

Following-up Cree Health Determinants in James Bay

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Background

The construction of the Eastmain-1-A/Sarcelle/Rupert hydroelectric project began in 2007. This project carried out by Hydro-Québec includes the diversion of the Rupert river in 2009 and the construction of the Eastmain-1-A and Sarcelle powerhouses which were commissioned between 2011 and 2013. This project is located in James Bay which is homeland for Cree native people and Hydro-Québec signed the Boumhounan Agreement in 2002 which stipulates that construction and the environmental follow-up program associated with the project must be carried out in concert with the Crees. An important environmental follow-up program was planned for this project and included the monitoring of Cree health determinants. The project's conditions of authorization, issued by Québec's environmental department required that Hydro-Québec work in collaboration with the Cree Board of Health and Social Services of James Bay (CBHSSJB) in carrying out this study.

This follow-up was a first for Hydro-Québec in two aspects, first in its topic, native health determinants, and secondly in the important level of participation of a health agency that was called for. It should be noted that when this study was started in 2008, no references could be found about a monitoring of health determinants in a native population, in the context of a natural resource development in Canada. This paper presents the process followed to carry out this study and its conclusions. We hope this information may be useful for other organisations engaged in a similar follow-up.

Objectives

The objective of this follow-up study was to evaluate changes in health determinants and the project's possible impacts on these determinants. The study also aim at evaluating the effectiveness of the mitigation measures implemented and suggest measures to factor in changes that had not been anticipated in the Environmental Impact Assessment.

The study was carried out in three times over the construction period which spanned from 2007 to 2014. Because the Eastmain-1 hydroelectric project had been carried out just before in the same area, the study tried to follow the evolution of the determinants since the early 2000's.

Methodology

Selection of indicators

The certificate of authorisation asked the determinant to be selected jointly with the CBHSSJB. In order to do so a Joint Committee was established in 2008 to facilitate cooperation between the CBHSSJB and Hydro-Québec. A lot of discussion in this committee was about what would be a Cree health determinants, which determinant of health would be relevant followed in the context of this project and how they should be tracked over time. The approach taken was to identify broader determinant and then to define more precise indicators. As some health determinants were covered in other follow-up studies such as methylmercury level in fish, the focus was more on identifying social determinants which were important for Crees. A review of literature done in 2008 found only few study aimed at identifying native determinant with a lot of theoretic discussion but no reference to precise indicators. This review showed that self-determination was a non-negligible determinant of health for native people. As the focus was on monitoring changes since the project beginning, the Committee focuses on which indicators were available over the 12 years covered by the study. A list of 9 determinants and 50 indicators to be monitored was set-up based on the data already gathered during the impact assessment, other data available at CBHSSJB or in other institutions such as Statistics Canada and data collected through other social impacts follow-up done by Hydro-Québec. Some indicators had to be abandoned subsequently due to the fact that they were not updated consistently or that they were no longer available. Other indicators were added after finding new sources of information.

Data analysis

As it is often difficult to identify the multiple causes of a variation in a social indicator, it was assume that it would be hard to distinguish if the project would be in cause or not in a context where the Cree had already undergone rapid social changes. To make as much of a distinction as possible between the effects of the project and other factors likely to affect this population, the study distinguished:

- Subgroups of the Cree directly affected by the project, namely the Cree workers and contractors and the tallymen¹ and their families.
- The total population of the nine Cree communities of the James Bay area.

Data were collected and compiled for the 50 indicators selected for the period of 2000 to 2012 but due to lack of data, only 48 indicators could be analysed². Analysis was done first in a quantitative way. Where possible, statistical cross-tabulation was done based on the year and a second variable to determine whether or not the observed changes were statistically significant. Secondly, to facilitate the interpretation of the changes observed, two workshops were held with CBHSSJB and other Cree representatives. In these workshops, the result of the quantitative analyses were presented and hypothesis were made about the reasons for the changes and as to

¹ Tallymen are traditional leaders in animal harvesting, care-taker of their hunting territory (trapline).

² The two remaining indicators did not cover at least two years of data, making comparisons impossible

whether or not these changes were related to the project and to what extent. Lastly, it must be mentioned that the CBHSSJB had the opportunity to review and comments the reports done.

Results

Income and social status

Data show that although the income generated by the project were significant and has undoubtedly had a positive effect, other sources of income or revenues have contributed more significantly to the general increase observed in the Cree communities during the study period. Data available did not lead to any indication regarding a change in social status for Cree project workers or tallymen. It is noteworthy that between 2000 and 2010, a progression towards a greater equality in the distribution of revenue within the Cree communities was observed.

Employment, working conditions and occupation

As was the case for income, Cree employment has benefited from the positive effect of the jobs created by the project but the main factor affecting employment during the study period has been the public service jobs created mostly following agreements signed with federal and provincial governments. Although the positions occupied by Cree project workers were generally temporary and unskilled in nature, they were generally satisfied with their employment experience and working conditions.

Training and education

Data available showed that only a very small percentage of Cree interrupted their studies to work on the project, while a greater proportion of workers chose to return to school course after. The project contributed positively to training in the construction field although some workshop participants stressed that the short timeframe of the project had pose a challenge to organizing training. Overall, graduation rates in the Cree communities did not raised or decreased significantly.

Cultural continuity, language and identity

Nine indicators were selected to describe the cultural continuity, language and identity which are aspects that are closely related to the social fabric of a community. Despite the fears over the project related to the continuance of traditional activities on the land, only a very small number of tallymen were forced to temporarily move their activities to another trapline because of the project. Among the Cree population, an increase was even observed from 2005 to 2012 in how often traditional activities were practiced. This could be attributed in part to the various funds available to support these activities. Most of the Cree workers spoke Cree during their free time, but the use of Cree decreased slightly towards the end of the project. A slight decrease was also observed in the Cree communities. Despite encouraging numbers in the practice of traditional activities, data also showed that the population remained concerned about losing Cree culture. The main factors cited to explain this is the decreased time spent on the land, the threat posed by development project to the territory, the prevalence of Western lifestyles and new technologies.

Social environment

Five indicators were selected to evaluate changes in the social environment within the Cree communities. Despite the economic vitality that exist in the Cree communities and in which the project has somehow contributed, certain social problems (overcrowded housing, increase in single-parent families) persisted although a direct link, either positive or negative, could not be established with the project. No significant changes occurred in the perception of social issues during the period. Workshop participants appreciated that special measures had been taken to avoid that the project had an adverse effect on drugs and alcohol abuse in the communities.

Individual health habits and psychosocial issues

Using data available, it was possible to characterize three of the five indicators related to individual health habits. Self-reporting data about the frequency of alcohol consumption or drug use show globally few effects on the health habits of Cree workers. During workshops, it was argued that working on the project could have had positive effects on some individuals and negative effects on others. No data covering the project period were available about alcohol or drugs consumption in the community. As for the possible changes in weight of the Cree workers, it seems that here also the project had negative effects on some individuals and positive ones on others.

Health services

According to a study conducted by the CBHSSJB prior to the project, the project was likely to put more pressure on social and health services. Despite an increase observed in the number of hospitalizations due to injury, it is difficult to see, by the nature of injury, if there is a link with the project. Services offered by the Native social worker at the jobsite limited the demand on social services during the project.

Satisfaction and well-being

Data available showed that Cree project workers' level of satisfaction with life in general, predominantly positive and uniform throughout the study period, was similar to that observed in the Cree population as a whole. Socio-economic prosperity and the well-being of Cree were stable or increased within most of the communities. It was difficult to identify elements that explain the Crees' satisfaction with life in general, particularly concerning the project's effects on this determinant.

Self-determination

Two indicators were selected to evaluate self-determination. They indicate that the Crees' perception of the strength and future of their Nation has been predominantly positive throughout the period. Possible explanations for this include the agreements signed by the Cree Nation with various governments or even the greater coverage of the role of Cree leaders throughout the media.

Conclusion

In the light of these findings, different hypothesis were drawn on the links between the project and determinants of Cree health. For some determinants, the project seems to have had positive contributions (direct or indirect) such as for income and social status, employment and working condition and education and training. In other cases were negative effects were feared, such as cultural continuity, language and identity, social environment, individual health habits and health services, it seems like the project did not have any effects or only limited negative effects. Finally, owing to the wide range of factors that could explain changes, it was difficult to draw hypothesis about the project's effects on self-determination and satisfaction and well-being.

Regarding the process, doing this study was challenging in the fact that it was hard to find regularly compiled data covering the whole Cree population over a decade, beside the ones provided by public institutions such as Statistics Canada. Using data collected during the project on specific groups directly affected by the project and comparing them with the whole population gives interesting insights. Interpretation of data was improved by the participation of a health agency and Cree stakeholders.

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