



Intersections

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The equitable and sustainable management of natural resources is essential in MCC's work to improve food security and livelihoods. However, there are inherent complexities associated with how these resources should be managed and by whom. Community-based natural resource management (CBNRM) emphasizes the role of communities in making decisions about how natural resources are controlled. In contrast to top-down management approaches, CBNRM recognizes that communities are best positioned to make management decisions due to their intimate knowledge of local ecological conditions, traditional management practices and local interests and preferences.

The articles included in this issue of Intersections explore what effective and successful CBNRM looks like in a variety of contexts and identify common themes that arise when working at CBNRM. The first theme emerging from these articles is the complexity in the relationships among actors in CBNRM processes, including communities, local governments, national governments, NGOs and the private sector. These actors have different goals and motivations for engaging in natural resource management, as well as differing approaches to community participation. While multiple actors can work collaboratively to strengthen resource management, more often this dynamic generates complications and tensions stemming from competing interests. Secondly, these articles raise important questions regarding the role of NGOs like MCC in CBNRM specifically and community development more generally. How can NGOs most effectively support communities as they take the lead in managing their natural resources, particularly when complex relationships exist among actors?

As these articles demonstrate, community-based natural resource management is not a straight-forward process. Many challenges exist within community engagement processes, especially when other actors (government institutions, private sector actors, NGOs) are involved. Despite complications within CBNRM, community ownership and active participation in managing natural resources can be successful. In instances where the CBNRM process has fallen short, opportunities exist for improvement.

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Community-based environmental assessments

Environmental Assessments (EAs) are increasingly employed within the development sector, required by governments, donors and international NGOs alike. However, misunderstandings among different actors often arise as to the scope and nature of EA. Industry actors prefer that EAs study only biophysical impacts and the number of jobs created, while communities and NGOs want EAs to focus on a broader range of socio-economic impacts, sustainability and habitat protection. These tensions can, and often do, lead to contested outcomes.

Community-Based Environmental Assessment (CBEA) is a type of EA driven by a community through a participatory process rather than being facilitated by industry in hopes of getting a license for development. CBEAs often exist outside of legal frameworks and requirements, giving more freedom for these processes to focus on broader issues of sustainability and land-use planning. Despite this opportunity, CBEAs often fall back into the trappings of “expert”-driven processes led by outside consultants focusing primarily on bio-physical impacts. NGOs like MCC have an opportunity to avoid these trappings and to use CBEA processes as a way for communities to plan around natural resource use and to discuss a host of socio-economic impacts on rights, gender dynamics, land use planning and conflict drivers. In order to be done well, CBEA processes need to focus on learning as opposed to ticking off the boxes of donor expectations and should integrate participatory assessment processes in order to impact project design.

“ CBEA processes are better positioned to incorporate traditional ecological knowledge and Indigenous practices into project design.

EAs describe the systematic process of evaluating the environmental and broader impacts of a policy, plan or project and its alternatives. Many project implementers and politicians seek to limit the scope of EAs to focus on biophysical impacts and on jobs created by the project under assessment within a relatively contained geographic space. Ideally, however, EA processes should look at a broader range of environmental, socio-economic and political considerations and hear the perspectives of not just industry representatives and paid consultants, but of community members as well. So, for example, an EA of a high-profile project like the Keystone XL pipeline will examine a wide range of possible impacts, such as the long-term impact on jobs, global environmental impacts like climate change and the possible impact on U.S.-Canada relations.

Even when they do consider a wide range of impacts, EAs are too often quasi-judicial processes in which the purportedly “expert” testimony of government-appointed panels and industry-led environmental impact studies muffle the voices of community members whose lives will be affected by the initiatives being assessed. CBEAs, in contrast, while often still involving external resources and facilitators, are community-led, with community members determining the scope of the assessment (the impacts the CBEA will assess and the alternatives to be explored). CBEA processes are better positioned to incorporate traditional ecological knowledge and Indigenous practices into project design and can be a way for communities to manage natural resources. For organizations like MCC working in the midst of resource-based conflicts, such as those between farmers and pastoralists in eastern Africa, a CBEA can also be a process for mediating conflicts over natural resources and for land use planning. CBEAs are

ideally participatory processes involving all parts of affected communities (although the danger exists that local power dynamics can end up excluding community members based on gender, age or socio-economic status).

Despite the social, economic and environmental sustainability opportunities a CBEA can give to a community development project, there remain challenges to the integration of CBEA into NGO programs. Some of these challenges are administrative. First, NGO projects are often already designed through participatory assessments, but EA requirements set up by governments and donors rarely integrate the CBEA process within this broader participatory assessment. Instead, EAs are often required after a project assessment takes place and the project has already been designed and approved. As such, rather than duplicate the assessment through a proper CBEA, a more conventional EA takes place, facilitated by external consultants and focused primarily on biophysical impacts. Because participatory assessments and CBEAs are not integrated, key opportunities for the sustainable management of natural resources can be missed.

Second, donor requirements for EA often use a predetermined set of indicators and categories to be assessed. Many of these categories are important, such as assessing the impact of the potential initiative on soil fertility, water sources and animals. However, predetermined categories can lead to a seemingly participatory process that in fact constrains the range of acceptable responses. Predetermined EA indicators can limit the ability of CBEAs to be facilitated learning and planning processes whereby communities discuss values and long-term sustainability goals. They also limit the mediating function a CBEA can have around natural resource-based conflict. Simply put, a CBEA should be a process, not simply a form to follow.

MCC's long-rooted concern for the responsible use of resources and its critique of power imbalances in decision-making position the organization to support communities as the key decision-makers in natural resource management decisions and in setting local sustainability goals. As MCC projects grow in size and complexity, and as planning and reporting requirements become more stringent, it would be tempting for MCC to drift towards the world of experts and technocrats to fulfill EA requirements. But for MCC to more meaningfully integrate the best practices of CBEA it should remember, as it often has, that community members are the most valuable experts to consult.

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Farmer-managed irrigation in Haiti

Haiti is often seen as one of the unluckiest countries on earth. It has suffered exploitation by outside forces, misrule by its own leaders, staggering poverty and environmental degradation. It is prone to hurricanes and earthquakes. Haiti has also been ranked as one of the most vulnerable countries to climate change. Despite all this, ordinary Haitians are mobilizing to address the multifaceted challenges posed to natural resource management. So, for example, through the Association of Irrigators of Maury (AIM) in the small town of Desarmes, farmers have organized themselves to manage a system of irrigation canals. AIM's efforts demonstrate that in the context of a weak, corrupt and centralized government, a community-based approach is the best option for the just management of scarce natural resources. This article demonstrates that community management of the irrigation system has been successful as a result of strong community education and clear organizational structures and responsibilities.

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In January 2010, Haiti suffered a massive earthquake and a resulting humanitarian crisis. Aid poured in from all directions, and while many observers felt this was a significant opportunity for Haiti, there has been disappointment in the lack of progress in addressing Haiti's persistent challenges. Haiti's enduring dysfunction is consistently blamed on three groups: the weak and corrupt Haitian government; meddling foreign powers; and NGOs that, whether clueless or cynical, are not meeting the real needs of the Haitian people. All three critiques are well earned. While all groups share blame for Haiti's underdevelopment, the experience of AIM at least provides a counterexample. AIM was established through the work of CECI, a Canadian NGO, using funding from the Canadian government and acting under the directive of the Haitian Ministry of Agriculture. Today AIM effectively mobilizes farmers to manage their water resources for irrigation.

Haiti's first irrigation canals were built by slaves for French sugar cane plantations in the eighteenth century. In the century following Haiti's declaration of independence in 1803, the canals were mostly unused. Then the Standard Fruit Company rebuilt the irrigation system for a banana plantation under the U.S. occupation of Haiti in the early twentieth century. Decades later, in the 1950s, the Food and Agriculture Organization (FAO) of the United Nations came and expanded the irrigation system mainly for the benefit of rice farmers: as a result, the Artibonite valley has come to be called Haiti's "rice basket."

Under the Duvalier father-and-son dictatorships that ran from 1957 to 1986, rice production in the Artibonite valley, including Desarmes, flourished. But this came at a steep human cost: state officials managed farmers with an iron fist. Under the threat of violence, farmers with irrigated land paid water fees religiously and were required to work on the canals every Saturday, repairing walls and cleaning out sediment. With the fall of Jean-Claude Duvalier in 1986, the state's grip on farmers loosened. Taxes were collected sporadically, and Saturday work parties became rare. As the farmers breathed free for the first time in decades, the canals fell into disrepair. But rainfall was so regular and plentiful during this time that even a poorly functioning irrigation network met the needs of most planters. And the weak central government, while responsible for

the canals, felt no urgency to manage the system or make repairs. This situation lasted for about 20 years.

In the early 2000s, climate change began to have a noticeable effect on rainfall in Haiti. Around the country, farmers complained of crop failure, made all the more tragic by the fact that in many places, like Desarmes, an irrigation infrastructure had existed that could help avert the disaster, but it was now dilapidated due to neglect. The Haitian government recognized its own weakness at a crucial moment and chose to hand over control of the irrigation network. At the same time, the Canadian government was ready to jump on this rare opportunity to help Haitian farmers be less dependent on an ineffectual state.

CECI won a large Canadian grant in 2006 to rehabilitate key sections of the canal system and establish a local management structure. The system was fed by the Maury River, and hence the new organization was called the Association of Irrigators of Maury. CECI began the project with an awareness-raising campaign and grouped the one thousand farmers with land watered by the canal into eleven sectors.

The first and biggest hurdle on the path to community management was educating farmers to understand that the canal now belonged to them. While they had been using, cleaning and repairing the canals for decades with almost no assistance from the Ministry of Agriculture, they still considered the system to be the property of the state. Now the farmers were liberated to invest real time and energy into the canals, rather than just patching them up to make it through one more rainy season, as had been the practice for many years. Now, trained in local democratic deliberation, the planters elected sectoral committees from which members formed a central committee. Higher-ranking sectoral committee members, like the president and treasurer, were not eligible to be delegates to the central committee because they had to focus on their responsibilities to the sector. The central committee set fees, established priorities for maintenance and repairs and sought assistance for upgrades.

Compared to the pre-2006 period, canal management has been remarkably effective under AIM. Even the collection of water fees, long neglected, was respected by the farmers for several years. But AIM's tenure has not been without challenges. In 2013, because of a drought and the fact that some parts of the canal system were receiving no water whatsoever, AIM suspended fee collection. Still, committee members continue to invest their own money to make necessary repairs in the hopes that the rains will come back.

MCC Haiti is currently carrying out a canal rehabilitation project with AIM worth over half a million dollars. What is striking is how well this project is going, while many smaller projects, carried out by ostensibly more "sophisticated" Haitian NGOs in Port-au-Prince, were more problematic, over budget and behind schedule. As the AIM executive committee explains: "these canals mean everything to us. It's what puts food on our tables and sends our kids to school. Of course we're going to work as hard as we can to make sure any projects to improve the canals are a total success."

Kurt Hildebrand is MCC representative for Haiti, based in Port-au-Prince.

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Low German Mennonites, natural resource management and the Bolivian state

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Traditional Low German Mennonite (LGM) colony land-use practices in Bolivia are rooted in a singular focus on agricultural production. However, new Bolivian laws for sustainable land-use practices, a global concern about land-clearing and shifts in long-term local climate patterns have implications for the future of traditional LGM livelihoods in the country. Within this inherently complex situation, MCC has a unique opportunity to come alongside struggling LGM communities and promote sustainable land-use practices.

In 2013, MCC Bolivia began an emergency response project working with the LGM Durango colony in the municipality of Charagua in response to a severe drought. MCC provided feed for cattle and later seeds for feed crops, allowing LGM farmers to maintain base livestock necessary to sustain their basic livelihood needs. In 2014, at the request of LGM community partners, MCC began a related project to help young, low-income families establish a new daughter colony of Durango called La Esperanza. This project included clearing land to establish the colony, but in accordance with Bolivian laws and regulations on land-use practices. Like the original Durango project, the La Esperanza project was also an emergency response to drought.

As with any project, MCC must work within a mix of different cultural assumptions that complicate the NGO-partner relationship. The Low German Mennonite productive economy in Bolivia is generally focused on the production of grains, milk and cheese. Farming relies on large machinery. These practices, combined with large families (often with ten or more members), create the need to find and clear more land. The challenge for MCC is to work alongside the insular colony system to validate its strengths, while working together to make positive changes that improve quality of life, the sustainability of colony land-use practices, compliance with Bolivian law and relationships with Indigenous communities.

With this in mind, MCC needed to take a number of factors into consideration when working with LGM colonies to clear land. First, MCC was mindful of Bolivian colonial history and the history of Indigenous land loss. MCC is also transparent before Bolivian law and the constitution, ratified in 2009 as a result of Indigenous activism and recognized internationally for its progressive promotion of Indigenous rights and priorities. It was therefore important for MCC to build good relationships with Indigenous Guaraní communities in the region, be aware of potential conflicts between LGM colonies and their Indigenous neighbours and help build right relationships and understanding between Guaraní and LGM communities.

A second important consideration was the new progressive Bolivian food security and forest restitution law number 337. This law forces Bolivian farmers to implement practices such as adequate pasture rotation, cover cropping, wind barriers and agrosilvopastoral systems (agriculture that includes crops, forests and animal pasturage). In this context of strong cultural traditions and new national laws, MCC does not play the role of a driver for change, but rather helps LGM colonies understand the new laws

and build colony capacity to comply, avoid fines and build healthier and more profitable farms.

With these considerations in mind, MCC had an opportunity in La Esperanza colony to help low-income Mennonites make the necessary changes in their practices for a more sustainable future. Through the project, ten to fifteen trees per hectare are being left on cleared land, wind breaks are being implemented to reduce erosion, Cupesí trees (which cattle can graze on and use for shade) are being planted in pastures and, in the future, small, irrigated garden plots and fruit trees for home consumption will be introduced.

While La Esperanza's short-term achievements are considerable, MCC also has a long-term vision. The implementation of cover crops, agrosilvopastoral systems and adequate crop/pasture rotations in the colony have yet to be achieved. However, with the build-up of credibility brought on by this project (itself made possible by years of trust- and relationship-building), the arrival of new personnel later in 2016 and the state's implementation of Bolivian law 337, MCC hopes to continue to build on present gains and good practices.

Building participation and enthusiasm has been a successful part of the project in La Esperanza. The formation of La Esperanza colony was not MCC's idea, but a community initiative in need of MCC support. According to past MCC Bolivia LGM program director Wilmar Harder, the idea for this project arose out of meetings in which, for the first time in MCC Bolivia history, colony leadership (bishop, elders and others) directly called a meeting and asked MCC to work with them. LGM participation was therefore never in doubt because the project was theirs from the beginning: the question was if MCC would participate.

Due to its long history of work with Bolivian Mennonites, MCC is uniquely positioned to work alongside LGM colonies. While LGM colony structure and culture can often seem to impede change, there are few other outside actors with which colonies willingly work. By supporting a small percentage of the land clearing for La Esperanza, MCC has accompanied the entire new colony in the process of implementing sustainable land-use techniques compliant with the law. Furthermore, this initial MCC investment provides the opportunity to continue building colony capacity to implement agrosilvopastoral systems, cover cropping and pasture rotations, while providing economic opportunities for low-income families and building resiliency to the effects of climate change. In order to work within the complexities of the local partner-North American donor dynamic, MCC must remain flexible to the call and needs of partner communities. In Bolivia, the LGM colonies' intense focus on agriculture as a means to make a living and their rapid population growth will likely become increasingly problematic as tighter government restrictions are placed on land clearing. In this situation, MCC might be tempted to play the role of the prophet of doom calling out from a smug North American perch. However, MCC must be willing to meet partner communities on their own development path, and help them bring about positive changes for themselves and those around them, even if those changes are incremental rather than radical.

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Food security strategies in Kenya

In the semi-arid region of Machakos County, Kenya, poor soil quality, population growth and shifting climate patterns make managing natural resources for food security a continual challenge. Kenyan organizations such as Utooni Development Organization (UDO), an MCC partner, are dedicated to promoting strategies for sustainable livelihoods under these conditions. UDO is known for promoting sand dams as a method of water harvesting, but also implements a range of programs designed to improve food security. MCC and Canadian Foodgrains Bank (CFGB) recently partnered with UDO on an extensive review of its programming to assess program impact and to identify factors associated with the successful adoption of strategies promoted by UDO. Building on the findings of that review, this article will argue that farmer ownership (or lack thereof) was the key factor in the success or failure of specific food security strategies promoted by UDO.

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The UDO evaluation analyzed six food security strategies promoted by UDO: water harvesting through sand dams and terraces, drought-tolerant grain crops, agroforestry, livestock production and irrigation. The review affirmed the overall impact that UDO’s community-based approach has had on local communities and identified clear successes. For instance, villagers on average reported an increase in food security by 2.7 months due to UDO activities. Joyce Musyoka of the Kulunga Self Help Group tells a typical story illustrating the impact of sand dams on food security and gender roles: “before [the sand dam] I had to travel four hours every day to fetch water, and the amount I was able to fetch was not enough to cover our family needs.” Of course, the review also found that some UDO strategies, such as terracing and drought-tolerant crops, did not result in wide-spread adoption.

The review identified interesting variations in how a sense of ownership plays a key role in the successful adoption and impact of these different food security strategies. For example, the review found that in some cases projects that did not include the free distribution of external inputs (e.g. seeds) experienced greater success than projects that did distribute such inputs. This lesson was exemplified by the difference between the clearer successes of agroforestry strategies and the more ambiguous results of drought-tolerant crops and terracing. Communities spontaneously adopted a strategy of planting fruit trees and reforestation, despite very limited inputs. Indeed, the review found encouraging evidence of a high level of seed collection, seedling production, tree grafting and the establishment of orchards thanks to UDO activities. Planting of drought-tolerant crops, on the other hand, relied on a greater input strategy. Most farmers depended on free seed from UDO, rather than planting saved seed or purchasing new seed, and were not passionate about continuing to grow these crops. Likewise, with improved terracing practices, farmers readily improved terraces as part of food-for-work programs, but farmer enthusiasm did not continue once these food-for-work efforts ceased, and terraces often later fell into disrepair. Interestingly, farmers readily acknowledged that terraces improved yields and yet were not invested in continuing the practice in the absence of external inputs. Clearly the success of particular technologies was related to how motivated farmers were to personally invest in the practice. While I argue here that farmer investment can sometimes be adversely affected by input-intensive strategies, further study is required to explore other possible factors including farmer seed preferences, extension

practices, household labour, market availability of seed and purchasing power.

Sand dam projects present a different strategy for encouraging a sense of ownership. Although UDO provides materials for sand dam construction, along with technical guidance on siting and design, communities must organize the construction event, provide the labor for dam construction, and together establish the guidelines for the sand dam's use. Communities thus feel ownership of the dams and are motivated to use the dams to improve their livelihoods. For instance, farmers experiment on ways to take advantage of increased groundwater for cropping along the banks. Thus, sand dams are "adopted" in the sense that they are heavily utilized, a result which derives from the particular way they are implemented through a process of group investment. The review therefore noted a crucial difference among UDO projects with regards to inputs, but a common strategy with regard to promoting a sense of ownership. Whereas a practice like agro-forestry can be self-sustaining without external inputs, this is unlikely to happen with sand dams, which have high upfront costs.

Encouraging a sense of ownership can heighten certain challenges associated with communal resource management. For instance, because sand dams are communal endeavors, they are susceptible to conflicts or mismanagement of a limited resource (water from the dams will run out if overused). Communities must manage water resources in such a way as to avoid a "tragedy of the commons," wherein individuals maximizing use of resources for themselves might compromise the long-term sustainability of the resource itself. For instance, a farmer's livestock also benefits from water availability at sand dams, but the presence of livestock (and in particular their waste) can easily contaminate water supplies that impact the entire community.

A further challenge is that resource management conflicts can be heightened by the fact that available water benefits both users who invested time and labor in sand dam construction and users who did not help. As a result, users sometimes feel that the benefits are not equitably distributed according to the effort invested in the project. Conflict over ownership of the resource also occurs external to the community, most notably as the region is the primary source for sand needed to make concrete for the booming construction industry of nearby Nairobi. Sand dams are easy sources for trucks to harvest sand, with unscrupulous actors either taking the sand without consulting the community or negotiating with some (but usually not all) members of the community to extract this resource. In all these situations, an increased sense of ownership has the potential to heighten tensions over natural resources.

Climate change is already a reality in Machakos, as farmers are quick to explain how long-term rainfall patterns have changed, disrupting their farming practices. Evaluations such as the review of UDO's efforts become all the more important as a means to pause and take stock of what strategies will effectively increase the resilience of communities to changing circumstances.

Doug Graber Neufeld is a water and livelihoods advisor with MCC in Nairobi, Kenya.

“ A sense of farmer ownership (or lack thereof) was the key factor that accounted for the success or failure of specific food security strategies undertaken by UDO.

Community-based land management in the Israeli-occupied State of Palestine

Learn more

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Palestinians have a long history of community-based natural resource management. Since 1967, Israel's military occupation of the Gaza Strip and the West Bank, including East Jerusalem (the State of Palestine recognized by 193 countries and the United Nations General Assembly), has threatened these traditional management approaches and endangered Palestine's natural resources. This article argues that the Israeli occupation has denied Palestinians the sovereignty to manage their own land and other natural resources, resulting in negative consequences for their livelihoods and well-being, along with harmful impacts to the land itself. The Applied Research Institute-Jerusalem (ARIJ) has therefore focused on investing in CBNRM initiatives in Palestine aimed at increasing the sustainability of Palestinian agriculture in the face of an Israeli occupation regime that denies Palestinians sovereign control over their natural resources.

Historically land management in Palestine was practiced by local communities according to customary traditions. In 1918 communal land represented 70% of historical Palestine (what is now the state of Israel and the occupied territories of the Gaza Strip and the West Bank, including East Jerusalem). Most land thus belonged to local communities, meaning that land was managed in the common interest by a group of people, usually the whole population in a given village. Rights for grazing, access to water resources and wood harvesting were shared. Village elders had the right to divide land into portions and distribute it among farmers.

Following the onset of the Israeli occupation in 1967, however, land ownership patterns, particularly of communal land, witnessed a total transformation. The Israeli occupation authorities ordered a halt to land registration and started confiscating Palestinian land and resources. In the West Bank, for example, Israel confiscated 43,100 hectares of land under the pretext of absentee land ownership (i.e. owned by Palestinians not present in the West Bank). Additional land was confiscated for security reasons and public use. This land confiscation paved the way for the construction of 196 settlements and 232 outposts in the West Bank, including East Jerusalem.

The Oslo accords between Israel and the Palestine Liberation Organization divided land in the West Bank according to a division of territory into areas A, B and C. The Palestinian National Authority (PNA), created by the Oslo accords, was to have civil and security control over area A, while in area B the PNA assumed full control in civil matters, with Israel remaining in charge of security. In the areas classified as area C, Israel retained full control over land, security, civil affairs and natural resources. In Gaza, meanwhile, 24% of land is declared a prohibited border zone from which Palestinians are blocked from access to land and other natural resources.

While the United Nations envisions the State of Palestine encompassing the West Bank, East Jerusalem, and the Gaza Strip, this territory has been carved up by the Israeli occupation into discontinuous islands. The jagged distribution of areas A, B and C, coupled with the 771 km long wall

constructed by Israel in the West Bank, turns West Bank lands into isolated cantons, physically separated from each other and from the Gaza Strip. Prolonged years of Israeli occupation have disconnected Palestinians from the majority of natural resources in Palestine. Area C in the West Bank, to which Palestinians have extremely limited access, contains 87% of the West Bank's nature reserves, 90% of its forests, 48% of its water wells and 37% of its water springs. Lack of sovereignty over land and natural resources has denied Palestinians the right to manage those resources.

The lack of Palestinian land sovereignty has also resulted in ecological decline and prevented effective natural resource management. For example, indicators of desertification appear clearly in the eastern slopes of the West Bank, an area characterized by steep hills where agricultural activity is limited to animal grazing. The closure of 85% of this zone by the Israeli occupation authorities for military purposes has led to severe overgrazing of the remaining areas accessible to Palestinian herders. This overgrazing has resulted in the loss of the vegetation cover, along with soil erosion and desertification.

Within this context Palestinians continue to practice agriculture, mostly on small land holdings, 90% of which range between 0.5 and 5 hectares. Palestinian farmers face numerous constraints and challenges in their attempts to manage natural resources effectively in the context of occupation. Lack of access to water means that rain-fed farming is the dominant type of agriculture in the West Bank. Farmers are subsequently vulnerable to fluctuations in rainfall and to changing climate patterns. To protect their lands from confiscation by Israeli military authorities under the pretext that land is not cultivated, Palestinians began planting olive trees in the 1970s to replace field crops. In response, however, Israel engaged in a massive campaign of uprooting trees. ARIJ estimates that since 1967 more than 1.8 million trees have been uprooted in the West Bank and Gaza.

Together with local communities, ARIJ is working to promote sustainable development in Palestine through community-based natural resource management. ARIJ partners with local communities to prioritize small and smart interventions, ranging from rain harvesting systems, land reclamation, field crops improvement, climate change adaptation and the promotion of urban agriculture. Additionally, ARIJ works to help small-size farmers protect themselves by organizing into cooperatives. One successful example of a social business intervention is Al-Jalemeh Women's Cooperative, where ARIJ worked with the cooperative to improve its production, management and good governance capacities. Some women planted home gardens with luffa (commonly referred to as loofah), sweet pumpkin and safflower, while others worked to produce jam, dried safflower and loofah scrubbing sponges. Consequently, each woman managed to generate additional income of \$560 per year. ARIJ has also worked with local communities to introduce plant-water production systems such as hydroponics and wicking systems, new agro-technologies suitable for both rural and urban areas. These systems take up limited room (10 square meters) and use less water, making them appropriate for small household farmers. Farmers who have adopted such systems can produce four or even five seasons of vegetables per year, fertilizing and managing their crops with natural solutions and fertilizers. These new plant-water production systems utilize half the water resources used by traditional irrigated systems and increase crop produce three times

“ Lack of sovereignty over land and natural resources has denied Palestinians the right to manage their resources.

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more than conventional agro-systems, with less effort. Such systems help improve food self-sufficiency, give opportunities to poor families to generate more income and help communities manage what limited resources are available to them. While the Israeli occupation places severe constraints on Palestinian access to and management of natural resources, ARIJ is committed to supporting rural and urban Palestinian communities in sustainably conserving and managing the resources to which they still have access.

Jad Isaac is director general of the Applied Research Institute-Jerusalem (ARIJ), an MCC partner organization.

Spinning a safety net: community-based natural resource management in Laos

In the heart of southeast Asia lies Communist Laos, a landlocked country of seven million people, a country of 49 ethnic groups and as many native tongues, with an ever-changing geography unified by the mighty Mekong River flowing down from China and Thailand and out into Cambodia. Most Laotians are paddy rice farmers, relying heavily on the pulse of the river and the timing of the monsoon season. When conditions are favourable, villagers grow paddy and upland rice, the country's all-important crops, and raise chickens, ducks, pigs, buffaloes and frogs. Women also make an income from weaving done in the shade of stilted houses. During seasonal food shortages villagers turn to communally-managed pieces of forest and hillside to fill food gaps. This article will explore how these community-managed resources have been negatively impacted by the presence of developers and argue that increased knowledge of legal land rights and community conflict resolution are necessary in order to strengthen the ability of communities to protect and once again manage their own resources.

In the average Lao meal, reliance on forest products is abundantly evident: fat, crispy fried insects, fermented river fish paste, steamed and boiled greens and bamboo shoots, wild mushrooms and small game. These dishes are all eaten with scoops of one of the 15,000 varieties of fragrant sticky rice grown throughout Laos. In homes, bamboo is used for traps and building materials, rattan creates baskets and brooms, and barks, leaves and roots are dried to make medicine.

Use of forest areas are traditionally negotiated among different villages and are generally managed through light harvesting and the delineation of forest territory into land for production, conservation and protection. In some forests food may be gathered, but trees may not be cut, hillsides may not be cleared and fires may not be lit. In this way, village authorities control the extent of harvesting and ensure the forest environment is not degraded.

On the banks of the Nam Xan River, the small village of Ban Thitnoon recently had the visit that changes the lives of so many villages: the arrival of developers in shiny black SUVs. Before their eyes, village leaders saw their seasonal food shortages disappear in a haze of promises for a luxury tourist resort that would lead to education, a market for villagers' goods and a financial safety net for hard years. The contract between the developers and village authorities was signed and work began. Villagers

awakened too late to the painful realization that the developers had misrepresented their intentions and had instead dug an open-pit mine in a fast grab for mineral resources that resulted in flooding and chemical runoff into the surrounding water.

During a visit from representatives from Laos' National Assembly, the village mediation unit of Ban Thitnoon reached out for help. A government representative was dispatched to investigate, and the sham developer took the profits and left. With that victory under their belts, the small village of Ban Thitnoon was left to survey the damage: 70% of their paddy lands were permanently flooded and unusable, the water was polluted and degraded and the forest cover eroded away in a number of places. A village that had been seasonally food insecure was now in crisis. Ban Thitnoon's story is all-too-common in Laos.

MCC has worked to address the threat posed by developers to traditional Laotian community-based natural resource management by raising awareness of villagers' legal land rights. So, for example, since 2009 MCC has worked on a food security project with the Xaysomboun Provincial Department of Agriculture. MCC staff have explained to village authorities in the area their right to refuse contracts with developers, their rights to negotiate contracts and their options for legal recourse in the case of disputes over contracts. In Tha Thom district, MCC works with elected Village Mediation Units (VMUs) to strengthen their capacity to defend villagers' legal rights and their ability to take recourse when developers fail to obtain permission or go beyond the bounds of negotiated contracts. MCC also works with local government officials to obtain land certificates for individual families, helping them prove their right to use specific land and thus increase their legal ability to retain their land. As the Landesa Rural Development Institute observes, "secure rights to land are a critical, but often overlooked, factor in achieving household food security and improved nutritional status" (Landesa Rural Development Institute, 1). Secure long-term land tenure is essential before farmers can invest time in agricultural development training on matters such as soil improvement, animal forage, techniques for better rice yields, fruit tree cultivation and animal raising.

In a period of unprecedented development in Laos, villagers are relocating throughout the country to make way for hydroelectric development, plantations, mines and other economic development projects. Such mass internal migration can result in serious disputes, especially as different ethnic groups come into contact for the first time, knowing little about each other's customs. MCC assists in training VMUs to help solve conflicts that arise in both of these situations. As a result, VMUs deal with a variety of concerns, ranging from serious land boundary conflicts to disputes of the "your-cow-ate-my-vegetable-patch" variety. If these disputes can be solved locally, and in culturally-appropriate ways, it relieves the overburdened justice system and contributes to social cohesion. Laos has been described as having "the resource curse," the seeming blessing of abundant natural resources undermined by weak regulation and powerful neighbours. With perseverance and the increasing interest of government and civilians, legal education about villagers' land rights can protect this vital set of resources and keep the shelves of these natural food cupboards stocked for generations to come.

Emily Nigh is agricultural advisor for MCC Laos, based in Vientiane.

“ The villagers awakened to the painful realization that what they had was actually an open-pit mine and fast grab for resources that resulted in flooding and chemical runoff into the surrounding water.

“ With perseverance and the increasing interest of government and civilians, legal education about villagers' land rights can protect this vital set of resources and keep the shelves of these natural 'food cupboards' stocked for generations to come.

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The awkward complexities of community-corporate partnerships

Disadvantaged communities are often forced into David-and-Goliath-style battles with large companies over resource rights and the impact of those companies' actions on local resources. But increasingly that narrative takes an unexpected turn: David and Goliath are teaming up. Instead of trying to run over community resource management rights, some companies are winning local cooperation in ways that essentially subsume community management regimes within mega-development scenarios. As hydropower development in northern Manitoba attests, such cooperation is fraught with complexity.

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Northern Manitoba is home to a legacy of bitter antipathy between ten Cree Indigenous communities and the government-owned electric utility, Manitoba Hydro. Over the past 60 years, Manitoba Hydro has constructed hydropower projects which have fundamentally altered the five largest rivers in the province and six of the twelve largest lakes. For many years, discussion of community-based resource management was overshadowed by the fact that Manitoba Hydro had imposed changes that significantly undermined traditional trapping, hunting, fishing and gathering activities, both for domestic and commercial uses. Beginning in the 1970s, the Interchurch Task Force on Northern Flooding, which included MCC, played an important role in advocating for fair treatment of affected Indigenous people and lands. With Indigenous communities nearly unanimous in their opposition to the dams, the task force's narrative early on was one of standing with marginalized communities and giving voice to the voiceless.

Starting around 1999, Manitoba Hydro began approaching affected communities in the vicinity of three new hydropower dams the company had long wanted to build. The provincial government said it would not proceed with the three projects without the approval of five First Nations in the vicinity. What followed was a community engagement process that cost the utility millions. In time, some Indigenous leaders revised their community narratives away from the longstanding story of grievance with Manitoba Hydro. They said they could not remain stuck in the past and they needed to rely on the rivers in a new way. Of course, other Indigenous people said there could be no justification for further damage to lands and waters. To some extent it was a choice between maintaining traditional patterns of community-based natural resource management and replacing that resource base through alignment with the financial interests of an outside corporation. The interchurch advocacy group was caught between Indigenous people on either side of the issue, some of them aggressively pushing churches to stop raising concerns about hydropower projects. Eventually, five First Nations—representing roughly one-third of the affected population—signed partnership agreements with the utility.

While Manitoba Hydro got the community approvals it wanted, the price was high. Over 15 years the utility transferred \$241 million to First Nations to cover costs of lawyers, consultants, travel, meeting participation and community engagement. While this served in some sense to level the playing field, it also created a largely unaccountable and arguably biased mini-industry. Numerous well-paying jobs in impoverished Indigenous communities were dependent on continuing along the path

toward partnership with Manitoba Hydro. People responsible for “consulting” their fellow community members had a direct self-interest in a particular outcome. The lines between consultation and promoting a pro-development agenda were often blurred. And while total expenditure figures are available, Manitoba Hydro has denied all requests for breakdowns of its spending on the grounds of confidentiality agreements between the utility and the First Nations. Accounts of inappropriate expenditures abound, allegedly used to provide direct personal benefit to people supporting partnership with Manitoba Hydro. Reportedly, those in favour of dams got perks while those opposed did not. Families and communities were split, leaving long-term scars. This form of community engagement also created tensions between different communities, as Manitoba Hydro’s much touted “new era” of northern relations really only extended to communities near proposed new projects, not communities still suffering from the impact of existing projects.

First Nations were also saddled with the greatest risk. Partnership agreements centered around First Nations being offered the opportunity to invest in the dams. In the case of the first dam, Wuskwatim (completed in 2013), the nearby Nisichawayasihk Cree Nation invested over \$100 million—most of that borrowed from Manitoba Hydro—to leverage a 33-percent share in the \$1.8 billion dam. The dam was supposed to make between \$5 and 25 million annually in its early years, but instead it has lost over \$100 million to date. Partly for that reason, the four First Nation partners in the \$6.5-billion Keeyask dam currently under construction are expected to obtain a much smaller share in the dam than what was touted at the time the communities voted on the partnership. The utility itself faces little risk as rate increases can cover losses.

On the plus side, hydropower construction has created significant and desperately needed employment. The catch, of course, is that the employment is temporary. At last report, only two members of the local First Nation were employed permanently at the Wuskwatim dam. Hydropower dams are by nature capital rather than labour intensive. Few people are required for ongoing operation. That makes them a poor match for communities that are capital poor with high levels of available labour.

Part of the problem with the hydropower engagement process is that communities were in essence forced to choose between poverty and ill-suited mega-projects. Arguably, a third option could have involved a diverse suite of possibilities, including maximum Indigenous employment at existing northern hydropower facilities and a range of smaller ventures based in part on emerging social enterprise models, with capital inputs from the utility. Such enterprises could have included small-scale logging, energy retrofits for homes, local food production, thrift stores or maximization of traditional harvesting. Generally these types of third options are ignored.

Several learnings about community-corporate partnership in natural resource management can be gleaned from the northern Manitoba example:

- Society owes disadvantaged communities a creative range of economic options.
- According to the emerging concept of free, prior and informed consent, communities should be brought into open-ended

“ According to the emerging concept of free, prior and informed consent, communities should be brought into an open-ended process about natural resource management early on. In this Manitoba example, the utility and its parent government were clearly seeking their desired outcome right from the start.

“ NGOs can serve as a needed counterweight to corporate interests which bring an innate bias to discussions with local communities about natural resource management.

processes about natural resource management early on. In this Manitoba example, the utility and its parent government were clearly seeking their desired outcome right from the start.

- Full accountability for all spending is essential.
- An independent study should look at the real costs and benefits of such mega-projects for impacted communities over time.
- Any benefit-sharing arrangements should minimize community risks.
- The higher the stakes, the greater the inherent potential for tension.

As for NGOs like MCC seeking to support disadvantaged communities, they must accept the complexity of such situations and discard simplified narratives. Given the very high stakes in such situations, NGOs, which have far less vested interest than other parties, can create space for candid, non-polarized discussion. To the extent possible they should maintain rapport with all parties while maintaining their own independent voice. They must also be willing to absorb criticism from community leaders. NGOs can serve as a needed counterweight to corporate interests which bring an innate bias to these situations. The bottom line for communities and NGOs is to embrace the complexity; to candidly consider pros, cons and trade-offs of different options; and to find healthy ways to navigate the tensions that arise when community-based values collide with the dependence we all have on the sorts of mega-projects that threaten Indigenous communities and their traditional resources.

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