*, affirming not only that a better future is possible, but also that by acting together we can make positive changes happen.

And it is profoundly *democratic*—a movement of the people, by the people, and for the people.



Artwork Credit: WARU, Indonesia



Participants in the International Conference on Natural Assets

THE INTERNATIONAL CONFERENCE ON NATURAL ASSETS, held in Tagaytay City, the Philippines, on January 8–11, 2003, brought together researchers and community-based organizations to discuss the potential for natural asset-building strategies to advance the goals of poverty reduction, environmental protection, and environmental justice.

Mubariq Ahmad
WWF Indonesia
Jakarta, Indonesia

Ruperto Alerozo
SAMMACA
Batangas, Philippines

Kojo Amanor
Institute of African Studies
Legon, Ghana

Josefina Aranda
CEPCO
Oaxaca, Mexico

Tasso Azevedo
National Forest Programme
Brasília, Brazil

Paul Baer
EcoEquity
Salt Lake City, Utah, USA

Charles Bailey
Ford Foundation
Hanoi, Vietnam

Deborah Barry
Ford Foundation
Colonia Polonco, DF, Mexico

James Boyce
PERI, UMass-Amherst
Amherst, Mass., USA

Oscar Castillo
CARRD
Quezon City, Philippines

Pisit Charnsnoh
Yadfon Association
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