

## **ANNEX 39**

### **SOCIAL INDICATORS MONITORING**

### **ALTO MAIPO HYDROELECTRIC PROJECT**

#### **1. JUSTIFICATION**

To confirm what was predicted by the environmental study regarding the behavior of the PHAM'S socio-environmental impacts along its life, meaning that it will always report benefits for AES GENER and the communities with which it relates. The prior is particularly relevant for the case of the PHAM, due to the importance of this project in energy supply, its interaction with communities with different interests and characteristics, and the concerns expressed during the anticipated process of Citizen Participation (PAC) carried out in the framework of the EIA presented previously and the formal PAC in the environmental assessment framework of this EIA, on the expected effects or expectations of the different players.

In general, to have a sound and up-to-date knowledge on the types of impacts, both negative and positive, that a project creates in the hosting communities, thus allowing to make relevant decisions on time, both for promoting the benefits, as well as for mitigating or compensating the harmful effects, which is vital for sustaining and preserving in the long term mutual well-being relationships with the surrounding communities.

#### **2. GENERAL METHODOLOGICAL APPROACH**

The Social Indicators Monitoring (SIM) demands the same technical detail level than the monitoring of other environmental components. Just as in the beginning of the SEIA, the Environmental Qualification Resolutions have demanded the follow-up of several environmental variables according to the nature of each approved project, over the last years and in a progressive way, the obligatory nature for monitoring the behavior of variables that describe the lifestyles and local customs.

The focus of this intervention is based on the collection of information through qualitative and quantitative techniques coming from Social Sciences, oriented to probe in a set of indicators, which provide details on the behavior of the variables that are important to monitor according to the characteristics of the project and the communities where they are inserted.

For the SIM to be consistent with the approach of the SEIA regarding human environments, the five constitutive dimensions of human groups are used as the framework for the analysis, according to Article 8 of SD 95, that is to say, the project is examined along with its interaction with the communities, in the geographic, demographic, anthropologic, socioeconomic and basic social well-being aspects, with the aim of focusing in the main particularities of each case, and for which the specific variables and indicators are set.

Notwithstanding the aforementioned, the SIM indicators will be set for each situation, just as the methodologies to be used and the periodicity of the information collection campaigns.

### 3. SIM Methodology for the PHAM

As it was mentioned, the selection of variables and parameters to monitor will be structured according to the five constitutive dimensions of human groups established in Article 8 of the SEIA Regulation, and according to the aspects revealed by the communities, and authorities through the Formal Citizen Participation, as well as by AES GENER.

#### a) Components to be Monitored

Considering the previous two criteria, we present a summary of a matrix with the dimensions, variables and parameters to be monitored.

**Table 3.1**  
**Variables and Indicators to be Monitored**

Dimensions	Variables	Parameters/Indicators
Geographic	Access to summer grazing areas, winter grazing areas and calving areas.	<ul style="list-style-type: none"> <li>- The project does not block the way to the summer grazing areas, winter grazing areas and calving areas.</li> <li>- The project does not create any accidents for stockmen and animals with its works and activities.</li> </ul>
	Connectivity for towns and the commune	<ul style="list-style-type: none"> <li>- The project's traffic does not increase travelling times between towns.</li> <li>- The project's traffic does not increase road accidents.</li> </ul>
Demographic	Floating population in populated areas	<ul style="list-style-type: none"> <li>- Alien direct and indirect workers<sup>1</sup> of the project do not sleep in the towns.</li> </ul>
Anthropologic	Continuity of the cattle activity	<ul style="list-style-type: none"> <li>- The project does not block the way to the summer grazing areas, winter grazing areas and calving areas.</li> </ul>
	Public nuisance	<ul style="list-style-type: none"> <li>- Alien direct or indirect workers do not cause any public nuisance in populated areas.</li> </ul>
Socioeconomic	Continuity of the cattle activity	<ul style="list-style-type: none"> <li>- The project does not block the way to the summer grazing areas, winter grazing areas and calving areas.</li> <li>- The project does not create any accidents for stockmen and animals with its works and activities.</li> </ul>
	Employment creation	<ul style="list-style-type: none"> <li>- Number of direct jobs for the inhabitants of the commune of San José de Maipo.</li> <li>- Number of indirect jobs for the inhabitants of the commune of San José de Maipo.</li> </ul>
Basic Social Well-being	Housing demands of the populated areas	<ul style="list-style-type: none"> <li>- Alien direct and indirect workers and their families do not rent houses in populated areas.</li> </ul>
	Demand for local public health services	<ul style="list-style-type: none"> <li>- Alien direct and indirect workers and their families do not receive healthcare services in the local public health centers.</li> </ul>
	Demand for schooling in public schools.	<ul style="list-style-type: none"> <li>- The children of the alien direct and indirect workers do not attend public schools.</li> </ul>
	Road improvement and maintenance.	<ul style="list-style-type: none"> <li>- Number of improved roads and kilometers.</li> <li>- Number of roads and kilometers undergoing maintenance works.</li> </ul>

#### b) Stages to be Monitored

<sup>1</sup> Alien workers of the project: Those that did not live in the commune of San José de Maipo before day 1 of the startup of the project's construction.

The proposal for the components to be monitored described in the previous item, is circumscribed to the PHAM's construction stage, because the number of workers, transportation and works will be relevant in that stage.

However, it is proposed to assess the results obtained from all of the monitoring campaigns, once the construction phase is completed and based on the detected trends, to redefine the monitoring for the operation stage, both in its periodicity, and especially regarding the parameters to follow.

As per the total time for monitoring the operation stage, it is estimated that the maximum time needed would be 5 years, since in that time it is absolutely possible to determine the evolution that the situation to be analyzed indicates.

c) Periodicity of the monitoring campaigns

Biannual campaigns are considered for the construction stage, since it is considered a proper timeframe for capturing the dynamism that could arise from the activities and works of the PHAM.

For the first five years of the operation stage, annual monitoring is recommended, since the intervention of the PHAM in human environments in this phase will be minimum.

d) Information collecting instruments to be used

It is proposed to use the information collecting instruments in a combined way, for three different target audiences:

- **Surveys for a statistically representative sample of homes:** the towns of El Canelo, El Manzano, Los Maitenes, El Alfalfal, San José de Maipo, San Gabriel, Romeral, El Volcán, Baños Morales, Sector Camino Río Yeso and Lo Valdés.
- **Semi-structured interviews and key informers:** workers of health and education services, Police (Carabineros) and the Municipality of San José de Maipo.
- **Semi-structured interviews to social organizations leaders:** of the towns of El Canelo, El Manzano, Los Maitenes, El Alfalfal, San José de Maipo, San Gabriel, Romeral, El Volcán, Baños Morales, Sector Camino Río Yeso and Lo Valdés.
- **Analysis of the statistics of Carabineros and health services of the commune:** this in order to get to know, in the case of Carabineros, the different crimes according to the origin of the criminal and in the case of health services, the attention according to the origin of the patients.

e) Reporting for the Authorities

There will be a biannual report written with the results obtained, which will include charts showing the comparative evolution of the parameters at a campaign basis. This document will be provided to CONAMA.