



Canadian Environmental
Assessment Agency

Agence canadienne
d'évaluation environnementale



FEDERAL ENVIRONMENTAL ASSESSMENT

Making a Difference

Canada

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Making a Difference

March 2000

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Preface

To better integrate Canada's environmental goals with its economic, social and cultural values, the federal government passed into law in 1995 the *Canadian Environmental Assessment Act*. The Canadian Environmental Assessment Agency was created at that time to administer the Act, and promote high-quality assessments. The Agency is an independent federal body, reporting directly to the Minister of the Environment. It provides advice and guidance on a process that involves a variety of environmental, social and economic considerations.

The Act ensures that all development projects that require a federal decision receive careful review. Since 1995, more than 25,000 environmental assessments have been conducted. Ninety-nine per cent of those assessments are screenings of small and medium-sized projects. Larger projects are assessed most often as comprehensive studies or are reviewed by an independent panel.

The federal government has formed valuable partnerships with the provinces, Aboriginal groups, and a wide variety of stakeholders. Federal departments and agencies now conduct environmental assessments, ensuring that the impacts of development projects on Canada's natural environment – its people, animals, birds and fish – are compatible with the principles of sustainable development.

What follows is a small sample of the ways in which environmental assessment is contributing to sustainable development – a dozen stories drawn from Canada's diverse regions, representing projects of varied size and complexity, along with an example of how one federal agency is using environmental assessment to better its development projects worldwide.

Minister's Foreword

Ask Canadians what they love about their country and invariably the answer will include some reference to the land. Canadians love the physical grandeur and beauty of their country. They also benefit from harvesting and harnessing Canada's wealth of natural resources. However, Canadians have made it clear that they don't want economic development at the expense of the environment.

In response to growing concerns among Canadians to effectively manage their environmental heritage, the Government of Canada began to practice environmental assessment in the 1970s. The practice is an application of the old maxim: prevention is better than cure. By identifying, early in the planning stages, the potential negative effects of development projects on the environment, environmental damage can be eliminated or reduced.

Environmental assessment has evolved rapidly over the years. It is practiced throughout Canada and internationally in over 100 countries. Canada is recognized as a leader in the field.

The federal government has conducted thousands of environmental assessments since the Act's inception – from small, local projects to multi-billion dollar resource developments.

Communicating the benefits of high-quality environmental assessment serves to highlight and raise the profile of the best practices in the field; and acknowledge those professionals setting the high standards for environmental assessment in and outside Canada. The following examples present just a few of the many ways environmental assessment is making a difference to project planning and to the environment.

A handwritten signature in black ink that reads "David Anderson". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

David Anderson, P.C., M.P.
Minister of the Environment



VOISEY'S BAY NICKEL MINE AND MILL

Traditional Aboriginal knowledge was incorporated into the panel review of a proposed nickel mine in northern Labrador.

The Project

In 1996 the Voisey's Bay Nickel Company, a division of the Canadian mining magnate Inco, proposed developing a massive nickel deposit on the northeast coast of Labrador. Originally settled by a small population of Aboriginal people, this rugged, sub-Arctic environment at the edge of the Labrador Sea has remained mostly undeveloped. Polar bear and caribou roam the interior and seals and whales are found along its icy coast.

The company's proposal would result in considerable physical changes to the region – intense mining, an airstrip, shipping facilities, work camp and a sewage treatment system. Given the project's size and complexity, the federal regulator, the Department of Fisheries and Oceans, called for an environmental assessment by an independent review panel.

Photo: Courtesy of Voisey's Bay Nickel Company Ltd.

The Environmental Assessment

To incorporate the interests of both northern residents and federal and provincial authorities, a memorandum of understanding (MOU) was signed between the governments of Canada and Newfoundland and Labrador, along with the Labrador Inuit Association and the Innu Nation. The first agreement of its kind to be signed in Canada, it established a cooperative review panel process between the different levels of government and Aboriginal groups whose overlapping land claims in the area were recognized by those governments.

The process took into account traditional knowledge – the knowledge gained after many years of experience living on the land. Consideration was given to local understanding of fish and wildlife, birds, marine habitat and ice conditions.

The Benefits

Combining traditional knowledge with the expertise of government and other participants allowed for a very thorough environmental review. Harmonization of the process among different levels of government ensured it would run smoothly, saving time and money.

The mine and mill were given approval, subject to a number of recommendations to address environmental and social concerns. It is estimated that the project will provide a total of 80,000 person years of direct and indirect employment. Over the life of the project, the company expects to spend about \$10.6 billion; \$3.3 billion will stay in Labrador.

First preference for employment will be given to members of the Labrador Inuit Association and Innu Nation, followed by other residents of the province. And the company has guaranteed production for 25 years to ensure the project will have long-term benefits for the region.



SABLE ISLAND OFFSHORE GAS PROJECT

Cooperation between federal and provincial governments was a key aspect of the successful environmental assessment of the Sable Island Gas Fields in Atlantic Canada.

The Project

The continental shelf off the coast of Nova Scotia is rich in natural gas. Since the early 1970s, significant reserves have been found at various sites near Sable Island, more than 100 kilometres from the Canadian mainland. In 1996 the Sable Island Offshore Energy Project, a consortium of oil and gas extraction companies, proposed developing the sites.

The project consisted of two main components. The first component included developing six gas fields near Sable Island, constructing an offshore processing facility and a pipeline to take the product to a processing plant near Goldboro, Nova Scotia. The second component included construction of the Maritimes and Northeast Pipeline to carry processed gas from Goldboro to a transfer point at the Canada-United States border.

*Photo: Courtesy of Nova Scotia
Department of Natural Resources*

The Environmental Assessment

Given the large size of the project, a number of regulatory bodies representing both federal and provincial interests needed to be involved. However, by conducting separate regulatory approval processes, environmental assessments could become less transparent, limiting the benefits of public participation – a fundamental aspect of the assessment process.

Recognizing this concern, involved federal departments pursued a coordinated environmental assessment with all the jurisdictions involved, thus harmonizing the review process. The Canadian Environmental Assessment Agency, the National Energy Board, Natural Resources Canada, the Nova Scotia Ministries of Natural Resources and Environment, and the Canada-Nova Scotia Offshore Petroleum Board negotiated the Sable Island Joint Review Agreement.

A five-member review panel was appointed in September 1996. Given the role of the National Energy Board, the panel was structured along the lines of a quasi-judicial body and included formal hearings, swearing of witnesses and other functions one might expect from a quasi-judicial body. However, in the spirit of cooperation, certain aspects of the hearings, including scoping sessions under the *Canadian Environmental Assessment Act*, became an intrinsic part of the review process.

The Benefits

In October of 1997, the joint review report was released. In turn, each of the regulatory agencies having jurisdiction in the project – after adopting a number of recommendations outlined in the panel report – gave their approval.

The joint review process saved the proponent and taxpayers a great deal of time and money. It also created an open and inclusive review that involved extensive public consultation. Cooperation among members and a determination to put aside jurisdictional issues were key components to the overall success of the project.



TRACADIE RIVERS LINK CHANNEL PROJECT

Increased and ongoing protection was given to the endangered Piping Plover as a result of the environmental assessment of a proposed inshore channel in northern New Brunswick.

Photo: Courtesy of Prince Edward Island National Park

The Project

In 1996, a project designed to attract recreational boaters and promote eco-tourism in northeastern New Brunswick was the subject of an environmental assessment by Human Resources Development Canada. The project involved construction of a navigational channel, sheltered from the Gulf of St. Lawrence, to run between the Rivière Petite Tracadie and the Rivière Grande Tracadie. Included in the project, was the construction of a canal across a small peninsula and a dredged route through a shallow lagoon system.

The region features mudflats, sandbars and islands that offer important habitat for a species of migratory bird recognized to be at risk by the Committee on the Status of Endangered Wildlife in Canada.

The endangered Piping Plover nests on the sandy shores of the Gulf of St. Lawrence and on the barrier islands that lie between the Rivière Petite Tracadie and the Rivière Grande Tracadie. The bird is very sensitive to human activities. During their nesting period, Piping Plovers would be particularly susceptible to disturbances caused by dredging, and later, to increases in marine traffic and access to the barrier islands if the project proceeded.

The Environmental Assessment

The environmental assessment called for a plan to protect the Piping Plover. Dredging was scheduled to take place outside of the nesting period; it could only be conducted once the chicks had hatched.

Signs were posted at the local marina explaining the importance of staying away from these areas. Pamphlets and other educational materials on the Piping Plover were made available at the local marina and at tourism facilities.

The Benefits

As part of the region's eco-tourism strategy, plans are underway for the construction of an ecology centre, walking trails and other forms of recreational development. Additional funding was set aside to hire guardians for the bird breeding grounds. Their role is to patrol the sand bars and beaches to educate visitors who could be in a situation to disturb the birds.

The Canadian Wildlife Service, along with the proponent, Human Resources Development Canada, community groups and the provincial government have renewed the commitment to protect the habitat of the endangered Piping Plover.



WASKAGANISH PERMANENT ROAD

Social impacts were the focus of an environmental assessment of a proposed road to link an isolated Cree community in northern Quebec with the provincial highway system.

The Project

The Cree community of Waskaganish is located on the quiet shore of the Rupert River near the mouth of James Bay. About 1,600 people live in this remote part of Quebec, accessible by winter road, boat and airplane.

Waskaganish is the only Cree community on the Quebec coast of James Bay that does not benefit from a permanent link to the province's highway network. As the town grew, community members expressed a desire for a road, some 102 kilometers long, to connect with the provincial highway system.

The Environmental Assessment

Waskaganish's leaders approached the federal department of Indian Affairs and Northern Development to gain assistance for a proposed road in 1998. As the project required a Navigable Waters Protection Act permit, the department of Fisheries

and Oceans also became involved. Because of the project's size, a comprehensive study – a rigorous form of environmental assessment – was called for under the *Canadian Environmental Assessment Act*.

Experts from a variety of departments and agencies, including Environment Canada, Fisheries and Oceans Canada and the Canadian Forest Service, provided input, comments and recommendations. The proposed road was found to pose no serious threat to the environment assuming all precautionary measures, as outlined in the comprehensive study, were in place.

However, members of the community had other concerns – most of them regarding potential social impacts. Residents were concerned about the detrimental effects a permanent road might have on the people of Waskaganish.

The Benefits

As a result of the environmental assessment process and the discussions it generated in the community, a number of unique programs are now being designed to deal with potential social strains associated with the road.

Education programs about drug and alcohol consumption will be presented through schools and social services. Safety measures, such as road signs, will be introduced to reduce the risk of accidents between big game and snowmobilers. A vehicle purchase program will provide information on insurance and maintenance costs, as well as basic mechanical instruction. Members of the community also plan to develop occupational training programs and courses in financial management.

These measures will help ease the transition for members of this Cree community as it embarks upon a new era in its long history.



PUKASKWA NATIONAL FOREST

The Canadian Environmental Assessment Agency worked in cooperation with its provincial counterpart to find an effective solution for a proposed logging project that bordered on a national park.

Photo: Courtesy of Pukaskwa National Park

The Project

Pukaskwa National Park is located on the north shore of Lake Superior. Surrounding the Park is a forestry management area under control of the Ontario government. In 1997 the pulp and paper company Domtar Inc., proposed to log a section of this area. The proposal underwent a provincial environmental assessment, and the project was given the go-ahead by the Ministry of Natural Resources.

However, representatives from Parks Canada, the federal agency responsible for national parks, were concerned that intensive logging would alter the natural balance of Pukaskwa. In particular, they believed that increased human presence as a result of proposed logging roads near the park boundary would adversely affect some of the more remote and sensitive areas of the park. With this in mind, Parks Canada requested that the provincial government commit to a more rigorous environmental assessment of the proposal.

At the same time, the Sierra Legal Defence Fund, an environmental organization, petitioned the federal Minister of the Environment on behalf of a concerned environmental group and individuals to conduct a panel review of the proposed logging project.

The Environmental Assessment

Representatives from the Canadian Environmental Assessment Agency contacted the Ministry of Natural Resources, Parks Canada and Domtar Inc., encouraging them to re-examine the outstanding issue and reach an agreement on mitigative measures. Doing so would eliminate the need to go through the process of a review panel.

After further discussions and a tour of the project site, the interested parties were able to reach an agreement that was satisfactory to all involved. On this basis, Parks Canada's request to the Ontario Minister of Environment for a more detailed assessment was withdrawn. In addition, the Sierra Legal Defence Fund was pleased with the outcome and withdrew its request for a federal review panel.

The Benefits

The agreement included a number of measures to mitigate the adverse effects of logging. A logging road near the park boundary was relocated and additional measures to control access to more remote and sensitive areas of the Pukaskwa were implemented. An improved management plan for riparian zones along the Pukaskwa River was devised. These measures will help to ensure the long-term health of the region's environment.



CHURCHILL RIVER WEIR

The environmental screening of a proposed weir in the Churchill River, Manitoba resulted in improved fish habitat and river bank restoration.

The Project

Manitoba Hydro developed the Churchill River Diversion project during the 1970s. The project involved redirecting water from the Churchill River to the Nelson River, where Manitoba Hydro operates five hydroelectric generating stations. As a result of the diversion, water flow rates along the lower reaches of the Churchill River were reduced by up to two-thirds annually, making it difficult for residents of the town of Churchill to pursue their established way of life. Recreational, business and fishing opportunities were diminished.

“Churchill is a goldmine for eco-tourism,” said John Markowsky (Manager of Major Project Planning). “It touches every business in the community. Visitors come from around the world to see the wildlife, northern lights, and the stark beauty of the northern landscape.”

To make up for this loss, the utility signed an agreement with the Town of Churchill to address the adverse effects of the project. After 10 years of studies and public consultation, a plan was formed. A decision was made to construct a weir – a dam-like structure – across the river, thereby raising upstream water levels and regulating its flow.

Photo: Courtesy of Manitoba Hydro

The Environmental Assessment

The proposal to build the weir triggered the *Canadian Environmental Assessment Act*. An environmental screening was required to identify and propose mitigation of any adverse effects of the proposed weir. Because of potential effects on fish species and navigation, the Department of Fisheries and Oceans became the lead federal department. The assessment was conducted in cooperation with the Province of Manitoba.

Upon completion of the screening report, the project was given approval to move forward – providing a number of mitigative measures were implemented. Those measures included compensating for any fish habitat lost during construction, river bed and river bank restoration and the implementation of a detailed monitoring program regarding the weir's effects on the local environment.

The Benefits

Construction began in the summer of 1998 and wrapped up in the fall of 1999. The weir spans the width of the river some 10 kilometres south of Churchill. As a result of construction, a lake has been created on the upstream side of the weir. The new habitat is considered ideal for a number of fish species including northern pike and lake whitefish. Fishways were built into the structure to allow fish to swim downstream into the Churchill estuary.

A marina has also been constructed providing residents with safe access to the new lake. In keeping with the eco-tourism theme, the marina includes a two-storey observation tower, ideal for viewing birds and wildlife.

The weir project was successful on many levels. The ecological balance of the Churchill River has been maintained and possibly improved. Local businesses and contractors saw financial gains as a result of their participation. Citizens of the town of Churchill have regained their prized recreational space. Fish and wildlife have been provided with a more hospitable environment.

To ensure the long-term viability of the project, Manitoba Hydro will continue to monitor the effects of the weir on the Churchill River and the local environment.



URANIUM MINING IN NORTHERN SASKATCHEWAN

Technological innovation and social harmonization were the hallmarks of a successful environmental assessment of several proposed uranium mining developments in northern Saskatchewan.

The Project

Discovery of some of the world's most substantial uranium deposits in Saskatchewan during the 1980s prompted an international contingent of mining companies to scramble for a piece of the Canadian North.

In 1991 the governments of Canada and Saskatchewan appointed an independent joint federal-provincial panel to examine several proposed uranium developments. One of the most intensive environmental reviews conducted in Canada followed, taking six years to complete.

Environmentally sound mining methods and special consideration of the needs of northern residents were the hallmarks of this successful environmental assessment. In promoting technological innovation and social harmonization, the panel ensured long-term social and environmental stability for the region.

The Environmental Assessment

Perhaps the most significant technological innovation was applied in managing the uranium tailings – the most likely source of environmental damage. Tailings are the “leftovers” from processing the ore. In the case of uranium mining, they have a radioactive component and their disposal was of utmost importance to the review panel members. The original proposal called for three separate tailings disposal facilities. Instead, the panel suggested the companies develop a single one. Doing so would reduce the area of affected surfaces at individual mine sites.

Another technological initiative put forward during the panel review was a safer, jet boring technique to mine uranium. It was developed to deal with the highly radioactive ore. Conventional methods were unacceptable from both environmental and health perspectives due to exposure to radioactivity. The new method protects workers from direct exposure to the radioactive ore.

From the beginning, public participation played a key role in the panel’s investigation. During the initial phase of the public review, it became apparent that northern residents would need help qualifying for many of the available jobs when the mines opened. As a result of discussions generated during the environmental assessment, a Multi-Party Training Program was developed. It involves the efforts of government and industry in training northern residents for jobs in the field.

The Benefits

The Multi-Party Training Program has been successful in incorporating a northern workforce into the mines. In 1991, mining companies had proposed to staff 50 per cent of their operations with northern residents. By 1995 that goal was increased to 67 per cent. This has provided a tremendous boost to local economies.

In response to a panel recommendation, the government of Saskatchewan set up three Environmental Quality Committees. Made up of northern residents, the committees are monitoring the impacts of uranium mining on the people and environments of northern Saskatchewan. These committees provide local residents with the opportunity to keep an open dialogue with mining companies.

Using a single tailings facility will allow for more effective decommissioning of the mine sites. Further, because tailings require long-term monitoring, a single disposal facility will be more efficient and less expensive. Sharing the cost of a single facility will also be of economic benefit to the mining companies.



HORSESHOE BAY ROAD PROJECT

A flourishing wetland was protected by initiating an environmental assessment early in the project-planning phase.

The Project

The Prairie Farm Rehabilitation Administration (PFRA) is responsible for providing assistance to farmers in Manitoba, Saskatchewan and Alberta. One of the administration's responsibilities is to provide funding, through the Canadian Agricultural Infrastructure Program, for small projects on agricultural land.

In the summer of 1999, the Vegreville district of the PFRA conducted an environmental assessment of a proposed road realignment in northern Alberta. The original road was deemed unacceptable, as it was too narrow and winding for large agricultural vehicles to safely negotiate. The proposed plan involved widening the road and altering some of the steep pitches and tight curves.

Photo: Courtesy of Gerry Beyersbergen

The Environmental Assessment

The proposed road realignment was originally planned in such a way that it would interfere with a small natural wetland. After reviewing the proposal, assessment experts from the PFRA realized that a simple design adjustment would save the wetland – without raising the cost of the project.

Additionally, they recognized the potential to reclaim the existing road and reconnect the small wetland to a much larger wetland to the southwest. When the original road was built, the two wetlands had been divided. The permanent wetland is locally important for waterfowl breeding and for fall migration.

The Benefits

As a result of the concerns raised by the environmental assessment, experts from the PFRA met with Ducks Unlimited, the County of St. Paul and the landowner. Ducks Unlimited and the landowner agreed to establish a conservation easement, the County agreed to use Duck Unlimited's plant and grass seeding mixture to reclaim the right of way.

The road was realigned and reconfigured to make it safer. At the same time, the small wetland will be left intact, and reconnected with the larger wetland complex.

Contouring the new road around the wetland will maintain the integrity of the basin, ensuring that it will continue to function as a breeding and brood rearing habitat in years to come.



BANFF CLASS SCREENINGS

To achieve consistent and streamlined environmental assessments in the town of Banff, Alberta, Parks Canada developed a model class screening report for certain types of routine projects.

The Project

Screenings are the most common form of environmental assessments conducted under the *Canadian Environmental Assessment Act*, making up 99% of all assessments done by the federal government.

In the town of Banff, Alberta, about 50 environmental screenings are completed every year. The town is located in Banff National Park, so environmental assessments are the responsibility of the federal government.

Because the environmental impacts of certain types of projects are already well known, a new way of completing the required reports was sought to save time and money. For this reason, a plan was devised to group routine assessments together under one process. The *Model Class Screening Report for Routine Projects in the Town of Banff and Proximate Outlying Area* streamlines the process, and ensures the environmental assessment of these routine projects meets the requirements of the Canadian Environmental Assessment Act.

*Photo: Courtesy of Banff/Lake Louise
Tourism Bureau*

The Environmental Assessment

Prepared by Parks Canada in conjunction with the Town of Banff, the model class screening report establishes predictable and effective environmental assessment processes for certain types of routine projects within the town and outlying areas. It considers the environmental effects of projects that include buildings, roads, service lines and trails. It also identifies the accepted practices that are to be used to reduce or eliminate their adverse environmental effects.

In developing the model class screening report, Parks Canada took into account comments received from various stakeholders, including the public, environmental groups, other federal departments and municipal authorities.

The Benefits

The model class screening report will ensure more effective and efficient environmental assessments of future projects in the Town of Banff and vicinity. Streamlining the process will result in savings of both money and time, and sets a benchmark for class screenings of routine projects with predictable environmental effects.



GREENVILLE-KINCOLITH ROAD

In northern British Columbia, an environmental assessment led to an in-depth study of a sensitive grizzly bear habitat and a plan to minimize the effects of a road on the bear population.

The Project

For some time, leaders of the Kincolith Band of the Nisga'a Nation have wanted a road to connect their community with the existing provincial highway system in the Nass River Valley. About 450 people make up the band. They live in a remote community in northern British Columbia, accessible only by boat, plane or helicopter.

Members of the band believe a road link will increase economic opportunities for their isolated community and improve emergency response. To meet this end, a 24-kilometer, two-lane gravel road was proposed to run between the communities of Kincolith and Greenville where the provincial highway system ends.

Typical of northern British Columbia, the Nass River Valley is a rugged environment, home to a striking variety of plants and animals. The valley is also part of a grizzly bear management area controlled by the Province of British Columbia. Maintaining its delicate ecological balance is of primary concern to project regulators – the provincial Ministry of Environment, Lands and Parks, and the federal departments of Indian Affairs and Northern Development and Fisheries and Oceans.

The Environmental Assessment

To determine the effects of the road on the environment, the federal government, in cooperation with provincial authorities, initiated a collaborative environmental assessment, in the form of a comprehensive study. Although the road is to be relatively short, its potential effect on grizzly bear habitat could have been significant.

Provincial and federal experts shared their knowledge of grizzly bear habitat and behaviour in developing a Grizzly Bear Mitigation Plan for the project. The plan includes actions for regulation and enforcement, public information and education and monitoring of bear population and habitat.

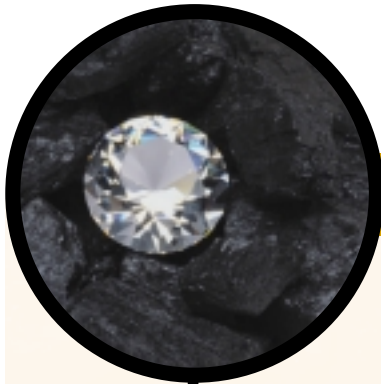
The Benefits

For grizzly bears in the Nass River Valley, spawning Pacific salmon are an important food source. There was concern that the presence of vehicles and people near spawning areas would discourage bears from using their established fishing sites. To discourage human use of these areas, spot closures will be made on a seasonal basis. Conservation officers will monitor the areas around the road. Signs will be erected near the established sites explaining that, for the purposes of bear conservation and personal safety, human disturbance is to be avoided.

To avoid potential conflict between humans and bears, the Greenville and Kincolith landfills will be closed and soil-capped. A new solid waste management plan will be implemented. The plan includes weekly garbage collection in both communities.

In addition, a public-awareness campaign will be held. Mail-outs, public meetings, school programs and tourist information pamphlets will be used to educate local residents and tourists about the importance of sustaining grizzly bear habitat, and preventing contacts between humans and bears.

A monitoring program – with special consideration given to tracking grizzly bear numbers – will track the performance of the Grizzly Bear Mitigation Plan. This will help determine the success of the measures taken to reduce any negative effects on the grizzlies.



DIAVIK DIAMOND MINE

An extensive review of a proposed diamond mine in the Northwest Territories helped lay the groundwork for the environmental assessment of future development projects in the Canadian North.

The Project

The Diavik Diamonds Project is a proposal by Rio Tinto and Aber Resources to mine four diamond deposits in the Lac de Gras region about 300 kilometres northeast of Yellowknife, Northwest Territories.

The federal departments of Indian Affairs and Northern Development Canada, Fisheries and Oceans Canada and Natural Resources Canada were responsible for conducting a comprehensive study of the project as required under the *Canadian Environmental Assessment Act*.

The Environmental Assessment

The environmental review took place over the course of 18 months, beginning in March 1998, and was one of the most complex comprehensive studies to be initiated under the *Canadian Environmental Assessment Act*. Consultation on the project was extensive. From the exploratory phase when the proponent,

Diavik Diamond Mines Inc., initiated public meetings in late 1993 to the completion of the comprehensive study report in June 1999, more than 300 meetings took place.

Opportunities for input and participation, particularly by northerners, along with openness and transparency, were guiding principles for a “made in the North” approach. Funds were made available by both the Department of Indian Affairs and Northern Development and Diavik Diamond Mines Inc. for participation by Aboriginal groups in the comprehensive study.

During the development of the environmental assessment report, the proponent funded a variety of traditional knowledge studies, and used community information gathered during the public consultation process to steer its course.

The Benefits

Development places stress on the relatively undisturbed and unpolluted ecosystems of the North. In order to address concerns raised through public consultation and views expressed by the Mackenzie Valley Environmental Impact Review Board, and to further reduce any residual environmental effects of development, an environmental management framework for the Northwest Territories will be developed.

The framework will be a proactive measure to protect the health of the environment and those that depend on it, while supporting timely development and resource management decisions. All appropriate federal, territorial and Aboriginal governments, non-governmental organizations, as well as appropriate industry, including Diavik, should be involved in the design and implementation of the management framework.

The well-being of The Bathurst Caribou Herd was a major concern of all stakeholders. The comprehensive study report outlines the steps that will be taken to protect the herd.

The projected mine life is expected to be 16 to 22 years. The operating phase is expected to employ about 400 people and represents significant economic benefits, both direct and indirect, to northern residents.



KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

Through its global development projects, the Canadian International Development Agency has found environmental assessment to be a valuable tool for environmental protection and social and economic planning.

The Project

Bangladesh is situated in a delta where three great rivers meet. Over the last 30 years, the Kalni-Kushiyara River system in the country's northeast has experienced ongoing channel instability and sedimentation problems. This has led to pre-monsoon flood damage to crops, impaired river navigation in the dry season, and loss of productive land and human settlements.

Small- and medium-sized farmers are often unable to sustain their livelihood as floods regularly damage their rice crops. Frequently, they are forced to mortgage or sell their land for survival. Ultimately, medium-sized farmers become poorer, small farmers become landless.

To improve the situation in northeast Bangladesh, the Canadian International Development Agency (CIDA) funded a feasibility study for the Kalni-Kushiyara River Management Project, designed to enhance economic activity and quality of life on the river's flood-plain.

Photo: CIDA photo, Michael Wild

The Environmental Assessment

An environmental assessment was conducted in parallel with the project feasibility study, ensuring that environmental impacts were taken into consideration from the outset. The assessment took into account the effects of the river management project on the bio-physical and socio-economic environment of the region. Studies were undertaken to assess the benefits to agriculture, navigation, fisheries and improvements to human settlements.

Following extensive consultations with the local population, a pilot project was implemented to test the effects of dredging on the river system. At the same time planners were able to design and test a unique way of using the dredged material, for the construction of socially beneficial, flood-free village platforms. These platforms, each the size of several football fields, provide protection from flood waters and increased space for people, gardens and livestock.

Benefits

For Bangladesh, this project marks one of the first times environmental assessment has been carefully integrated into a development plan. In fact, by considering the principles of environmental assessment from the outset, project planners shifted their analysis away from engineering and economics alone, effectively changing the outcome.

Instead of using a traditional, infrastructure-dominated approach, planners adhered to the principles of environmental assessment, and worked with the river rather than against it. Doing so provided a fine example of soft-engineering, in other words, of applying the fundamentals of environmental protection to a substantial engineering project.

