

# ***T*RADITIONAL KNOWLEDGE CASE STUDIES**

## **CASE STUDIES SOURCES**

To illustrate some of the concepts of how traditional knowledge can be incorporated into projects and project planning, several case studies are presented below. This is by no means an exhaustive list, but each one illustrates a different aspect of how perspective is gained by including traditional knowledge in the project. These case studies are drawn primarily from examples provided by the International Labour Organization (ILO), The World Bank (WB), Indian and Northern Affairs Canada (INAC), and the United Nations Education, Scientific, and Cultural Organization (UNESCO). Users of the guidelines are encouraged to submit their own examples of case studies to an Indigenous Knowledge Centre (see Appendix 3).

## **CULTURAL VIABILITY CAN BE SAFEGUARDED THROUGH CONTINUED HABITATION AND USE OF TRADITIONAL LAND.**

The valley of the Mayo River was isolated from the rest of the country until the 1970s, when construction of the Carretera Marginal trunk road gave access. A wave of spontaneous settlers from the highlands and the coast then came into the valley, increasing the population five-fold. Under such a dramatic event, the Aguarunas became a disadvantaged minority in their own traditional territory. Providing legal land titles to the nine Aguaruna communities living in the Alto Mayo basin, adjacent to the settled areas, was a condition of the IFAD project.

The native communities were thus able to obtain communal land titles and rights from the

government before the major wave of migrants could reach the region. In this way, the nine communities became owners of 60,000 hectares of land, of which some 17,000 hectares were suitable for intensive agricultural production. Consequently, they could continue their traditional activities in shifting agriculture, growing about 80 species of plants, most important among them, manioc, maize, bananas, and rice. Hunting, fishing, and gathering fruits and nuts from the forest are other activities that significantly enhance their diet.

## **INDIGENOUS WOMEN HEALERS FORMED GROUPS TO PRACTICE TRADITIONAL MEDICINE IN OAXACA (MEXICO)**

After bitter struggles with official associations of physicians, traditional medicine people, mostly women, finally were able to organize joint meetings in which they shared their experiences and set up plans for collaboration. As a direct result, indigenous women benefitted immensely. Their involvement has been a key factor in cataloguing the plants, herbs, and practices, and in promoting the conservation and availability of curative products and practices. With the support of the National Indigenist Institute, UNICEF, and NGOs, an overall health program has been established. Recognized medicine people and healers train interested indigenous villagers as health promoters through courses and workshops, focussing on the recovery of communal knowledge about medicinal plants and traditional healing practices. The status of indigenous women has been enhanced through the creation of a council of traditional medicine where their knowledge is recognized, and through

the opening of community clinics. Not only can they make wide use of their traditional knowledge in medicine, but also the exercise of their practice has been greatly improved.

### **MOSSI FARMERS OF BURKINA FASO REVIVE TERRACING AND WATER HARVESTING PRACTICE**

Early this century the Mossi put up lines of stones (bunds) on their cultivated land to build up terraces. Because of political instability this method was later abandoned. After a series of droughts in the 1970s, the bunds were revived. Pits that conserve water were added. They were filled with organic material to increase soil fertility. Other introduced systems were shunned. The stone bunds are built up over the years, reaching about one meter height, terracing the slopes with relatively little labor input during the slack, dry season. The semi-permeable bunds allow for a gradual seeping in of the water and prevent the run-off caused by the scarce but highly intensive rains, reducing the risk of crop failure and soil erosion. In the disastrous drought years of 1983 and 1984, crops grew on land with bunds, while adjoining fields grew nothing. The International Fund for Agricultural Development ([LIAD](#)) assisted Burkina Faso to disseminate the technology throughout the country's densely populated central plateau, where today 150 villages on the plateau now have stone lines. Sorghum yields on the plateau have risen by about 40 percent in fields with bunds.

### **MAASAI WEATHER FORECASTING IN TANZANIA**

Maasai alternate the use of their natural grassland according to seasons. This requires a timing decision on when and where to move next. They predict droughts as well as weather related diseases by watching the movements of celestial bodies in combination with observing the date of emergence of certain plant species (e.g. Ole Kitolya). Such "early warning signals" of an

approaching environmental disaster are used to determine any preventive measures, prepare for mitigation and decide on the course of the community in using the natural resources. Similarly, estimates of animal fertility can be drawn from such forecasts with implication on stocking rates and density. This knowledge is little researched so far. Traditional expertise in astronomy and weather forecasting in combination with conventional agricultural meteorology could enhance local forecasts on harvests and food security.

### **INDIGENOUS POSTPARTUM MATERNAL AND CHILD HEALTH CARE RITES IMPROVES HEALTH OF MOTHER AND CHILD**

During a four-week period after birth called 'Omugwo'" the mother and the child are secluded and relieved from all other chores they are cared for by the grandmother of the new born. The new mother is given a stimulating hot soup made with dried fish meat yams plenty of pepper and a special herbal seasoning called 'udah' which makes the uterus contract and thus helps in expelling of blood clots. The diet helps to restore blood lost during childbirth to restore energy facilitated the healing of wounds and restores normal bodily functions and promotes lactation. For a first time mother the time is utilized to receive parental and house keeping practices from her mother.

The most important lesson learned in this example is that health care programs need to acknowledge the 'Omugwo' rites and integrate them in their assistance strategies

### **WASHAMBAA USE BUNDS TO EMULATE PLANT SHELTER AND INCREASE HARVESTS**

The Washambaa of the Usambara Mountains in Tanzania developed a land use system emulating the climax vegetation of the deciduous natural

forest, a multistory system integrating annuals and perennials on the same plot. The principles were transferred to Nyabisindu, Rwanda. Special multipurpose contour bunds with trees shrubs and grasses were added to the system and re-transferred to the Washambaa once dense population and demand for firewood had depleted the soil cover. Emulation of natural vegetation is a valid approach to soil conservation; transferring and adding elements to address new problems adds value to the original land use system.

### **VALIDATING TRADITIONAL ARCHITECTURE WITH MODERN TECHNOLOGY IMPROVED AWARENESS AND ACCEPTANCE**

Following a re-orientation of national energy policies the Egyptian atomic energy commission started to research energy and material saving construction methods. A regional exchange of experience was arranged with the following observations: Curved roofs have a smaller surface area (and require less building material) for the same volume of indoor space. Computer simulations prove: the net heat gain of a dome can be 20 % less than that of a flat roof; curved roofs allow the warm air to rise leaving cooler air at floor level. Openings at the top can provide “natural air condition” by very cross-ventilation; skylights on vaults and domes provide 4 to 5 times more light per unit floor area than low windows on vertical walls. Less window area is needed heating and cooling loads are reduced; rooms with curved roofs have a pleasant psychological effect on the occupants: they seem less oppressive than rooms with flat ceilings.

It has become abundantly clear to informed practitioners that including traditional knowledge (whether indigenous or not) is an important and helpful approach to modern project planning and implementation when traditional peoples are directly or indirectly affected.

### **TRADITIONAL ETHNOVETERINARY MEDICINE AND MODERN MEDICINE WORK AS PARTNERS IN CAMEROON, AFRICA**

Modern veterinary sector is plagued by numerous constraints, including the erratic supply and prohibitive expense of veterinary drugs and supplies, poor communication facilities, and a shortage of manpower. The project promoted complementary use of indigenous and conventional veterinary medicine for sustainable livestock production, and the conservation of medicinal plant resources. Through interdisciplinary collaboration with governmental and non-governmental organizations, the project documented the indigenous treatment of various diseases and ailments of livestock. Diseases are now being treated using effective remedies that were used by local communities many years before the arrival of modern drugs. The practice depends above all on indigenous farmers' knowledge. Modern drugs complement indigenous ones and are used for certain diseases if no effective indigenous remedies are available. Farmers are now using more local remedies, which are several times cheaper than modern drugs. Low investment costs and increased livestock productivity improve farmers' monetary profits as well as their nutrition. Because the practice builds on indigenous knowledge and practices, it enjoys a high rate of acceptance. Indigenous knowledge is being preserved in a continuing way. Farmers are empowered and encouraged to participate in development. There is increased awareness of the importance of environmental conservation.

### **LOCALLY AVAILABLE INDIGENOUS EDIBLE SPECIES OF PLANTS ENHANCE COMMUNITY HEALTH, PROVIDE**

## **INCOME, AND CONSERVE BIODIVERSITY IN KENYA**

The National Museums of Kenya is compiling a database of indigenous food plants of Kenya, to compile agronomic, nutritional, cultural and market data on priority species; to promote the cultivation, consumption and marketing of these foods through field demonstrations, educational materials and the media. People were despising their traditional foods in favour of exotic foods. This was most common among the younger generation, who took pride in their 'modern' patterns of consumption. Poverty, famine, and malnutrition were common in rural areas despite the fact that local foods were readily available. Much local knowledge regarding the nutritional value and cultivation of local edible plants was being lost. Most people no longer knew, for example, when and where to collect seeds, etc. Having never been written down, the indigenous knowledge of the elderly was slipping away day-by-day. A number of important species, or varieties of species, were on their way to extinction.

Indigenous knowledge was thus the starting point. Specialists in nutrition, ecology, and botany have had to base their research on it because there was simply not enough time, money or human resources to duplicate all of that knowledge. The scientific, economic, and socio-cultural significance of the indigenous knowledge becomes apparent as specialists and practitioners work with it.

The practice is beneficial in several ways. It improves the local communities' living standards and health. It enhances the knowledge which extension workers put to daily use. It generates knowledge that is useful to NGOs seeking ways to alleviate poverty and improve public health. It generates scientific knowledge useful for the preservation of cultural and biological diversity. By raising the status of indigenous knowledge in the eyes of local communities, the practice not

only helps to alleviate poverty but also increases people's respect for their own culture.

There are some dangers. Commercial interests could result in a selection of species and varieties, and thus reduce the present diversity. Research exposes local knowledge to piracy.

## **INTEGRATION OF QIANG ETHNO- BOTANICAL KNOWLEDGE AND PRACTICES INTO A REFORESTATION PROJECT, AND RESTORES A DEGRADED WATERSHED IN CHINA**

The Qiang people mainly inhabit the valleys of the Minjiang River (a main branch of the Yangtze) in Sichuan Province. This region is important for its mountain forests, which are a major source of water for the Yangtze. What takes place in these mountain ecosystems has far-reaching effects on the areas downstream. Large-scale deforestation and population growth over the last four decades have resulted in serious degradation in this area. In just four decades, it is estimated that the forests have shrunk from 40 per cent of the land area to 10 per cent. This has caused a loss of biodiversity.

From the beginning, the project to rehabilitate this watershed has incorporated indigenous knowledge of the Qiang people. Their knowledge of medicinal plants has played an important role in the conservation of biodiversity, and Qiang practices of forest management and home-gardening have been integrated into the project. Because the collection and cultivation of plants for herbal medicines were an important source of income for the Qiang people, the cultivation of these plants was integrated into the project to plant trees. This helped to guarantee the participation of local farmers in ecological conservation, which in turn increased the economic return from the reforestation investment.

At present trees are being planted in terraces: i.e. horizontal bands of original vegetation (shrubs and grasses) are alternated with bands that are planted with tree seedlings. Indigenous species are preserved in the bands of original vegetation, which also prevent soil erosion. In the area where the Qiang live, the collection of wild medicinal plants is a traditional source of income. Some of the plants are used locally, but most are sold. Because of this market, Qiang farmers cleared fields for cultivating the plants on a large scale in addition to growing them in their home gardens. This indigenous agroforestry model—meaning that the people know exactly which plants to cultivate and how—was incorporated into the national projects. This not only maintains local traditions of forestry management but also promotes the participation of local people in conservation projects.

The practice provides income for local people and guarantees their participation in the project. This reduces the need for government and development agencies to make large investments. The practice of alternating bands of new trees with bands of original vegetation creates an ideal habitat for medicinal plant cultivation, increases the diversity of species in forest stands, and protects the soil against erosion from water runoff. It is common in China for reforestation projects to ban local people from entering the woodlands. But the Qiang people have a tradition of cultivating medicinal plants in common woodlands and around their homes. If this had not been taken into account, the reforestation project would not have been sustainable. It is sustainable because it not only focused on planting trees; it also opened up the woodlands to local people. They may cultivate medicinal plants under the tree canopy as they have always done. Because these plants need shade, local people have always understood the need to plant trees first. This step in their indigenous practice is now supported by project funds, but they still finance the cultivation of medicinal plants themselves. This cultivation surely increases the diversity of woodlands, and if

reforestation projects are managed in this way, local people will surely protect the newly reforested lands. The traditional medicinal knowledge of the Qiang people has acquired higher status as a result of the reforestation project. This helps to ensure that local traditions are passed on to future generations. The cultivation of plants for herbal medicine is very popular in China and not only limited to one ethnic group. But each group has its own species and practices. Planting trees in terraces on slopes is an extension of the indigenous practice of the Qiang people, who planted cash crops in this way, including the *Zanthoxylum*, a kind of pepper which has traditionally provided one of the Qiang's traditional remedies.

### **THE BAREFOOT COLLEGE - PROMOTING PRODUCTIVE EMPLOYMENT FOR YOUTH IN INDIA**

A hundred years ago, when villages in India had no urban-trained professionals with impressive paper qualifications, what did the villagers do? They developed their own knowledge, skills and wisdom to solve their basic problems of drinking water, health, education and employment. The Barefoot College has been reviving and giving more respect and dignity to knowledge, skills and wisdom that have been devalued and discarded by modern-day planners and 'experts'. The idea is to apply traditional, indigenous knowledge and skills to solving these basic problems, and thus to reduce villagers' dependency on the expertise from outside which is so often inappropriate and irrelevant. Villagers are encouraged to depend more on their own common sense, on their indigenous institutions, and on their own practical skills and ability to judge what is possible.

The skills taught at the Barefoot College are aimed at providing the basic services villagers need: safe drinking water, sanitation, education, and health care. The College is a non-formal training institute where young men and women are taught practical

skills by village teachers, many of whom have no formal qualifications. Teaching and learning are based on the day-to-day needs of villagers. The approach has given the College a grassroots base, made the training low-cost, and demonstrated the sustainability of community skills that have never been endorsed by any recognized university or college. Up to now the practice of using village knowledge and skills has only been paid lip-service; it has never really enjoyed real confidence or been given a full opportunity.

The College has over 400 staff members working full-time in various activities related to basic services. They have no formal qualifications for the job they are doing. With the help of a cadre of barefoot engineers, doctors, teachers, designers, chemists, accountants and traditional communicators, communities are using expertise they acquired from their ancestors. The concept of communities depending on themselves has revived. Indigenous institutions and decision-making processes have been activated, and villagers have gained new confidence. They increasingly recognize their own strengths and assign value to their own skills--something that was never felt before.

All changes emerge from a conflict of ideas, approaches and methods. The Barefoot approach has challenged the urban-based, 'paper-qualified' experts in the belief that this totally non-violent conflict will be beneficial to the communities over the long term. Already the benefit has been amply demonstrated.

The use of traditional (indigenous) knowledge, skills and wisdom promotes active community involvement

because people depend more on each other. The use of traditional knowledge has an ethical dimension. It encourages transparency and accountability. This is not the case with urban-based skills, which encourage secrecy and dependency, and which offer no guarantee that the service is either competent or reliable.

The use of traditional knowledge demystifies the local technologies that will be the basis for sustainable solutions in the future.

The more people who understand and try out a technology, the greater the chance of the technology being accepted. Other types of sustainability are achieved by using traditional media, such as puppet and street theatre, to convey messages on social issues (minimum wage, gender equality, etc.).

### **OVERCOMING LABOUR SHORTAGES THROUGH INDIGENOUS MUTUAL-HELP GROUPS IN THE PHILIPPINES**

To improve soil erosion and poor soil fertility, the International Institute of Rural Reconstruction (IIRR) introduced agroforestry measures. But because the measures were labour-intensive, they were being adopted only slowly. After a visit to a similar project, the farmers themselves suggested forming traditional mutual-help groups for the agroforestry work. These groups are called "hunglunan" in Albay province, "alayan" in Cebu, and "tropa" in Cavite. They usually consist of four to six members, but sometimes up to 10 or more members, who help one another with labour-intensive agricultural activities such as land preparation, planting, weeding, and harvesting. Members also help one another for fiestas, weddings and other social events. The local labour groups formed for the project were crucial in implementing the agroforestry measures. The use of local approaches and the fact that the groups were formed by the farmers themselves were important factors. Experience in many development projects has shown that groups introduced by outsiders seldom survive for long.

The sustainability depends very much on the project for which it is used. For example, if people do not find the agroforestry measures useful, they will leave the mutual-help groups. Another factor probably influencing sustainability is whether the groups formed themselves

according to their own criteria or whether the groups were imposed by outsiders. Local people initiated the practice and were familiar with it. Local labour-sharing arrangements can be used as an effective tool for making labour-intensive activities more acceptable.

**PARTICIPATORY RESEARCH MAPPING (PRM). USING MAPS OF INDIGENOUS LAND-USE PATTERNS TO HELP INDIGENOUS PEOPLES CLAIM LAND RIGHTS IN HONDURAS.**

The practice helps indigenous hunter-gatherers draw their own maps of the lands and resources required for their subsistence. The aim is to help indigenous people communicate their need for land to government authorities through their spatial knowledge of the landscapes and ecosystems they inhabit. We encourage people to draw progressively more complex maps of the sites and areas used for their subsistence. Projects in Honduras and Paraguay are described in this report.

In Honduras, the project was co-ordinated by MOPAWI, a local NGO, and several indigenous organisations. The project aimed at developing a clearer understanding of indigenous land-use patterns so that an appropriate strategy could be designed to legally reclaim historic land rights. The project was funded by Cultural Survival. Indian 'surveyors' designed a questionnaire, which they then administered to all villages in the eastern Honduras region (population 40,000). The data was gathered through public meetings, and included oral and graphical descriptions of the sites and areas used by villages for their subsistence. The surveyors gathered the information, and professional researchers used the information to draw up 1:50,000 scale maps of the region. Circles were drawn around the sites identified to show the approximate extent of lands used. Village-level data was grouped into

zones, and the resulting map was published at a scale of 1:500,000. The researchers included a vegetation overlay on the map to highlight the relationship between land-use and the landscape's ecology.

In Paraguay, the project focussed on helping Indians draw detailed maps to communicate their indigenous knowledge of land and resource-use. The practical purpose of the research was to shed light on the extent and quality, in ecological terms, of the lands the Indians needed for subsistence. (This is now a major issue in Paraguay, where land is being given to Indians on an externally-determined amount of 100 hectares per family).

The project began from people's own practice of sketching maps on the ground. During daily conversations, these maps were drawn to describe the location of a particular site with reference to roads and man-made features. Indians were encouraged to add more detail to these maps and to try their hand at drawing them on paper. This process took on a life of its own, as the Indians started to produce maps independently.

Maps of Indian land use that do not draw on indigenous knowledge do not incorporate an indigenous perspective on issues such as the ecological structure of the landscape, categories of ecological habitat, ethno-ecological classification, etc.. It enables indigenous people to articulate and communicate spatial data/information. Until now, indigenous people in Western Paraguay have not managed to do this with much success. Such information is crucial in their claims for land rights.

Some of the results are truly remarkable. Among other things, they emphasize the importance of indigenous spatial knowledge. We must access that knowledge if we are going to understand the complex, and often unseen factors that make up the intricate relationship between indigenous peoples and their environment. If required, Indian-made maps could be cross-referenced with aerial photos and satellite images of the area.

The practice works best with people who have an intimate knowledge of their land. It requires a high degree of trust between outside researchers and local people.

### **PROMOTION OF LOCAL COMMUNITIES' STRATEGIES FOR THE CONSERVATION OF MEDICINAL-PLANT GENETIC RESOURCES IN AFRICA.**

In Africa more than 80 per cent of the continent's population relies on plant and animal based medicine to meet its health care requirements. For the most part the plants and animals used in traditional medicine are collected from the wild, and in many cases, demand exceeds supply. As Africa's population grows, demand for traditional medicines will increase and pressure on natural resources will become greater than ever. Africa has a history of conserving bio-diversity in medicinal plants for at least two reasons: traditional practices surrounding their use reflect local knowledge and wisdom, and the plants are readily available and relatively cheap—being either easy to gather in the wild, or simple to cultivate in Herbalists have preserved traditional knowledge and practices of herbal medicine, often using it in combination with spiritual powers. Certain families keep their recipes secret. Plants continue to provide most of the rural population of Africa with ingredients for traditional medicines. Throughout the continent for many generations, small plots of land near the homesteads have been used as home gardens. Because these gardens serve a family's own needs, they contain a whole range of plants that provide food and medicine. They are used widely to prevent and treat common ailments, but their conservation also means that the indigenous knowledge associated with their unique properties and correct application will be preserved.

Through a combination of participatory research and development action involving local

communities, project workers first learn about the local communities' own solutions for conserving medicinal plants and for putting them to safe and effective use for traditional health care. Appropriate incentives then provide further encouragement of community efforts to safeguard bio-diversity at the village level. Economic incentives include seed funds, the promotion of income-generating activities, and help with marketing. Social incentives include technical assistance and training, information and consciousness-raising related to conservation, the provision of equipment, and technical and scientific advice and assistance. Institutional incentives include guarantees of full property rights, and the establishment of local committees and associations for purposes of monitoring and planning.

he fact that income can be generated from medicinal plants and traditional medicines helps to sustain the practice of cultivating them. Recognition for the value of traditional medicine and medicinal plants will foster sustainable methods of propagation and cultivation. Traditional knowledge and practices pertaining to medicinal plants will be preserved as herbal medicines are increasingly used to complement other forms of community health care.

### **ENHANCING PASTORALIST SELF-RELIANCE THROUGH SUSTAINABLE ECONOMIC DEVELOPMENT IN KENYA**

An integrated development programme for pastoralists in Kenya, bringing together traditional (indigenous) knowledge and modern technical knowledge in training, handbooks for treatment of cattle diseases, also aims at bringing together indigenous knowledge from different ethnic groups, sharing indigenous knowledge and practices, and promoting pastoralism as a valid mode of production and way of life.

This project is based on disseminating indigenous knowledge. In all project activities, the Kenya Economic Pastoralist Development Association (KEPDA) brings together traditional and modern technical knowledge, through publications and networking, to promote understanding and awareness on key issues. Such an approach offers considerable potential for improving dry land productivity in a sustainable manner. In the past, traditional knowledge was considered largely a research topic, and technical knowledge was considered as a replacement for primitive or outdated practices. This project aims to integrate these two information bases.

### **GENGENLILAS PRESCHOOL: COMMUNITY EFFORT FOR COMMUNITY GAIN IN CANADA**

When the Campbell River First Nation on Vancouver Island decided to build a preschool for its community, it had specific needs in mind. It wanted a school that would teach children about the First Nation's culture and that would be free of charge to anyone in the community. Today, that school – the Gengenlilas Preschool – is up and running. The First Nation used resources from its bingo operation and from outside sources to build the school and offer the program free of charge. The school has a play-longhouse, First Nation theme toys and traditional articles such as drums and masks. Elders and other community members help teach the basics of the First Nation's culture, including Campbell River stories, dances, and songs. Previously, Campbell River First Nation parents had to pay to send their children to preschool. Now, parents are able to work while their children are at the school, a situation that is providing a boost to the local economy and to the personal pride of the First Nation's members. The school and its program are a vital element of the community's educational resources. Gengenlilas should continue for generations to come, helping to teach the First Nation's children about the wealth of their

heritage and to prepare them for their future education.

### **MIAWPUKEK: REACHING SELF- SUFFICIENCY THROUGH ECONOMIC DEVELOPMENT GUIDED BY TRADITIONAL VALUES IN CANADA**

The Miawpukek reserve, a community of about 600, is located on the southern coast of Newfoundland. Since receiving recognition as a band under the Indian Act in 1986, the Miawpukek Band has committed itself to becoming economically self sufficient through a number of economic and community development activities that are guided by traditional values. These activities include aquaculture, housing, education, and a job creation program that is funded by social assistance funds. The economic initiatives are carried out in ways that respect the environment and the band's culture. The various initiatives have shown successful results and benefit all community members. For example, one in every three houses in the community has been built in the last six years. Band members are employed in fields such as aquaculture, silviculture, agriculture, tourism, and communications. Ninety percent of community service jobs – administration, health, social, and school – are staffed by band members. The Miawpukek bring a holistic approach to their economic development activities, taking into account the context of community and traditional values.

### **BUFFALO POINT DEVELOPMENT CORPORATION: DEVELOPING A WORLD-CLASS TOURIST FACILITY IN CANADA**

Over the course of two decades, the Buffalo Point First Nation has built a profitable and popular tourist resort on Lake of the Woods in the Canadian Shield near the U.S. border.

Operated by the Buffalo Point Development Corporation, the resort welcomes summer and winter tourists from the United States and Canada, and shows that First Nations can play a leading role in Canada's tourism industry. Work began in 1974 with a tourism development plan. Two decades later, the Buffalo Point International Resort features a worldmarina with 320 docking slips; an RV campground; luxury rental cabins with jacuzzis and satellite televisions; and trails for hiking, biking, crossskiing, and snowmobiling. Future plans include an 18golf course, a hotel/casino, and an Aboriginal village theme park. The small size of the Buffalo Point First Nation (less than 80 members in 1995) necessitated development of the resort in stages, with careful planning at every stage. The keys to Buffalo Point's success have been patience, a clear vision and a good development strategy. Using the development plan as a road map, the Buffalo Point First Nation has successfully overcome obstacles in its path to become a seasoned veteran of the tourism industry.

### **COMMUNITY-BASED RESEARCH & DEVELOPMENT: INTO THE FUTURE WITH GLUNG-US**

The T'Sou-ke First Nation of Vancouver Island traditionally caught trapped salmon in reef nets. At the turn of the century, it converted to the fishing methods used by non-traditional fishers. In recent years, the First Nation has not been catching enough fish to meet the needs of its community. In response to this problem, the First Nation decided to resurrect the practice of salmon trapping and put itself at the forefront of development technology. The T'Sou-ke took up the challenge of researching, developing, and testing a trap that would work in their local environment and meet their needs in an environmentally responsible manner. The First Nation conducted historical research and tests, and consulted a diverse group of experts: band elders with experience in salmon trapping; a

retired, local fish trapper; a biologist; and cod trappers from Newfoundland. The Glung-us trap, named after the last T'Souke chief to fish with a reef net, yields top quality fish and allows for effective stock assessment and tagging. By bringing back salmon trapping, the T'Sou-ke First Nation is replacing environmentally outdated fishing practices with a part of its heritage that has cultural, environmental, and possible financial benefits for its people.

### **WALPOLE ISLAND HERITAGE CENTRE: A RESEARCH APPROACH TO SOLVING COMMUNITY ISSUES**

The Walpole Island Heritage Centre – the research arm of the Walpole Island First Nation – was officially founded in 1989. But the First Nation undertook research activities as early as 1973.

The Centre has evolved from its early focus on land claims and historical research to its current acclaimed work on sustainable development and the environment. Through the Centre's effective practices, Walpole Island has become one of the first Aboriginal communities in Canada to take a leadership role in this area. In 1995, the Walpole Island First Nation received the "We the Peoples: 50 Communities Award" from the Friends of the United Nations for its exemplary record in environmental research and sustainable development. The Centre uses community-based research and decision-making. This allows the Walpole Island First Nation to sustain its cultural heritage and traditional ecological knowledge and, at the same time, interact effectively with the non-indigenous population. Recent projects include: partnerships with industries in Sarnia and government agencies to improve the quality of the St. Clair River and Lake St. Clair; and a study on the effects of toxic contamination on wildlife with the Great Lakes Institute, the University of Windsor, and the Canadian Wildlife Service.

**VUNTUT GWITCHIN PORCUPINE  
CARIBOU PROTECTION:  
LOOKING AFTER WHAT'S  
IMPORTANT**

The people of the Vuntut Gwitchin First Nation live primarily in a small community located north of the Arctic Circle in the Yukon Territory. The Vuntut Gwitchin depend heavily on the Porcupine Caribou herd for food and other products, as they have for thousands of years. The Porcupine Caribou's calving grounds are located in Alaska, and until recently, were protected by the Arctic National Wildlife Reserve. In 1985, the U.S. government planned to introduce legislation to open these lands up to oil exploration and development. This would have destroyed the Porcupine Caribou's calving grounds, potentially damaging the herd and affecting the traditional lifestyle of the Vuntut Gwitchin.

In spite of their small population and limited resources, the Vuntut Gwitchin successfully challenged the United States government, and secured continued protection for the calving grounds. They used a combination of methods, incorporating traditional, community-based decision-making processes and modern communication strategies, including lobbying and public education. One of the key components of the Gwitchin strategy was to gain the support of local groups before moving to higher-level organizations and governments. This step-by-step approach solidified grassroots commitment to the cause and helped the Gwitchin develop skills to give them firm footing at the next level.

**ROCKY BAY FISHERIES UNIT:  
FISH FOR THE FUTURE**

Through the generations, Rocky Bay First Nation's subsistence and commercial fishers have learned the subtleties of Lake Nipigon and her surrounding waters. In the last decade, the First Nation has become concerned about the deteriorating health of the fish, and decided to

learn more about the fish population first hand. The Rocky Bay Fisheries Unit was created in 1993 to study the effects of fluctuating water levels in Lake Nipigon, the result of Ontario Hydro's fall-to-spring drawdown regime. The fisheries unit's work has expanded since 1993 to include tagging programs that study fish movement, and further studies on specific fish species and locations. Ultimately, this will help the unit manage the fish resources of Lake Nipigon and surrounding inland waters. Further plans include building a fish hatchery and developing a fish farm and fish processing plant. The objective of the Rocky Bay Fisheries Unit is to help First Nations people increase their understanding and control of and authority and responsibility for the waters which in turn will give them an economic basis for development and self sufficiency. Thanks to survey work done by the unit, the Ministry of Natural Resources took steps recommended by the unit to help fish stocks recover. As well, volunteer workers get free training in fishery technician skills. An important factor in the fisheries unit's success has been its ability to take traditional knowledge, passed on through the generations by elders, and "marry" it to current technological practices and skills to gain a richer understanding of the waters so important to Rocky Bay. The joining of these two streams of knowledge has the respect and support of the Rocky Bay community members, fishers (subsistence and commercial), non-Aboriginal commercial fishers, the Lake Nipigon Advisory Board, Ontario Hydro, and the Ministry of Natural Resources. As a result, the fisheries unit has forged strong working relationships with each of these groups.

**WIKWEMIKONG COMMUNITY  
FORESTRY MANAGEMENT:  
W.I.K.Y. – WOODLANDS IN  
KEEPING FOR OUR YOUTH**

Wikwemikong Unceded Indian Reserve is an Aboriginal community on Manitoulin Island,

Ontario, that has suffered from the deterioration of its forests. The community has also experienced scarcity of food supplies and plant and animal products, which it uses to produce crafts. These scarcities have been attributed to decades of uncontrolled cutting and to excessive hunting. As a result, the Wikwemikong Band was forced to manage its forest lands so that short- and long-term commercial and community needs could be met. In response to this, a 20-year forestry management plan was developed and approved. The plan encourages long-term production of timber products, silviculture practices, and suitable policies and regulations to control timber harvesting. With these key elements, Wikwemikong is now positioned to support a sustainable forestry program while providing long-term employment for its band members. Wikwemikong's approach to forestry management is effective because it combines technical and scientific long-range planning and short-term benefits, with concepts of sustainable development. Furthermore, strong community commitment, a well-suited organizational structure, and innovative and entrepreneurial marketing savvy have all played a role in the success of this forestry management plan. The Wikwemikong Band has planted 500 000 trees in less than four years, trained 35 silviculture workers, managed a wood supply that supports a forest products company which in turn provides year-round and seasonal jobs, and created a forest fire fighting service that employs 130 workers on a seasonal basis.

**LITTLE RED RIVER CREE NATION – TALLCREE FIRST NATION CO-MANAGEMENT AGREEMENT: WORKING TOWARDS SELF-SUFFICIENCY**

Little Red River Cree Nation (LRRCN) and Tallcree First Nations are working to regain control over their traditional lands in northern Alberta. They are doing this through a

Cooperative Management Agreement (CMA). Signed in 1995, this \$5 million agreement is between the First Nations, the provincial and federal governments, and High Level Forest Products, a private company in the area. The CMA calls for developing and implementing an ecosystem-based resource management strategy for sustainable development for a 30,000 square kilometre area of northern Alberta. It allows the two First Nations to protect the environment, preserve important cultural sites, create long-term employment and ultimately become economically self-sufficient by developing a forest economy. Forest resources in the area will be managed according to the principles of sustainable development and traditional land use practices, following guidelines laid out in the area's Forest Management Plan. Representatives from LRRCN and Tallcree comprise a majority on the Forest Management Planning Board. The CMA combines several unique initiatives which reflect community traditions but also integrate the realities of the market economy. Traditional knowledge is combined with scientific research to provide a holistic perspective on the area's development. Ongoing training activities are helping First Nations prepare for future development activities, and partnerships are being forged between First Nations and a variety of public and private sector groups. A high degree of participation by LRRCN and Tallcree community members is encouraged in all activities.

**MUSKEG LAKE URBAN RESERVE NEGOTIATIONS: A PRECEDENT FOR FIRST NATIONS/MUNICIPAL RELATIONS**

The Muskeg Lake Cree Nation and the City of Saskatoon forged through uncharted territory when they negotiated the details for creating an urban reserve. While Muskeg Lake is not the first

urban reserve, reserves such as Musqueam in Vancouver and St. Mary's in Fredericton-Nashwaaksis became urban reserves only after cities expanded around them. The establishment of a new reserve on land previously under municipal jurisdiction is precedent-setting. It was in the best interests of both the First Nation and the city to forge a good working relationship with one another, knowing that the manner in which they negotiated would be critical to the success of the endeavour. For their part, Muskeg Lake Cree Nation developed an effective negotiating approach, characterized by clear, well-defined goals, flexibility, and a determination to conduct the negotiations patiently and from a "business" point of view. Furthermore, the First Nation also developed and employed the expertise required to manage the negotiations itself and reach agreements that would ensure the realization of its goals for economic development and self-government. As a result of effective negotiations, the urban reserve has become a reality. The McKnight Commercial Centre, the main structure on the reserve, houses a wide range of tenants, such as First Nations organizations, financial institutions, and commercial establishments, all of which provide rent and employment. As well, when the Muskeg Lake First Nation returns to the negotiating table to pursue new ventures, they will be met as respected partners in development.

### **INDIAN CRAFTSMEN AND ARTISTS OF QUEBEC: CUSTOMER SERVICE IS THE KEY TO SUCCESS**

Indian Craftsmen and Artists of Quebec (ICAQC) is a corporation that was established more than 20 years ago to meet the needs of Aboriginal arts and crafts producers. Located on the Hurons Wendat reserve, approximately eight kilometres outside of Quebec City, the corporation has remained successful in challenging economic times by expanding its customer base and by marketing the finished products of

Aboriginal crafts producers. However, the secret to making these strategies work has been excellent customer service. ICAQC's customer-service practices include calling customers on the same day to confirm orders and shipments, and training employees in French and English so that they can serve customers anywhere in Canada. As a result, ICAQC has become one of Canada's largest suppliers and distributors of basic handicraft materials for Aboriginal communities across the country, and an important marketer of Aboriginal arts and crafts. ICAQC helps Aboriginal crafts producers and artists continue to produce arts and crafts and profit from their talents. Through this support, ICAQC plays an important role in maintaining and promoting Aboriginal culture.

### **KIVALLIQ PARTNERS IN DEVELOPMENT: BETTER SERVICES THROUGH PARTNERSHIP**

The Kivalliq Inuit Association and the Government of the Northwest Territories have developed a new way of doing business in the Kivalliq region. Three separate agencies – Sakku Investments (the development corporation owned by the Kivalliq Inuit Association), the Department of Economic Development and Tourism, and Keewatin Community Futures – joined forces in 1995 to offer one-stop cost-effective business assistance to Inuit individuals and businesses. The initiative, known as Kivalliq Partners in Development, offers a more holistic and comprehensive approach to economic development in the region. Prior to the formation of Partners, entrepreneurs and businesses faced an up-hill battle to secure funding and business advice. Each of the three agencies was located in a different area of the Kivalliq region and administered its own programs and funding in its own way. Service, from the clients' point of view, was typically fragmented and complex. Today, Kivalliq Partners gives clients advice on starting up a business, loans, and information on grant

options, equity investment and networking contacts – all from one office in Rankin Inlet. Kivalliq Partners in Development is an excellent example of how Inuit organizations are working toward economic self-sufficiency through creative partnerships and effective strategic planning.

### **EVERGREEN FORESTRY MANAGEMENT LTD.: EMPLOYEE ASSISTANCE PROGRAM**

Evergreen Forestry Management Ltd. (EFML) is a joint enterprise of the Hay River Dene Band and the Fort Providence Dene band in the Northwest Territories. In 1990, Evergreen Forestry Management Ltd. won a five-year contract from the Government of the Northwest Territories (GNWT) to manage fire suppression in the area around the communities of Hay River and Fort Providence. The company recognized early on that alcoholism among employees threatened EFML's success. Absenteeism and low productivity were chronic problems. These issues were critical, as the company's contract with the GNWT stipulated that the absence of one crew

member could result in the dismissal of an entire team. The company developed an employee assistance program to address alcoholism among its employees. The program's approach is based on an organized system of education and intervention, which incorporates "constructive confrontation." The program involves family and other community members in providing support to the employee. Key factors which have led to the program's success include organizational and community support, an objective style of management, clear roles and procedures, and an effective use of community resources. Since the program's start in 1992, EFML has seen an improvement in worker health, better relations between management and employees, and a renewal of the company's contract to fight fires.