

**INTERNATIONAL DEVELOPMENT RESEARCH
CENTRE**

EVALUATION UNIT

**STRATEGIC EVALUATION: RESEARCH INFLUENCE ON
POLICY. The Cases of High Altitude and Mining (3-P-89-
0247), and the Impact of Copper Mining on Water
Resources in Southern Peru (3-P-91-0041)**

(Final Version)

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EXECUTIVE SUMMARY

This study evaluates the influence on public policy from two research projects on mining supported by IDRC: *the High Altitude and Mining Project* (3-P-89-0247) and *the Impact of Copper Mining on Water Resources in Southern Peru* (3-P-91-0041.) The evaluation was part of a group of case studies commissioned by the Evaluation Unit of IDRC to improve the Centre understanding of what means by policy influence and to draw lessons and recommendations to enhance its portfolio of projects that can influence policy.

Both research projects were completed in the early 90's. This benefited the evaluation as their impacts on public policy could be tracked over a 10 year period approximately. In carrying out the evaluation, all the information available at IDRC from the proposals to the publication of the final research reports, including the correspondence between the researchers and IDRC personnel, was considered. In-depth interviews were also carried out with a sample of researchers, who participated in the study, and of direct and indirect policy agents such as policy makers, government personnel and, industry and local groups' representatives. IDRC's program officers, who were involved in these projects, were contacted by E-mail.

In the cases assessed, policy influence resulted (i) *largely*, from expanding policy capacities through improving the knowledge or data of relevant policy actors; (ii) *to a certain extent*, from broadening policy horizons through policy capacity building, stimulating public debate and giving voice to the concerns and needs of weak stakeholders, usually excluded from the public policy process; and, (iii) *exceptionally*, from affecting policy regimes through contributing to the modification of existing programs or policies.

Two major factors were identified that facilitated the public policy influence of the research projects evaluated. A key factor was the proper design and implementation of a strategy to deal with a study's policy implications throughout the research cycle. Thus, the current IDRC's approach for influencing policy that only reaches the stages of project design and dissemination of research results, and that treats policy influence as a research byproduct is insufficient. Another factor was the ability of adapting a study's policy implications to a variable policy context, taking advantage of policy opportunities or finding the way out of the constraints imposed by adverse circumstances.

Crucial capacities for both factors to be found in research projects are (i) leadership and policy entrepreneurship capabilities; and, (ii) the resources and expertise needed for giving regional or global policy relevance to a project's local or national findings. These capacities need to be nurtured or incorporated into IDRC and the research projects that have a significant potential to influence policy. In this regard, it is suggested the establishment in IDRC of a unit for promoting, fostering and overseeing policy influence. This unit would (i) identify the key policy issues at the national, regional and global levels on which IDRC supported research could have an influence; and, (ii) advise and assist IDRC's program initiatives and officers in developing policy networks where the dissemination of IDRC-supported research beyond the local or national levels would be relevant. In addition, in projects with a significant potential to influence policy, a specific component for fulfilling this potential should be included in the project design. The major issue to be considered in this component would be the best way to deliver leadership and policy entrepreneurship capabilities to the project since the evaluation shows that only the capabilities for performing high quality research are insufficient for influencing policy.

Glossary

ADEC-ATC	Asociacion de Defensa y Capacitación Legal – Asociación Trabajo y Cultura
CMS	Chronic Mountain Sickness
CONAM	Environmental National Council
IDRC	International Development Research Centre
INSO	National Institute of Occupational Health
IWT II	Second International Water Tribunal
MGC	Memorandum of Grant of Conditions
MPCE	Multi-sector Permanent Commission on Environment
PO	Program officer
SPCC	Southern Peru Copper Corporation
TORs	Terms of Reference
UPCH	Universidad Peruana Cayetano Heredia

1. INTRODUCTION

The Evaluation Unit of the International Development Research Centre (IDRC) is carrying out a strategic evaluation of the influence of research on the public policy process. The purpose of this evaluation is to improve the Centre understanding of what means by “policy influence” and to draw lessons and recommendations to enhance its portfolio of projects that can influence policy (Carden F., et al, 2001).

A component of this evaluation is to carry out case studies focusing on the main areas of interest in each of the regions in which IDRC is working. This report addresses the mining area in Latin America which has deserved a significant support from IDRC in the past two decades. The evaluation was conducted under the following terms of reference.

1.1 Terms of reference¹

1.1.1 Objectives and scope

There are three key questions that, among other, this study addresses: “(1) what constitutes public policy influence in the Centre’s experience; (2) to what degrees, and in what ways, has Centre-supported research influenced public policy; and (3) what factors and conditions have facilitated or inhibited the public policy influence potential of Centre-supported research.”

“As part of building a corporate response to the three key questions outlined above, the consultant will prepare the following case studies: a selection of mining projects including High Altitude Mining, [and] Copper Mining and Water Resources... Preliminary tombstone data and instructions for file access will be provided by the Centre.”

1.1.2 Activities

“Pursuant to this contract, the consultant shall:

- a) Review projects documents prior to any interviews and to know the role of the interviewee in the project; the consultant will work with the Centre to identify and locate the appropriate individuals to be interviewed. The consultant may also have to search out individuals who are no longer known to the Centre but who were central to the project. Based on the TORs and reading the project file, the consultant will develop interview guides for interviews with project leaders and participants, program officers, beneficiaries and others reached in the implementation and follow up to the project. These interview guides will be shared with and approved by the Centre. A framework is provided as Annex 1;
- b) travel to and in Peru to interview key informants for the cases specified. Interviews should normally move out from those most directly affiliated with the project to those purported to have been affected by or to have used the results in some way. Because there is inherent

¹ This section is based on “*Terms of Reference and Schedule*” of the Contract No. 107051

bias in interviewees to present findings in the best possible light, triangulation of data sources is crucial. Every effort should be made to ensure that interviews are conducted with representatives of at least three of the main groups involved: project implementers, beneficiaries, POs, policy makers and where applicable related project participants (other funded or departmental studies which have been linked to the project). The consultant will normally have an opportunity for follow-up visits for data verification or further data collection where warranted;

- c) participate in a Terms Of References (TORs) workshop in Ottawa April 15 to April 16, 2002;
- d) prepare satisfactory draft reports for each case...;
- e) participate in a verification workshop in a location to be determined, the consultant will make a brief presentation, describing the case and indicating preliminary findings. The consultant may be asked to facilitate the data analysis or may be asked to be an active participant in the process. Following the workshops, the team may determine that it is advantageous to follow up the findings with further data collection in the field, either for the introduction of new respondents or to gather data in areas not yet addressed in the case; and
- f) finalize the case reports based on the outcomes of the workshop and submit final satisfactory reports in hard copy and electronic format... Upon completion of the case studies, and the development of a regional analysis, the Unit may invite the consultant to participate in a preliminary global analysis of the data. On the basis of these documents, the consultant will be reconvened with the evaluation team for further analysis of the findings.”

1.2 Methodology

Following the TORs for the consultancy, the methodological approach applied in this evaluation was the case study strategy. The influence or potential influence of each research project – ***the High Altitude and Mining Project*** (3-P-89-0247) and ***the Impact of Copper Mining on Water Resources in Southern Peru*** (3-P-91-0041) – was considered as an individual case study within its real life context. Both projects were completed in the early nineties. Therefore, it was possible to assess their influence on policy over approximately a decade. A cross analysis of both cases allowed to draw lessons in light of the three key questions raised in the TORs presented above.

Data about the research proposal, mid-term and final reports, project completion reports and the correspondence between the IDRC's program officers and researchers was provided by IDRC. Both projects' results were published as books which were available through IDRC's offices in Montevideo or kindly provided to the consultant by the research institution in Peru. In addition, in depth interviews were held in Lima and Ilo, Peru, with researchers, policy makers, beneficiaries, industry, labor unions, and local groups representatives. All interviews were recorded and the cassettes will be sent along with the hard copy of this report. The list and coordinates of the interviewees for each case study is provided in Annex 2. IDRC's program officers involved in the research projects evaluated were contacted by E-mail. The

verification workshop² ***“The Influence of Research on Public Policy”***, where the main results of this study were presented, was very useful for distilling the conclusion and suggestions of this consultancy.

1.3 Acknowledgements

The consultant would like to acknowledge the kind assistance received from Grupo de Analisis para el Desarrollo, GRADE, and LABOR in arranging the interviews agenda in Lima and Ilo. All the interviewees were also very kind and opened to discuss about the issues raised by the consultant. Most useful comments and suggestions on drafts of this report were received from Fred Carden, Cristina Echavarria and Stephanie Neilson from IDRC.

1.4 Structure of the Report

The results of the evaluation carried out are presented in four chapters. Chapter 1, Introduction, presents the terms of reference and methodological approach applied in the evaluation. Chapters 2 and 3 analyze, respectively, the policy influence of the following studies: (i) the High Altitude and Mining project; and, (ii) the Impact of Copper Mining on Water Resources in Southern Peru. The intent and actual policy influence of each research project is analyzed in detail. These chapters have a final section where conclusions are drawn in relation to (i) type of policy influence; (ii) factors affecting policy influence; and, (iii) the IDRC role in fulfilling the project's potential to influence policy. Finally, the evaluation includes a Conclusion and Recommendations Chapter where the main results of the cross cases analysis are presented and complemented with constructive suggestions to enhance policy influence from IDRC-supported research.

² The workshop was held on 5-6 December in Montevideo at the Sheraton hotel.

2. THE HIGH ALTITUDE AND MINING PROJECT

2.1 BACKGROUND

The High Altitude and Mining (Peru) research project, Centre file N° 3-P-89-0247, was approved on 12 December 1989. IDRC committed a contribution of \$CAD 146,445 over an 18 months period³. An 83% of these funds were directly administered by the recipient institution Universidad Peruana Cayetano Heredia (UPCH), which is a renowned medical university located in Lima, Peru. The remainder 17% was administered by IDRC to buy equipment and supplies required for the research such as a computer and portable oxymeters. The project started on 13 February 1990 and although it was planned to last 18 months, it took 37 months until its completion on 31 March 1993⁴.

This study continued research on Chronic Mountain Sickness (CMS) a process of loss of adaptation to high altitudes by natives and long-term residents⁵. In 1987 representatives of the miners trade union of Cerro de Pasco and the NGO, Asociación de Defensa y Capacitación Legal – Asociación Trabajo y Cultura (ADEC-ATC)⁶, asked the UPCH to carry out a pilot study of the health status of miners. The interest in this issue arose from the perception that people in Cerro del Pasco, a mining town located in Central Peru at 4300 meters above sea level, was dying earlier than people living at sea level despite similar or comparable living conditions in both places⁷. There were also concerns on rather high-perceived rates of pregnant women suffering from abortions.

At the end of the 80's, Cerro de Pasco was the largest and highest mining town in the world with a population of 71,000 inhabitants. The town surrounds an open pit copper, silver and lead mine. At that time, the number of miners was approximately 4000 who, together with their families, made up a third of the town's total population. Cerro de Pasco had, therefore, the potential to be a revelatory case study on the effects of mining on the loss of adaptation of people living in high altitudes. Moreover, this research was relevant because mining is a major economic activity in the high lands of the Andean region both in Peru and in South America. For example, at the beginning of the 90's, only in Peru there were 44 mining centers located above 3,500 meters above sea level⁸.

³ The recipient institution committed a contribution up to \$CAD 57,455 for partially covering fees, salaries, overhead and other minor research expenses.

⁴ This information was derived from the Project Summary, the Memorandum of Grant of Conditions (MGC) and the Project Completion Report.

⁵ The symptoms of CMS are burning sensations in hands or feet (paresthesia), physical and mental fatigue, depression, muscular aches, cyanosis and venous dilatation in hands and feet.

⁶ ADEC (Asociación de Defensa y Capacitación Legal) and ATC (Asociación Trabajo y Cultura) were formed independently as organizations that promoted self-education, legal training and provided guidance to labor unions. Since 1986, they merged into one institution (ADEC-ATC), which had a pool of professional legal counselors, economists and specialists in education and journalism. At the end of the 80's, the institution centered its activities with the mining and electrical labor unions.

⁷ Interview to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, Lima, Peru.

⁸ See the ADEC-ATC leaflet: *"La altura, el mal de montaña crónico en la salud del trabajador minero"*, May 1992, Lima.

The initial study in Cerro de Pasco was carried out in 1988. Its findings indicated that health problems could not only be related to high altitudes but also with working and living habits⁹. Signs were found that working in turns during day and night, the consumption of tobacco and alcohol, which are prevalent habits in miners, plus the exacting conditions of mining work may increase the incidence of the syndrome of CMS in the population of miners. Consequently, the study supported by IDRC aimed to explore further and thoroughly this hypothesis.

2.2 THE RESEARCH PROJECT

2.2.1 PROJECT OBJECTIVES

The project had the following objectives¹⁰:

“The overall objective of the research project is to assess the health status of the Andean population, with particular interest in the Andean miners, and with emphasis on diseases which are or may be related to physiological disturbances associated to high altitudes.

The specific objectives applied to the population of miners and non-miners and their families, which are living in Cerro de Pasco, Peru, during 1989 are as follows:

- a) to estimate the age-sex specific prevalence proportions (rates) and their seasonal variations for the following health problems:
 - acute and chronic respiratory disease
 - excessive erythrocytosis, asymptomatic stages
 - functional (primarily) neurological impairment: NC – full clinical disease (chronic mountain sickness);
- b) to estimate the age-sex specific frequency of the following potential risk factors: tobacco, alcohol, and coca leaf consumption; job schedule; formal education; health perception; availability of health services; physical activity; place of origin; and
- c) to investigate the association between potential risk factors and specific health problems.”

2.2.2 INTENT OF POLICY INFLUENCE

In the project's objectives, as stated in the MGC, there is not mention to the policy implications of the study. This aspect was, however, an important consideration for IDRC to fund the study since the assessment of the project idea. Indeed, as discussed below, the study intended to gain the recognition of the Chronic Mountain Sickness as an occupational illness in mining activities by the Peruvian government and, if possible, the International Labor Organization.

⁹ This study was published in 1990. See Arregui, A.; León-Velarde, F. and Valcárcel M. (1990).

¹⁰ Memorandum of Grant Conditions, Centre File: 3-P-89-0247.

During the assessment of the project idea, for example, along with more technical and scientific issues involved where envisaged also policy implications. An IDRC officer indicated in his trip report that “[t]he support of appropriate national authorities will be cultivated. They hope the final results will translate into policy; e.g. limiting the stay of miners at these altitudes, by legislation, if indicated.”¹¹

When the proposal was being prepared, discussion of the study’s potential to influence policy took place in two levels. At a general level, ADEC-ATC expected that the results would provide strong evidence that working conditions in mines aggravate the symptoms of the Chronic Mountain Sickness. It was expected, therefore, that the effects of altitude on miners should be recognized as an occupational illness by the Peruvian state and later by the International Labor Organization¹². At a more specific level, the research team leader¹³ recalled that IDRC officers – Guillermo Thornberry and Karl Smith – played a major role in fostering discussion about the project’s activities to disseminate and use the research findings, including its potential for policy recommendations.

This analysis informed the formulation of the study’s objectives and dissemination activities. Thus, in the abstract of the project summary, which approved the grant for the study on December 7, 1989, it is stated that “[t]his study, to be carried out for a period of 18 months in Cerro de Pasco, a mining district located at 4300 meters above the sea level, has as general objective to assess the health status of the population, to suggest social cultural and occupational factors that may be involved in the development of unsatisfactory health conditions and *to give suggestions to appropriate government, private, and labor union institutions as well as to the International Labor Union Organization in order to generate guidelines for improved health and sanitary programs.*”¹⁴ Furthermore, a significant amount of funds were budgeted to support these activities totaling \$CAD 21,015, which represented 14.3% of the total budget. The dissemination budget broke down as follows:

• Seminar with government	\$CAD 1,170
• Seminar with miners	\$CAD 2,335
• Capacitation of miners	\$CAD 2,100
• Legal advising	\$CAD 1,170
• Communications	\$CAD 8,400
• Publications	\$CAD 5,840

To accomplish the policy objective, the consultant could not identify a formal strategy to influence and lobby policy makers or other social agents that can influence policy. At an informal level, however, there were three key players involved in achieving the study’s policy objective, namely:

- (i) The UPCH provided the main research and scientific capabilities for the study. It had accumulated expertise and specialized skills in health sciences research on high altitude and mining. “Since its foundation in 1961, the University has set forth activities projected to the community trying to accomplish the goal of educating the students within the framework of the country’s social,

¹¹ Trip report 193 – Smith Karl 7/88, October 2 – 24, 1988

¹² Interviews to Marcel Valcarcel at the Pontificia Universidad Católica del Perú, June 18, 2002 and Jaime Sánchez at ADEC-ATC, June 19, 2002, Lima, Peru.

¹³ Interview to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, Lima, Peru.

¹⁴ The consultant changed the original text from regular to italic case.

economical and medical reality. Well known are the research studies carried out in the field of tropical and infectious diseases ... and in the area of physiological adaptation to the high altitudes.”¹⁵

- (ii) The ADEC – ATC is a non-governmental organization devoted to the promotion of needs and rights of workers and small entrepreneurs’. By the beginning of the 90’s, ADEC-ATC was involved in training and occupational safety in the mining industry.
- (iii) Mining Labor Unions were concerned over the health impact of working in high altitudes and, therefore, in receiving the proper compensation for the work performed. For example, they expected that salaries could be indexed to the altitude along with the setting up of other remedial health-work policies.

From this non-formal web of key players, ADEC-ATC clearly pursued the policy objective of the study (Arregui, A.; León Valverde, F. And Valcárcel M., 1990, p: 9 -11). ADEC-ATC had provided the funding to initiate the evaluation of the relationship between mining work and CMS. Thus, the project’s implementing organization, UPCH, became involved in the issue because of ADEC-ATC. Yet, during the interviews the consultant could perceive in the UPCH a strong scientific motivation in the subject; hence, a much lesser commitment than ADEC-ATC to the research’s potential policy implications.

2.2.3 MAIN RESULTS AND POLICY IMPLICATIONS

According to the Project Completion report, which was prepared by specialists on the subject¹⁶, the overall objective, and the specific objectives a) and c) were exceedingly achieved. The specific objective b) was also met. Moreover, an internationally recognized specialist in the pathology of altitude, Carlos Monge Casinelli, wrote a highly favorable foreword for the book “Desadaptación a la Vida en las Grandes Alturas”, where the research results were published (Leon Velarde, F. and Arregui, A. 1994).

In the relationship between mining work and the CMS a significant association was found. “the occupation of miners, in general, and mining drillers, in particular, the practice of sports and the consumption of coca; being a miner or a mining driller were found to associate a higher score of CMS ... [Consequently] the highly exhausting physical activity of miners in general, and mining drillers in particular, would accelerate both the manifestation of symptoms and signs associated to the CMS, and the appearance of depressive traits... [T]he delicate equilibrium between man and the environment achieved in millennia is broken when additional efforts are imposed to man (work in excess, being a miner, and moreover, a mining driller), ...or he simply gets older exposed to a severe hypoxic environment permanently.” (Leon Velarde, F. and Arregui, A. 1994: p 103-4)

Although these findings have evident policy implications, the activities related to the development and dissemination of these implications were limited to (i) a presentation and discussion with the Miners Trade Union, and (ii) the publishing of brochures and leaflets on

¹⁵ Page iii, Project Summary.

¹⁶ The PCR (04/02/1999) was elaborated by consultant Dr Maria Gomez Camponovo and reviewed by Roberto Bazzani (LACRO Program Officer.)

the chronic mountain sickness by ADEC-ATC and their diffusion in mining centers located at high altitudes in Peru¹⁷. There were not seminars with the government, the mining industry, community based organizations and interested groups of the Cerro de Pasco city. Without doubt, the ensemble of suggestions to appropriate government and private institutions and the International Labor Organization to generate guidelines for improved health and sanitary programs fell well below what was expected in the proposal¹⁸. According to the leader of the project and the researcher interviewed¹⁹, this was mainly due to:

- (i) The threatening context created by the Shining Path terrorist movement which forced the research team to keep a low profile in Cerro de Pasco. For example, representatives of the Shining Path asked researchers to extend the medical tests to all prisoners in the Cerro de Pasco's jail if they wanted to do research in the area. In this way, the Shining Path obtained information about the situation of their imprisoned members.
- (ii) The Ministry of Health was not receptive to the project's findings because they challenged the traditional assumption that people borne and living for long time at high altitudes were well adapted to these conditions. The mining industry's representatives had a similar position.
- (iii) Further, the previous study on the subject by the research team (Arregui A., León-Velarde, F & Valcárcel, M., 1990) had been called into question by other UPCH's scholars. The argument was that the findings were relative and to some extent would be biased, as people who participated in the study and lived at high altitudes would have been induced to express perceptions of health discomfort. Because of this situation, that study was not published by the UPCH.

The study reached to the entire population of Cerro de Pasco and some observations pertained to women. For example, pre-menopausal women were marginally affected by the altitude due to natural bleeding. However, as the study evaluated the relationship between working in mining activities and the CMS syndrome, it focused only on the male population, as there were not women miners²⁰. There was not consideration of the CMS prophylaxis related to women roles or activities. This potential was lost during the research proposal design. For example, the warmth of kitchen helps to counteract depressive symptoms somehow induced by cold climates such as those prevailing in the Andean high altitudes²¹.

Finally, the research might have contributed to improve medical practices in mining centers to deal with the effects of high altitude such as excessive erythrocytosis. Currently, periodical

¹⁷ See, for example, *"La Altura, el Mal de Montaña Crónico en la Salud del Trabajador Minero"*, ADEC-ATC, Asociación Laboral para el Desarrollo, May 1992, Lima. Available at the ADEC-ATC Library in Lima.

¹⁸ In the Project Summary (page 2) was set out that: "The findings of this study will be the basis for further in-depth studies, and interventions directed toward the promotion of health education in the community. The information will be made available to government institutions (Ministry of Health, Ministry of Energy and Mines, Ministry of Work), mining companies, community based organizations, labor unions and international organizations (ILO)".

¹⁹ Interviews to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, and Marcel Valcarcel at the Pontificia Universidad Católica del Perú, June 18, 2002, Lima, Peru.

²⁰ See Section II, Métodos and Anexo 2, (León-Velarde, F. and Arregui, A. (1994))

²¹ Interview to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, Lima, Peru.

controls of hemoglobin in mining workers are a common practice in mining centers. Bleeding and saline serum injections are also well-diffused treatments for high altitude related diseases in mining centers.

2.3 POLICY INFLUENCE

In general, the research had not had impact on the knowledge or agenda of policy makers. Inside the policy process, through the interviews, it could not be identified any policy maker or policy worker who may have been influenced by the study. Interviews were carried out with high-level personnel of the Instituto de Salud Ocupacional (Occupational Health Institute), the Ministerio de Energía y Minas (Ministry of Energy and Mines), and the Ministerio de Trabajo (Ministry of Work)²². None of the persons interviewed was aware of the existence of the study and its publication as a book. It should be noted, however, that Peru as other Latin American countries suffers from high instability of public servants. Therefore, in the middle nineties some personnel of the public sector might have been aware of the study's results.

A similar situation was found in relation to the mining industry's personnel interviewed²³. They also knew for first time about the study and the book published during the interview.

In the opinion of the researcher Valcarcel²⁴, both studies - Arregui A., León-Velarde, F & Valcárcel, M., 1990; and Leon Velarde, F. and Arregui, A. 1994 - contributed to create awareness on the effects of altitude in the health of mining workers among labor union leaders but later the issue lost significance. Currently, the leaders of the National Mining, Metallurgy and Steeling Union no longer consider the impact of high altitude on health an issue on their agenda²⁵. They are concerned with other social security claims such as the negative impacts of the privatization on the social security system. The national union leaders interviewed also expressed that as national representatives of the mining labor force this was the first time that they came across with the issue of the impact of high altitude on the health of miners.

In summary, the study has not had or has had a negligible impact on occupational and safety health, and mining policies. Three factors, which are analyzed in detail below, may account for this situation: (i) a badly limited dissemination of results among relevant policy makers and groups of interest that have a stake on the issue; (ii) an adverse policy context which sidelined the policy issues raised by the research; and, (iii) the loss of the incipient policy capacity built around the issue by ADEC-ATC. In the opinion of the consultant, these factors are so overwhelming that it is very unlikely that this situation would change in the future. Thus, the potential of the research findings to influence policy maybe irretrievable lost.

²² Interviews to Dr. Eduardo Smith and Lic. Juan Cossio at the Instituto Nacional de Salud Ocupacional, June 18, 2002; Elías Acevedo at the Environmental Affairs Department of the vice Ministry of Mines, June 19, 2002; and, to Alfredo Tórrez and Gladys Belladone at the Ministry of Work, June 19, 2002, Lima, Perú.

²³ Interviews to Carlos Aranda, Sociedad Nacional de Minería, Petróleo y Energía, (June 18, 2002) and José Mogrovejo, ex manager in Centromin (June 18, 2002), Lima.

²⁴ Interview to Marcel Valcarcel at the Pontificia Universidad Católica del Perú, Lima, June 18, 2002.

²⁵ Interview to Marcial Tolentino Salomé Ponce and Jesus del Castillo Rivero at the Federación Nacional de Trabajadores Mineros, Metalúrgicos y Siderúrgicos del Perú, Lima, June 19, 2002.

2.3.1 DISSEMINATION OF RESULTS

The dissemination of results was focused on two main audiences: (i) the health science national and international community; and, (ii) the mining labor unions. There were four main diffusion activities carried out, as follow:

- (i) The study was published as a book²⁶ by the Instituto Francés de Estudios Andinos and the Universidad Peruana Cayetano Heredia to disseminate its results to a broader audience. In 1995, the book was awarded the prize Hipólito Unahue for the Best Scientific Publication in Medicine in Perú²⁷.
- (ii) The findings of the study were also diffused to specialized audiences through publications in international journals such as *Neurochem* and *Neurology*²⁸.
- (iii) The study's findings were presented in meetings with the Miners Trade Union to inform miners' representatives on the study findings and their public and corporate policy implications.
- (iv) ADEC – ATC developed brochures and booklets on the chronic mountain disease that were distributed in the Peruvian mining districts.

With the exemption of presenting and discussing the results with representatives of the miners labor union, neither the research team nor ADEC-ATC developed a strategy to systematically diffuse the research findings within the mining and occupational health policy communities. A major, structural, change at the early 90's in the policy context in Peru conditioned, to a significant extent, this situation.

2.3.2 THE POLICY CONTEXT

During the 90's, as well as most Latin American economies, Peru underwent an economic reform oriented to restore the macroeconomic equilibrium, reduce the role of the state in the economy, increase exports and promote private and foreign investment. The replacement of the economic model based on protectionism and state intervention by a market-oriented economy significantly affected the policy influence of the study. This was because (i) trade unions were severely weakened; (ii) occupational health issues were downplayed within the reform of the social security system; (iii) environmental, health and safety priorities of the mining policy have radically changed; and, (iv) the priorities for assistance of the international cooperation have been re-focused.

Labor market reform has been a key factor of the Peruvian new economic policy. The reform has given companies flexibility to hire and dismiss workers in order to facilitate privatization of state companies and foster productivity gains through reallocation of workers from lower to higher productivity activities. In the mining sector, this policy has resulted in a large expansion of the labor force working on a contract basis and a severe reduction of workers on

²⁶ León Velarde F., Arregui A. (1994), *Desadaptación a la Vida en las Grandes Alturas*, Volume 85, Travaux Serial, Instituto Frances de Estudios Andinos. Lima.

²⁷ Interview to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, Lima, Peru.

²⁸ Ibid.

the payroll²⁹. In turn, this has caused the weakening of labor unions, as contract workers cannot be affiliated to them. Weaker trade unions lost, largely, their capability to influence on mining and economic policies. Since trade unions were a key stakeholder interested in translating the study's results into policies, the potential policy influence of the study suffered badly. Moreover, labor unions had to concentrate their efforts on overcoming the threat of a large labor force outside trade unionism. According to M. Valcarcel, the sociologist of the study's research team, the potential of the research to influence policy was diluted mainly because the weakening of mining labor unions during the labor market reform³⁰.

State reform has also affected the policy impact of the study. In the 90's, a great deal of energy was devoted to trim off as much as possible the wide range of activities carried out by the Peruvian state. This, on the one hand, helped to reduce the fiscal deficit. Nevertheless, it entailed, on the other hand, that several public institutions were drastically downsized and some even shut down. The National Institute of Occupational Health (INSO) was one of the institutions deactivated during the 90's. Thus, the institution that should have evaluated and processed the study's results for consideration of policy makers was not any longer in the policy scenario. Although the Institute was re-established in July 2001, it lacks adequate funding and infrastructure. Currently, the Law of Modernization of Social Security on Health, enacted in 1997, requires that a new or reviewed list of occupational illnesses should be approved. High-level personnel of the Institute integrate the committee in charge of this task. Thus far, in the drafts elaborated by such committee the CMS has not been mentioned at all as a potential occupational illness in the mining sector³¹.

During the interviews it emerged that for important direct or indirect policy agents, priorities for assistance of international cooperation agencies were also determinant on whether or not they contributed to fulfill the study's potential to influence policy. The National Institute of Occupational Health (INSO), for example, seems to depend largely from international financial assistance. Likewise, ADEC-ATC depends on international cooperation to support its projects. Personnel interviewed from INSO and ADEC-ATC expressed that since the 90's the impact of high altitude on health has not been anymore a relevant issue for the international cooperation in Peru. This was because international assistance agencies have accompanied the government efforts to reform the economy. In opinion of the consultant, this also has implied that the policy issues raised by the study have also lost relevance for INSO and ADEC-ATC.

Finally, yet importantly, the mining sector reform in the 90's significantly restricted the policy influence of the research study. Within the privatization of state mining companies, health and education responsibilities were transferred from mining operations to state control. The mining unions representatives interviewed considered that this has lowered the quality of health services and blurred, largely, any typicality of the CMS vis-à-vis work performed in mining sites.

²⁹ According to the mining union representatives interviewed, direct jobs in the mining sector reduced approximately from 60,000 at the beginning of the 90's to 25,000 in 2002. Interview to Marcial Tolentino Salomé Ponce and Jesus del Castillo Rivero at the Federación Nacional de Trabajadores Mineros, Metalúrgicos y Siderúrgicos del Perú, Lima, June 19, 2002.

³⁰ Interview to Marcel Valcarcel at the Pontificia Universidad Católica del Perú, Lima, June 18, 2002.

³¹ Interview to Dr. Eduardo Smith and Lic. Juan Cossio at the Instituto Nacional de Salud Ocupacional, Lima, Perú, June 18, 2002.

More important, in the 90's a priority in the mining reform was the setting up of an environmental regulatory framework supported by the World Bank. This process absorbed a great deal of time and effort of the Peruvian vice Ministry of Mines and the mining industry because national and sector environmental authorities, an environmental impact assessment system, and, emissions standards had to be established. Further, a gradual adjustment of existing mining and metallurgical operations to the new standards was required by the new Environmental Regulation for the Mining Sector approved within a package of adjustments of the mining law³². This called for an important effort from the mining industry in a rather bleak market situation. This also explains why at the end of the 90's a law on occupational health and safety for the mining sector focuses on the prevention and mitigation of impacts from noises, gases, ionized energies and high temperatures in the mining workplace. In this law, there was no consideration about the impact of mining activities on the miners' adaptation to high altitudes. In fact, this issue was not even mentioned during this process³³. Currently, the major environmental policy concern of the Ministry of Energy and Mines is the management of socio economic, environmental and cultural impacts from mining operations on local communities³⁴.

2.3.3 POLICY CAPACITY BUILDING

The study allowed the accumulation of a modest level of civil society capacities to influence occupational health and safety policies in the mining sector. The UPCH, a prestigious academic institution, was exposed through some of its members such as Arregui and Monge Casinelli to social science methods and policy concerns. They could perceive how basic scientific research may translate into policy recommendations with all the political implications that are involved in these processes. ADEC-ATC was able to set a policy agenda that created explicit and implicit institutional links between a labor union, a University and a NGO. Unfortunately, the policy context and the limited time and funding investments on the issue prevented this accumulation of policy "influencing" capacities to reach a momentum. At the beginning of the 90's, IDRC also changed its priorities categorizing the project as "sunset" which meant that supplements or new research phases on this subject could not be granted to UPCH or ADEC-ATC³⁵. By now, indeed, this process has largely been lost as discussed below.

After the study was completed, the researchers, who were involved in the pathology of high altitude, had continued working on the subject carrying out science oriented research at least until the late 90's³⁶. Dr Fabiola León-Velarde studied the women's physiology at high altitudes. In the UPCH, Carlos Monge Casinelli consolidated the laboratory of oxygen transportation, where research is focused on high altitude impacts on health. Dr Arregui refocused his research on the chemical and cellular effects of high altitude in the brain. In 1997, Dr Monje Casinelli organized a World Congress on medicine of high altitude in Cuzco. Dr Monje chaired the congress, Dr León-Velarde, was the vice chair and Dr Arregui organized the session on brain related studies. Dr Arregui mentioned that the congress recommended that towns or villages should not be developed over 4.000 meters above sea level. During

³² Supreme Decree 016-93, 1993

³³ Interview to Carlos Aranda, Chairman of the Environmental Commission, at the Sociedad Nacional de Minería, Petróleo y Energía, June 18, 2002, Lima.

³⁴ Interview to Elías Acevedo at the Environmental Affairs Department of the vice Ministry of Mines, June 19, 2002, Lima.

³⁵ E-mail message from Roberto Bazzani (07/30/02.)

³⁶ Interview to Dr. Alberto Arregui at Centro Médico San Felipe, June 17, 2002, Lima, Peru.

the fieldwork it was ascertained, however, that awareness of this recommendation was absent both at the mining industry and at government levels.

The social specialist of the research team after completion of the study lost contact with the subject³⁷. With the support of the Ford Foundation, he spent more than three years researching on Amazon and organizing a workshop about defining an agenda for the Peruvian Amazon. Currently, he continues teaching at the Pontificia Universidad Católica del Peru and works in his doctoral dissertation on small size and industrial agriculture in Peru.

ADEC-ATC has also abandoned its work on occupational health mostly due to the new priorities of its sponsors that were discussed above³⁸. Now, its work program focuses on (i) micro and small scale firms; (ii) training and advising trade unions; and, (iii) articulating different actors for local development. Because of this new work program, the institutional links of ADEC-ATC with the UPCH maybe considered latent in the best of cases.

2.4 CONCLUSION

This section presents an overall evaluation of the policy influence of the Mining and High Altitude Project respect to (a) type of policy influence, (b) factors affecting policy influence, and (c) the IDRC's role in fulfilling the project's potential to influence policy.

2.4.1 TYPE OF POLICY INFLUENCE

The Mining and High Altitude research project has had a clear potential to expand policies capacities through improving the knowledge of key actors, namely, mining trade unions, the mining industry and occupational health and mining policy makers, at a national level, and the International Labor Organization and multilateral organizations, at an international level. However, this undeniable potential of the study has not been yet fulfilled. Furthermore, thus far the research findings have not had impact on the knowledge or agenda of relevant national or international policy makers.

Personnel interviewed from the Ministries of Health, Work, and Energy and Mining and from the mining industry are unaware of the study's results. They regard that the CMS is not a related occupational illness. In their opinion, there is insufficient evidence that there is a causal relationship between mining work conditions or further, work conditions in general, and people's loss of adaptation to live in high altitudes. On the contrary, the study's researchers consider that the study provides evidence that people's loss of adaptation to live in high altitudes is influenced by working in mines, especially the work of mining drillers. "The highly intensive physical activity of the miner, in general, and the mining driller in particular, accelerates both the showing up of symptoms and signs associated to the Chronic Mountain Disease and the showing up of depressive traits." (León-Velarde, F. and Arregui, A. (1994) p: 103)

The main shortcoming of the study's dissemination of findings has been the fact that these opposed perceptions have not been confronted. There has not taken place a dialogue to ponder the evidence provided by the study and, therefore, to identify the additional studies required for informing policy makers and people who influence policy making properly.

³⁷ Interview to Marcel Valcarcel at the Pontificia Universidad Católica del Perú, June 18, 2002 Lima. .

³⁸ Interview to Jaime Sánchez at ADEC-ATC, June 19, 2002, Lima.

Consequently, policy horizons can be broadened through stimulating public debate around the issue of the impact of working in mines on the CMS. This potential, however, has been thus far unfulfilled due to an insufficient and limited dissemination of the study's findings in the policy-making community.

2.4.2 FACTORS AFFECTING POLICY INFLUENCE

Although the study's results show that working in mines could accelerate the loss of adaptation of human beings at high altitudes, the study has not influenced policy. This situation can be associated to both internal and external factors to the research project.

Among the project's internal factors in addition to the limitations of the dissemination of research's results, discussed before, it must be highlighted the lack of a strategy to deal with the policy implications of the study. Although since the project assessment and design stages its potential policy implications were considered, there was an insufficient planning and analysis associated with the methods, activities, personnel, institutional arrangements and funds needed to fulfill the project's expected policy outcome. Clearly, this study demonstrates that influencing policy is not a spontaneous byproduct of good quality social research. It shows, therefore, that without careful analysis and planning from the project design through project implementation to dissemination of a project's findings, even in a high quality research work, the gap between policy and research becomes insurmountable. In the last chapter of this report, some ideas are advanced on what a sound [strategy](#) for influencing policy would look like.

Another lesson learnt is the determinant impact on the project's ability to influence policy from two external factors: (i) the policy context, and (ii) the priorities of the international cooperation. The case study shows that the major policy and institutional changes experienced by Peru in the 90's were determinant on the lack of policy impact of the study because they led to a fundamentally new policy agenda for all major players involved in or affected by the study. In this new policy agenda, occupational health issues lost relevance creating a very adverse context for discussing the project's policy implications. The study also shows that in the developing country context, public and private institutions such as INSO and ADEC-ATC are highly dependent on funding from international assistance. Thus, if the project's findings are not compatible with the priorities of the international cooperation, the institutional basis for developing the project's policy implications over time can be eroded which significantly affects its potential to influence policy.

Defining the external factors to the project as those that lie outside the project's control, for a project to deal successfully with them, leadership and entrepreneurial policy capacities are badly needed. They were absent in the High Altitude and Mining project. This raises the issue of incorporating these capabilities into research projects with a significant potential to influence policy. Would have happened in this research project, its impact on the public policy process might have likely been less disappointing. In addition, IDRC could help the research it supports to take advantage of favorable policy contexts or to reduce their vulnerability to adverse policy contexts. This issue is explored in the following subsection focusing on the High Altitude and Mining project and with a broader and more general perspective in the section on [Suggestions for administering policy influence in IDRC](#) of the last chapter of this report.

2.4.3 IDRC ROLE IN FULFILLING THE PROJECT'S POTENTIAL TO INFLUENCE POLICY

In the documents and correspondence reviewed, and the interviews held, it was identified that IDRC encouraged researchers to consider the study's potential policy implications only during proposal preparation. IDRC seems to have remained distant on the policy implications of the study at the dissemination stage³⁹. This may have happened because the project was categorized as "sunset" at the beginning of the 90's. Anyway, there was room for IDRC to help the researchers to take better care of the study's potential to influence policy⁴⁰. This opportunity, however, was largely lost. In addition, IDRC does not seem to follow up how policy implications of the studies funded develop over time. This is an area where IDRC could also improve its performance adopting a framework that takes into account that influencing policy is a rather protracted process after project completion.

Another area where IDRC may play a role is at the international arena. IDRC is in a much better position than developing countries' research centers to reach international institutions. It can also help develop institutional links between national research institutions and multilateral agencies, which influence significantly policies in developing countries. It could be argued, for example, that the policy implications of the Mining and High Altitude study could have been somehow incorporated within the mining regulatory environmental framework in Peru and other Andean countries if the research results would have been timely discussed with the appropriate government and World Bank officials. IDRC is in a privileged position to promote in the international arena the policy implications of the research that supports in the developing world, which in turn is key for this research to fulfill its potential for influencing policy.

³⁹ There was not possible to contact to Silvio Gomez who was the program officer in charge of this project. Mr. Gómez left IDRC in 1996.

⁴⁰ The project completion report, which is highly favorable to the research results and management, only observes that the dissemination of research results could have been done better. (See page 13)

3. THE IMPACT OF COPPER MINING ON WATER RESOURCES IN SOUTHERN PERU

3.1 BACKGROUND⁴¹

3.1.1 THE ENVIRONMENTAL PROBLEM

In the early 50's, the American Smelting and Refining Corporation established the Southern Peru Copper Corporation (SPCC) which by the 80's became the largest mining company in Peru. SPCC developed two mines, Toquepala and Cuajone, where at the end of the 80's produced around 70% of the national production of copper. At that time, approximately 77,000 tons of minerals per day were treated using flotation and more than 180,000 tons of tailings were daily discharged at the Ite Bay.

For mining and processing activities, approximately 1,600 liters per second of water were used, where only 30% of water was recycled. Water is a scarce resource in the region with competing uses for human consumption and agriculture. The SPCC had privileged permits to access to this resource.

The concentrates were transformed into blister copper at the Ilo Copper Smelter owned by SPCC and refined at the Copper Refinery of Ilo, which belonged to the state. Having an old technology without environmental safeguards, the smelter emitted sulphurous anhydride at a rate of 700 tons per day, affecting Ilo city and the neighboring agricultural valleys of Moquegua and Locumba. In addition, slags from the reverberatory furnaces were disposed on the shores close to Ilo.

During the second half of the 80's, these environmental problems gave rise to several complaints to the government from the inhabitants of Ilo and the valleys of Moquegua and Locumba. They demanded a complete solution of the environmental pollution caused by mining activities and the integral management of the scarce water resources in the area. After many strikes at a provincial level, the government appointed in 1987 a Multi-sector Technical Commission⁴² to evaluate the pollution impacts of SPCC. In this commission participated, among others, the Ilo's municipality and SPCC.

By 1989, in the final report of the commission the state and SPCC agreed that an alternative disposal of the mining tailings should be found. Two were the possibilities considered for the disposition of tailings: (i) at the bottom of the sea; or, (ii) on the surface in a tailings dam. In addition, it was agreed that the smelter needed technological renewal to reduce drastically sulphurous anhydride emissions. However, the final report approved by D.S. 020-89-PCM neither included an environmental investment commitment from the SPCC nor considered an approach to deal with water scarcity in the area.

⁴¹ This section is based mainly on the Project Summary and the project proposal complemented by the converging perceptions of the interviewees on the situation of Ilo at the end of the 80's.

⁴² The Multi-sector Technical Commission was created by ministerial resolution 0094-87-PCM

3.1.2 THE INTERNATIONAL WATER TRIBUNAL

Under this situation where the government had been reluctant to address the environmental impacts of SPCC, LABOR, a local NGO, realized that international pressure was needed to balance the power between the local community and the SPCC. The opportunity emerged with the Second International Water Tribunal (IWT II), held in February 1992, which was set to deal with cases of water mismanagement in developing countries. "The IWT II [provided] an international platform for Third World environmental groups to express their concerns about current activities in their countries which negatively affect water resources"⁴³

The First International Water Tribunal supported by more than hundred European environmental organizations took place in 1983 and heard 19 cases of water pollution in Western Europe. Although the verdicts had no binding power, the publicity of the Tribunal had striking results in inducing significant changes in water use by companies that were found guilty of mismanaging or polluting water resources. For example, "Duphar BV (the Netherlands) was tried for the dumping of chlorinated hydrocarbons. Duphar admitted that their environmental policy of the previous 10 years was deficient, and during the week of the Tribunal the Netherlands Minister of the Environment announced that Duphar would be sued for the costs of cleaning up the toxic waste site formerly used by the company. In 1989 Duphar was sentenced to pay the costs of the cleanup."⁴⁴

Although at the very beginning local authorities were skeptical of this process due to the lack of binding power of the Tribunal verdicts, LABOR was able to persuade them of backing the case. Thus, the Municipality of Ilo, the Regional Governor, the Multi-sector Technical Commission appointed by the government and the Irrigators Commission of the Ilo valley decided to cooperate and assist LABOR to sue SPCC before the IWT II. "[T]hey consider[ed] that it [was] essential that this problem would be know at an international level and thus make possible that the Peruvian government assumes a definite historic responsibility for a solution to the environmental pollution at the South of Peru."⁴⁵

In 1989 from 21 cases submitted by 23 environmental organizations from Latin America, Asia, Africa, North America and Oceania, the IWT II selected 10, among them the case presented by LABOR: ***Pollution of river and coastal waters due to copper mining discharges in southern Peru***. The selection meant that the Tribunal would provide logistic, technical and financial support to prepare the cases. Thus, the Tribunal approached IDRC to request funds to support the cases selected. IDRC chose to support two cases, one of them was the case of LABOR against SPCC.

3.2 THE RESEARCH PROJECT

IDRC approved the Impact of Copper Mining on Water Resources in Southern Peru project, Centre file N° 3-P-91-0041, on 2 May 1991. The project had two phases. In the first phase, which addressed the social, legal and ecological aspects of pollution from mining waste discharges, IDRC committed a contribution of \$CAD 49,080. In the second phase that addressed the effects of the quantitative distribution of the water resource in the region, IDRC's support amounted to \$CAD 32,050. All these funds were directly administered by the

⁴³ Project Summary, 3-P-91-0041, p: ii

⁴⁴ Ibid, p: i

⁴⁵ Section on the project proposal of the Project Summary, p: 6

recipient institution LABOR located in Ilo, Peru⁴⁶. Both phases were planned for an 18 months project⁴⁷. However, the project final report was received in IDRC in October 1993. Accordingly, the project took 27 months until its completion.

3.2.1 PROJECT OBJECTIVES

The project had the following objectives⁴⁸:

“The overall objective of the project [was] to assess the impact of mining activities on water resources in southern Peru and present the results to the Second International Water Tribunal to be held in February 1992.

The specific objectives of the project [were] the following:

- a) to verify the effects of heavy metals pollution on fresh water resources and the marine coastal environment of Tacna and Moquegua subregions due to mining activities;
- b) to determine the effects of this pollution and the inadequate management of water on the population in the subregions; and
- c) to provide data and recommendations to inform decisions to be taken to solve this problem by regional authorities and the affected populations.”

On 25 November 1991, within the project’s second phase the following additional specific objectives were added⁴⁹:

- a) to generate scientific data which will verify the quantitative and qualitative effects of SPCC use of pure water of the Locumba basin, including negative effects in other economic activities;
- b) to evaluate the effects of SPCC’s mining operations on the quantitative management of water resources of the Moquegua and Locumba catchment areas in Ite Bay and in the Province of Ilo;
- c) to document the effects on the local population of the inadequate management of water resources as a result of the SPCC’s mining operations; and,
- d) to provide the authorities and the local population with the technical and documentary data required for them to take the necessary steps to proceed with the planning and proper management of the scarce water resources in the Tacna and Moquegua sub-regions.”

⁴⁶ This information was derived from the Project Summary and the Memorandum of Grant of Conditions (MGC).

⁴⁷ The recipient institution contributed to the project in kind.

⁴⁸ Memorandum of Grant Conditions, Centre File: 3-P-91-0041.

⁴⁹ Memorandum - Second Supplemental Grant, p: 3

3.2.2 INTENT OF POLICY INFLUENCE

As the project reached IDRC through the tribunal, the intent of influencing policy that can be associated with the project was dissimilar for IDRC than that for the researchers.

IDRC had low and narrow expectations on the project's potential impact on policy⁵⁰. This was because IDRC had no prior knowledge of LABOR. Moreover, as the project came to IDRC through the International Tribunal, the usual process of proposal review and refining with the proponent that is typical for IDRC was not done. The project was chosen "on the basis of [its] fit with the environment's unit program and of the quality of the proposal compared with others that we were offered."⁵¹ IDRC's officers involved in the project wanted LABOR to make a good presentation of the case at the tribunal. Their expectations were that the research and ensuing publicity might positively influence SPCC's environmental behavior.

The researchers in LABOR were much more ambitious. By exposing the pollution and mismanagement of water from SPCC, they expected that not only SPCC would have to do something to change its practices of tailings disposition and reduce their emissions of sulphurous anhydride emissions but also would have to manage water taking into account the demands and complaints from the local users. This was, for example, the expectation that the Commission of Irrigators of the Ilo Valley had about the project⁵². LABOR also expected that the government would have to change its lenient attitude towards environmental damages caused by SPCC and hence to pay attention to the complaints of the local people in the city of Ilo and the valleys of Moquegua and Locumba. Ultimately, LABOR intended that the Peruvian government penalizes SPCC and imposes on the company the obligation to indemnify for the environmental damages caused in the region (Balvín, D. et al., 1995).

LABOR was very skillful to advance this cause at the local and national levels. During the second half of the 80's, LABOR had been working closely with the Municipality of Ilo. At the beginning of the 90's, LABOR had become the main environmental advisor of the local government. Even though the mayor of Ilo left the office after nine years⁵³, the new elected mayor, Ernesto Becerra, supported LABOR's claim for reparation not only due to the potential international publicity of the case but also because the opportunity to count with systematic and scientific evidence about SPCC's environmental impacts in the region⁵⁴.

The farmers of the Ilo valley joined also the cause because they had had a long history of disputes with the SPCC for the compensation of the production losses in their olive plantations due to the SPCC's smelter emissions. They also had a stake on the management of the scarce water resource in the region. Thus, their expectations on the IWT II were to change the situation of inequitable negotiations with SPCC, including a change in the government's stance until then in favor of the mining company⁵⁵.

⁵⁰ Personal electronic communication from David Brooks, who was the research officer of this project (15 August 2002.)

⁵¹ Ibid.

⁵² Interview to Edmundo Torrelio at his home on 7 August 2002, Ilo, Peru.

⁵³ In 1990, Julio Díaz Palacios was replaced by Ernesto Herrera.

⁵⁴ Interview to Ernesto Herrera at LABOR's offices in Lima on 9 August 2002, Lima, Peru.

⁵⁵ Interview to Edmundo Torrelio at his home and Zoilo Valencia at LABOR's headquarters on 7 August 2002, Ilo, Peru.

At an intermediate position between the local and national levels, it was the Multi-sector Permanent Commission on Environment (MPCE)⁵⁶. This commission was established by supreme decree 020-89-CPM with the mission to oversee the compliance of the recommendations of the final report of the Multi-sector Technical Commission (Balvín et al., 1995, P. 216), discussed in the [background](#) section of this chapter. Because SPCC had been immersed in studying options to address these recommendations, most of the members of the commission were unsatisfied. They wanted to see concrete actions from the SPCC. Thus, LABOR was able to gain their support to its case before the tribunal under the argument that the international exposure of SPCC's environmental damages in the region would force them to take remedial actions, as it had happened with the results of the First International Water Tribunal.

LABOR, accordingly, built a strong support to its accusation to SPCC at the local level. By the end of 1991, the most important local players were committed to speak up their voices against SPCC in the international arena. LABOR had been the articulating instrument behind this local consensus and, therefore, LABOR, in the IWT II spoke on behalf of the community affected by SPCC's activities. This explains why the case against the SPCC was not only presented to the IWT II by the Civil Association LABOR, but also by the Provincial Municipality of Ilo and MPCE⁵⁷.

LABOR also could articulate two key political pieces which provided national relevance to its case before the tribunal. First, the General Inspector of the Republic attended the tribunal as a witness⁵⁸. Second, more than 50 congressmen adhered to the tribunal's verdict immediately it was issued. This was the result of the relentless lobby within the Peruvian Congress of two parliamentary deputies Julio Díaz Palacios, who was in the 80's the mayor of Ilo, and Cristala Constantiñidez. Both congress members represented the interests of Ilo against SPCC in Lima and worked closely with LABOR⁵⁹.

The involvement of the General Inspection Office of the Republic in this matter was due to the insistent claim from the farmers of Ilo Valley and the Ilo Municipality at the end of the 80's. This office evaluated the performance of the public institutions in charge to protect the environment from damages from mining activities. Its main conclusion was that "public servants, deliberately or unintentionally, had not applied the imperative norms that were in force during their appointment." This responsibility reached to personnel from the General Direction of Mining, the Health Sector, the Ministry of Agriculture, the General Direction of Water and Soil, the High Level Commission, and the Division of Mining Safety and Hygiene (Balvín et al., 1995, p: 217 – 218)

On 14 February 2002, three days before the hearing in the IWT, the newspaper Onda reported: "The General Inspector of the Republic, Dr Luz Aurea Saenz, said yesterday that during the last three decades some factors such as a lenient legislation and bad public servants have allowed Southern Peru to impose its terms and to do nothing to solve pollution problems and misuse water resources." Another newspaper La Republica reported: "the

⁵⁶ The MPCE was formed by the municipalities of Ilo, Jorge Basadre and Islay; representatives from state departments for Fisheries and Education, the Departmental Corporations of Arequipa and José Carlos Mariátegui; and, civil society groups such as mining and fisheries unions, and the farmers unions of the Ilo and Tambo Valleys. This commission was chaired by the mayor of Ilo.

⁵⁷ See Annex 15, (Balvín, D et al, 1995)

⁵⁸ See correspondence from Doris Balvín to Odilia Maessen dated 7 February 1992.

⁵⁹ Interview to Doris Balvín at LABOR offices in Lima on 6 August 2002, Lima.

verdict will be moral, said Aurea Saenz, but will be acknowledged at the United Nations World Conference on Development and Environment in June this year in Brazil. There, hundreds of presidents will hear about what a multinational company does in a foreign country. Not even a tenth part of what they do here, they would dare to do in their country of origin.” On the contrary, the weekly newspaper Oiga⁶⁰ under the heading of “The General Inspector in a pseudo-tribunal” asked: “While the international copper market is going down due to stocks sales from the ex- Soviet Union ... as well as the start-up of the Chilean mine “La Escondida”, the General Inspector of the Republic, Luz Aurea Saenz, traveled to the Netherlands to denounce the productive activities of Southern Peru. The Peruvian people have the right to ask to whom is convenient trying to alter the operations of Ilo, Toquepala y Cuajone under the excuse of ecological problems, which should be treated by the competent mining authorities. To Peru certainly is not... Behind the ecological issue can be seen the black hand of our competitors – Chile, among others...” These press notes testify on the national importance reached by the accusation of SPCC to the IWT II due to the involvement of the General Inspector of the Republic.

3.2.3 MAIN RESULTS AND POLICY IMPLICATIONS

The main result of the project was the presentation of the case against SPCC before the IWT II on 17 February 1992. “The presentation included a document with evidence that the Jury and the experts analyzed in advance. During the hearing additional evidence was presented such as the results of the study “Campaign to measure flows in the Locumba basin”, a support document from a group of Peruvian parliamentary deputies and, the testimonies of the mayor of Ilo and the General Inspector of the Republic. In addition, the video “Dirty Copper” was presented.” (Balvín, D., et al., 1995, p: 309)

In summary, the case presented showed that the SPCC impacted the environment in the Ilo and adjacent valleys on two ways. First, the water available for human and agriculture purposes was reduced due to the drainage of the upper basin and the mismanagement of water. Second, surface and coastal waters were polluted due to the discharging of tailings and slags.

On 18 February 1992, the Jury issued its verdict. The salient conclusions are quoted below (Balvín, D., et al., 1995, Annex 15)⁶¹.

“The Jury considers that the use of large quantities of freshwater by SPCC to produce copper have seriously decreased water sources that were prior available for agriculture, cattle raising and domestic use. This reverses the priority of water use established by national laws and the Amsterdam Declaration resulting in the displacement of the population and the desertification of the zone.

The Jury deplores the negligence of SPCC to discharge highly polluted tailings to the sea, dispose toxic slags and emit enormous quantities of sulphur dioxide gases... The claimants have provided sufficient evidence that the air pollution from the copper smelter have caused serious respiratory illnesses to the Ilo population, and how the tailings and slags discharged

⁶⁰ 24 February 1992 edition.

⁶¹ This is a non-official translation because the consultant did not have access to the English version of the IWT II's verdict.

to the sea have damaged and diminished fishing in coastal waters, divesting fishermen of their livelihoods in the zone.

The Jury is concerned that the affected parties have had a limited access to the tribunals to protect their interests in this case...

It regrets that the authorities have enforced neither the national legislation prevailing nor the Protocol for the Protection of the South Pacific against Terrestrial Sources, probably due to the critic economic and political situation of the country.

It also regrets that the accused have taken advantage of this situation, abusing their rights from permits or systematically challenging the administrative decisions requiring the improvement of its environmental behavior. Thus, the accused has avoided the payment of environmental costs and has increased its profits at the expense of the local community.

The jury begs earnestly the accused to take into consideration the results and recommendations given here, and to guarantee that the company's future activities will comply with the relevant national and international laws and with the Amsterdam Declaration to protect the economic and environmental interests of the local population."

The policy implications of the study reached the local and national levels. At the local level, the study and its presentation at the IWT II aimed at leveling the playing field for the local community and the SPCC. This implied that from a policy standpoint the government in regulating SPCC's operations should consider the local population concerns and interests in an equal foot as SPCC's requirements to maintain its competitiveness. In some cases, this situation would require specific legislation or regulations on SPCC and the promotion of local participation. In other cases, it would mean the government to team up with the local authorities and civil organizations to encourage SPCC to upgrade its environmental performance and improve its corporate citizenship stance. In this regard as highlighted by LABOR's study, the key issues were related to: (i) the disposal of mining tailings and slags, (ii) the mitigation of sulphur dioxide emissions, (iii) the supply, use and management of freshwater and (iv) the cleaning up of environmental liabilities in the Ite Bay and shores nearby Ilo.

At the national level, arguably, the study's foremost policy implication was to highlight the need for the setting up of an environmental regulatory framework for mining activities in Peru. Moreover, it can be said that the study argued for a policy that promotes significant community and local governments participation on environmental matters and which comprises indemnification and compensation for environmental damages caused by the mining industry. Finally, the study clearly implied the need to review the Water Law and the legislation on access to freshwater. As will be discussed in the next section, an exceptionally favorable policy context coincided with the completion of the study and the verdict of the IWT II. Unfortunately, LABOR was not so successful in taking advantage of this situation as it was in challenging the status quo of mining policies and activities associated with using freshwater during the IWT II.

3.3 POLICY INFLUENCE

The work of LABOR during the 80's, in general, and the research project supported by the IDRC, specifically, influenced in the 90's the SPCC's corporate policies and national

environmental policies in Peru. Each one of these issues is considered in this section, followed by the analysis of the main factors that may account for this influence.

3.3.1 CHANGES IN THE SPCC's CORPORATE POLICIES

From the 90's, SPCC has experienced a major shift in its environmental behavior, which will be discussed in detail below. In this outcome, it is not possible to isolate the influence of the research supported by the IDRC from other concurrent factors such as the change in the environmental regulatory framework in Peru. However, based on the evidence presented above on the political relevance that acquired the LABOR's case against SPCC in the IWT II, it can be stated that this was a critical factor. The major added value of presenting the accusation to the IWT II was probably that the SPCC had to make a move in advance to the hearings. SPCC was forced to leave its policy of delaying the application of the agreed actions established in the final report of the Multi-sector Technical Commission and commit for first time funds to environmental mitigation and remediation activities. Thus, on 2 December 1991, two months and half before the IWT II, SPCC agreed with the government (Acuerdo de Bases) to invest at least US\$ 200 million in environmental projects and US\$ 100 million in new technologies and equipment replacement.

Although it would be an overstatement to say that the Acuerdo de Bases was due to the case in the IWT II because in this agreement SPCC also settled other important disputes with the government⁶². It is very likely that the timing of the subscription of the agreement was triggered by SPCC's awkward position of being denounced to an international tribunal. As stated by the project leader, Doris Balvin, "SPCC did not attend to the tribunal but it went to the government to subscribe an agreement that they had always tried to postpone. Because of the IWT II, SPCC neglect towards the environmental problem had to change."⁶³ As acknowledged by other interviewees, this was a turning point in the SPCC environmental policy⁶⁴.

In implementing the Acuerdo de Bases and later on its Environmental Adjustment Plan, SPCC has carried out the following environmental projects⁶⁵:

- a) An upstream tailings dam was built on surface. Tailings from the Cuajone and Toquepala mines are not discharged anymore into the Ite Bay. The dam is proof against earthquakes.
- b) The Ite Bay has been reclaimed using the excess water of the tailings dam. Reeds and pastures have been planted and peasants in the region feed their livestock there. Shrimps, fish and flamingos inhabit the area reclaimed. When traveling by car from Ilo to Tacna is possible to see the striking difference of the reclaimed areas and the Moon like landscape of other zones yet to be reclaimed.
- c) Slags dumped on shores nearby Ilo have been removed.

⁶² A copy of the agreement can be found in (Balvín, D. et al., 1995, Annex 9)

⁶³ Interview to Doris Balvín at LABOR's offices in Lima on 6 August 2002, Lima.

⁶⁴ Interviews to Ernesto Herrera at LABOR's offices in Lima on 9 August 2002 and Julio Diaz Palacios at Foro Ciudades para la Vida on 7 August 2002, Lima, Peru.

⁶⁵ Interviews to Carlos Aranda at SPCC and Luis Alberto Sanchez at the Ministry of Energy and Mines on 7 August 2002; and, Doris Balvín at LABOR offices on 6 August 2002, Lima, Peru.

- d) Since 1993, SPCC and farmers in the valley have changed a paternalistic and very conflictive relationship. Southern Peru pays indemnifications for damages to crops in a yearly basis; established a rotation fund for agriculture loans; and, provides technical assistance to farmers. The project aims to transform the farmers into small entrepreneurs and currently works to help them in marketing their products and open new markets in Brazil.
- e) Until 2006, SPCC should recover 92% of its sulphur dioxide emissions. This is a three-stage project where the first stage to capture 30% of the emissions has been completed. The new owners of SPCC, Grupo Mexico, requested the government to change the remaining two-stage reductions by only one with the advantage of reaching the 92% goal by the end of 2004. The government has approved this amendment but some locals are suspicious of the SPCC's "actual intentions", LABOR among them.
- f) SPCC ceased to exploit the water wells in the Ilo Valley and increased water recycling from around 50%-60% at the beginning of the 90's to 60%-65% now. In general, however, the SPCC's water management has not changed significantly. The development of the irrigation project Pasto Grande by the government that drains water from the Tambo river in Arequipa to Moquegua has satisfied the needs for domestic and agriculture uses in the region.

3.3.2 ENVIRONMENTAL POLICIES AND THE POLICY CONTEXT

It is much more difficult to identify the influence on public policies from the LABOR's work and case against SPCC than at the corporate level. On the one hand, the LABOR personnel interviewed in Lima and Ilo and the mayors of Ilo during the 80's and 90's⁶⁶ consider that the Ilo case was determinant in shaping the environmental regulatory framework adopted by Peru in the 90's. This is because approximately between 1992 and 1996 this framework was established including key issues highlighted by the Ilo experience such as emission and water discharge limits and regulations on mining waste disposal. In this context, there is no doubt that the first experience prior to the existence of the new regulatory framework was that of Ilo and SPCC. For example, the recommendations approved in the final report of the Multi-sector Technical Commission are similar to the environmental adjustment plans that every mining operation has to have approved to comply with the existent environmental regulations for the mining sector.

On the other hand, in the opinion of the mining and environmental specialists interviewed⁶⁷ the influence of the LABOR's case before the IWT II was not a determinant in shaping the current environmental regulatory framework for mining activities in Peru. They coincide that the main drivers of the environmental reform were the privatization process and the pressures of the multilateral financing institutions within the structural reform of the Peruvian economy. They concede, however, that the legacy of pollution and environmental degradation of the mining industry played a role in this process. Further, there is an agreement that the most

⁶⁶ Interviews to Ernesto Herrera at LABOR's offices in Lima on 9 August 2002, Julio Diaz Palacios at Foro Ciudades para la Vida on 7 August 2002, and Doris Balvín at LABOR offices in Lima on 6 August 2002, Lima, Peru. Also, informal conversations with LABOR personnel on 8 August 2002, Ilo, Peru.

⁶⁷ Interviews to Alberto Pasco-Font at PROINVERSION on 9 August 2002 and Luis Alberto Sanchez at the Ministry of Energy and Mines on 7 August 2002, Lima, Peru.

noticeable negative environmental experience in the mining sector was that of the SPCC largely due to the environmental activism of the Ilo municipality and LABOR.

LABOR may have nevertheless been unable to capitalize at the national public policy level its success at the IWT II due to two reasons. Firstly, its proposals were too focused on the local level and the Ilo region. It may have lacked the capability to articulate the policy implications of its research at the local level into the broader national concerns and priorities of the time. For example, a major environmental issue for LABOR was to avoid that tailings from Cuajone and Toquepala were disposed on the seabed. This raises for environmental policies the discussion of regulating mining waste disposition in the sea, where LABOR could have contributed significantly due to its research and knowledge about the Ilo case. The regulation in force, however, is very general and allows submarine disposition of mining tailings as long as an environmental impact assessment study shows that negative impacts will not ensue⁶⁸. Secondly, LABOR's confrontational approach that led to the success of IWT II was not helpful for approaching the government when this asked for policy proposals and contributions for regulating and not for getting rid of the mining industry.

Notwithstanding, it was possible to track down two cases where the LABOR's research project was used to effect public policy changes in Peru. In the Peruvian new constitution adopted in 1993, an environmental chapter was included that enshrined the people's right to enjoy a clean environment. The justification of that chapter is heavily based upon LABOR's research report: Balvín, D. et al, 1995⁶⁹.

Peru has adopted a sector approach to regulate industrial activities. This means that the environmental authority for mining is the mining authority or the environmental authority for the manufacturing sector is the Ministry of industry. Such a system would usually need a coordinating mechanism that assures the consistency and coherence among different sector environmental policies. In 1994, the Environmental National Council (CONAM) was established as the Peruvian institution in charge to coordinate environmental policies across sectors. Julio Diaz Palacios, a former Ilo's mayor, prepared the basis of this legal instrument. He recalled that the LABOR's report was used as evidence that⁷⁰:

- a) "Peru had weak environmental policies;
- b) Norms and regulations were ill-enforced;
- c) There was a need of an institution for coordinating environmental matters because the sector regulatory approach was insufficient and partisan."

3.3.3 DISSEMINATION OF RESULTS

Undoubtedly, LABOR has been very successful in disseminating the findings of the study. This in part was because the project itself was a dissemination project due to both the denounce of SPCC's activities to the IWT II and the important evidence that LABOR had already accumulated when submitted the SPCC case for selection to the tribunal. Yet, it cannot be denied that LABOR made great efforts to diffuse as much as possible the research

⁶⁸ Interview to Luis Alberto Sanchez at the Ministry of Energy and Mines on 7 August 2002, Lima, Peru.

⁶⁹ Interview to Julio Diaz Palacios at Foro Ciudades para la Vida on 7 August 2002, Lima, Peru.

⁷⁰ Ibid.

findings beyond the IWT II. The following have been the main disseminating activities of the research project's results by LABOR:

- a) The presentation of the accusation to SPCC at the IWT II, which had a large impact at the national and international levels. The impact on the national public opinion derived from the fact that the media cannot avoid this new. Whatever their opinion on the issue, they had to express it due to the attendance of the General Inspector of the Republic, the supportive statement of a group of parliamentary deputies and the international news about the case. The international news coverage reached the Netherlands, France, Spain, the United Kingdom and Germany. The prestigious mining publication – Metal Bulletin – also published an article titled “SPCC faces lawsuit for environmental pollution” on its 3 February 1992 edition⁷¹.
- b) In June 1992 in the French serial THALASSA a special TV program, “Çà n’ arrive qu’ ailleurs”, based on the research results, used the environmental situation in Ilo as an example of the abuses from the North to the South⁷².
- c) A booklet – *SPCC: Scarcity and Privileges in the South* – “well presented and well argued with full color photographs”⁷³ was produced in English and Spanish.
- d) The video produced for the hearings at the tribunal was also presented, in October 1992, at the Iberian American Video Festival in Chicago, where was chosen among the ten of the best.
- e) In the National Congress of Biology, August 1992, LABOR organized a symposium on mining pollution.
- f) Finally, LABOR published a book – Balvín, D., et al, 1995 – where the research results and methods are fully presented and explained. The book includes worthwhile annexes and a detailed account of the IWT II's verdict on the SPCC's case and its initial repercussions at the national and international levels, summarized in this report.

3.3.4 POLICY CAPACITY BUILDING

Although the modest size of the IDRC grant, the research project contributed to strengthen policy capacities in two areas: (i) institutional and individual learning, and (ii) institutional linkages between LABOR and other relevant policy actors.

Since LABOR's case was accepted by the IWT II, LABOR has consolidated links with the Ilo Municipality and parliamentary deputies of Southern Peru, in general, and Ilo, in particular. These relationships allow LABOR to influence policies related with natural resources in the region. For example, LABOR has been very active in the project – ILO: Clean Air 2002 – where the key stakeholders are the Ilo Municipality, the Ministry of Health, the Ministry of Education and LABOR. This project is sponsored by a Canadian institution. It follows the Municipality of Ilo pioneering air monitoring activities initiated in 1997 to assess systematically

⁷¹ Source: (Balvín, D. et al., 1995, p: 310-312)

⁷² Ibid, p: 313

⁷³ Personal electronic communication from David Brooks on 13 August 2002.

the pollution impacts of the SPCC smelter⁷⁴. This project also raises the population awareness to air pollution and in using preventive measures against it, working closely with primary schools in the city of Ilo⁷⁵. According to the Director of the Office of Urban and Environmental Development of the Municipality of Ilo⁷⁶, LABOR advice and technical support was extremely useful before this office was established. Now, LABOR contributes to the Municipality mainly by providing information.

LABOR has continued working with the farmers from Moquegua and Locumba providing them technical assistance and advice, though the program with the Locumba farmers was suspended due to lack of funds. In the Moquegua region, this program has been also used as platform to oppose the Quellaveco copper mining project due to its potential negative impact in the availability of water for the enlargement of the Pasto Grande irrigation project. In this program, LABOR has the support of Friends of the Earth, a well know international NGO opposed to mining⁷⁷. This international link for LABOR may have been facilitated due to its case against SPCC in the IWT II.

The institutional relationship between LABOR and both the SPCC and the Vice Ministry of Mines has been uneasy. The Vice Ministry of Mines and SPCC coincide that LABOR has not had thus far a constructive attitude towards the mining industry, which in their perception have changed significantly in the past decade. Thus, there is very little room for these actors to work together. This might eventually affect LABOR relationship with the Municipality of Ilo. During the fieldwork, the consultant could perceive that high level personnel in the Municipality of Ilo feels that LABOR avoids consensus politics and seeks confrontation. As the relationship between SPCC and the Ilo Municipality has improved over the years, the current local authorities seem to be more inclined to mining because they realize that mining may bring development to the region.

The research project supported by IDRC was a key component of the LABOR's case against SPCC before the IWT II. In turn, this participation was a landmark in LABOR's institutional development as a national environmental NGO for several reasons. As discussed in the section "[Intent of Policy Influence](#)", it allowed LABOR, a local organization, to attract national and international attention towards mining environmental impacts in Peru. The leadership role played by LABOR in this process provided this institution with a national and international prestige very important for its development in the 90's. Currently, LABOR has expanded activities from Ilo to Arequipa, Moquegua, Puno and Lima and has established communication and cooperation links with international NGOs such as Friends of the Earth and Oxfam.

The experience of the IWT II provided LABOR with international exposure, an important factor in its institutional development. It also allowed LABOR to experience the full cycle of what they called the formulation of a better alternative than negotiation as a way out of a conflict, when the parties in dispute are not in equitable positions to negotiate. This alternative would include the following strategies: (i) the generation of social and environmental technical

⁷⁴ Interview to Socorro Aragon at the Ilo Municipality on 8 August 2002, Ilo, Peru.

⁷⁵ See brochures: Campaña "*Protegiendo Mi Casa Cuando Hay Contaminación*", Plan de Contingencia Atmosférica; and, "*Los Estándares de Calidad del Aire*."

⁷⁶ Ibidem footnote 74.

⁷⁷ See, www.foei.org/ifi

information; (ii) the sensitizing of the national and international public opinion; (iii) the legal strengthening of the affected parties; (iv) legal channeling of the conflict; (v) lobbying key actors; and (vi) pressure strategies (Balvin D. and López, J, 2002)

During the 90's, the project leader, Doris Balvin, has been very active in the field of environmentalism and promoting LABOR activities. She opened and heads LABOR's office in Lima and obtained a master degree on Urban Environmental Management at the University of Agriculture in Wageningen, the Netherlands. Currently, her work focuses on processes to empower local actors seeking that mining companies acknowledge the stakeholdership of NGOs and local communities in their projects. Her latest publication (Balvin D. and López, J, 2002) testifies on the continued progress of her work on the subject.

3.4 CONCLUSION

In this section an overall assessment of the influence on policy of the research project is attempted with respect to (a) type of policy influence, (b) factors affecting policy influence, and (c) the IDRC's role in fulfilling the project's potential to influence policy.

3.4.1 TYPE OF POLICY INFLUENCE

The overriding purpose of the LABOR case against SPCC in the WIT II was to influence SPCC corporate policies towards the environment and to change the Peruvian government lenient attitude towards SPCC's environmental behavior. The Impact of Copper Mining on Water Resources in Southern Peru project was instrumental in achieving this goal. Accordingly, it can be concluded that when a research project is part of a broader strategy to influence policy its effectiveness improves significantly. Moreover, in these cases the likelihood to influence policy in the short term is significantly greater than that of a project where influencing policy is only one among several objectives.

It is interesting to note that IDRC expectations about the potential of the project to influence policy lagged behind the expectations and actions of the research team. While IDRC would have been satisfied with the researchers delivering a sound case before the IWT II, LABOR saw the IWT II as an instrument to strike a big impact on the SPCC and government's environmental policies. As stated by the program officer of this project, such a situation would have taken place due to the unusual way whereby the LABOR's proposal reached IDRC, through the Water Tribunal. However, it may also have happened because IDRC appears to consider policy influence as a research byproduct and not, as it happened to be in this case, as the main output of the research exercise.

The project being a component of LABOR's strategy to influence policy contributed to expanding policy capacities, broadening policy horizons and affecting policy regimes. The expansion of policy capacities derived from the generation and diffusion of systematic knowledge on the environmental impacts of the mining industry to local and national actors. The project also helped to improve LABOR's capability to communicate ideas not only by supporting the production of a video, a booklet and a book to disseminate the research results but also by providing them a fax machine to stay in touch with other similar groups. "It

was one of those small things for IDRC that made a big difference for the recipient.”⁷⁸ In addition, the project helped in developing new talent for research and analysis within LABOR that, beyond its advocacy role, could deliver multidisciplinary research on environmental issues.

The project contributed to broadening policy horizons because it provided opportunities for LABOR to networking at the global level, particularly. LABOR current relationship with the international NGOs Oxfam and Friends of the Earth were likely benefited by LABOR’s case against SPCC at the IWT II. With its participation in the tribunal, LABOR was not only able to shape the environmental agenda for the Ilo and Moquegua region but also, and more important, may had been able to change SPCC strategy to postpone environmental investments in controlling environmental impacts and reclaiming environmental damages.

Although not highlighted on the research and policy literature (Lindquist E., 2001 and Neilson S., 2001), in the opinion of the consultant, the project helped to affect the policy regime through the modification of the prevailing structure of policy stakeholders. According to the project leader, “social an environmental conflicts in developing countries such as Peru do not take place under equitable conditions. Investors have more power than local communities and are supported by the state because they bring resources to the economy.”⁷⁹ This situation tends to sideline or neglect local concerns resulting in the exclusion or rejection of some stakeholders like local communities and civil organizations from the policy process. Therefore, breaking up the isolation of these stakeholders from the policy process is likely to affect a policy regime structurally. In several cases such as successful civil rights movements, these changes would become irreversible.

LABOR during the experience at the IWT II and afterwards has been a compensating factor of the SPCC’s power in the region by creating conditions that have forced the government and SPCC to take into account local concerns. LABOR played this role by highlighting environmental issues in the region and by keeping and providing technical and specialized information to local stakeholders. The accusation of the SPCC in the IWT II was a milestone in this process. Henceforth, SPCC has regarded the Ilo municipal authorities and started to coordinate with them the urban development of the city⁸⁰. Undoubtedly, LABOR’s work has allowed weak stakeholders to voice their concerns and have a say on local policy matters. LABOR, aware of this worthwhile role, is trying to diffuse the experience acquired in Ilo to the national level.

3.4.2 FACTORS AFFECTING POLICY INFLUENCE

Internal and external factors account for the policy influence of the study. Arguably, there are two main factors that account for the project’s success to influence policy.

First was the development of a strategy to disseminate the research’s results among key national and international stakeholders. As said before, LABOR carefully planned this process and the research project was instrumental to this objective. It is interesting to note that the strategy was based on given international publicity to a domestic problem in order to effect a domestic (national) change.

⁷⁸ Personal electronic communication from David Brooks on 13 August 2002.

⁷⁹ Interview to Doris Balvín at LABOR’s offices in Lima on 6 August 2002, Lima.

⁸⁰ Interview to Ernesto Herrera at LABOR’s offices in Lima on 9 August 2002, Lima.

Second, building local community and stakeholders support around the issue was very important for the fulfillment of potential to influence policy of the research findings. The fact that the accusation before the IWT II was presented not only by the research team itself but also by the Municipality of Ilo and the MPCE gave the case more credibility and political relevance. In part at least, this would explain the surprising diffusion of the case by the international media.

Another internal factor, which may seem obvious, was the careful planning of and analysis activities, institutional arrangements and lobbying to build support around the project, in general, and its policy implications, in particular. Influencing policy, therefore, requires leadership and policy entrepreneurship. Like the High Altitude and Mining project, this study demonstrates that influencing policy is not merely a byproduct of good quality research.

Arguably, the project did not optimize its potential to influence mining environmental policies. This was because LABOR did not adapt its confrontational approach to the new policy context opened by the structural reform and privatization of the Peruvian economy. In this context, LABOR did not take advantage of the knowledge and prestige accumulated due to its participation in the IWT II because it was not willing to work along with the government and the mining industry. This limitation originated in LABOR's political stance and strategy of not compromising with the mining industry. During the fieldwork, it was not possible to ascertain if LABOR's research *enlightened* the policy makers involved in the establishment of the environmental regulatory regime for mining activities.

Certainly, the policy influence of the LABOR case against SPCC was enhanced by the policy context favorable to environmental policy reform in the beginning of the 90's in Peru. For example, SPCC could accommodate its environmental mitigation and reclamation plans within the broader framework of environmental adjustment plans required from the mining industry by the government. In this way, the SPCC's initial US\$ 200 million environmental investment commitment in December 1991 become around US\$ 700 million investment commitment by the end of the nineties. In addition, evidence provided by the research was used in support of constitutional and institutional legal changes required for environmental protection.

3.4.3 IDRC ROLE IN FULFILLING THE PROJECT'S POTENTIAL TO INFLUENCE POLICY

Likewise to what happened with the High Altitude and Mining project, IDRC did not check up the impact or influence that the project had after its completion. This was because program officers had no framework or pressure to check up. "We were always short of time, so, in the absence of that framework or pressure, we were always looking ahead at what we had to do rather than back at what we had done"⁸¹

It can be argued that the lack of this type of framework within the IDRC's system to support research constrains the dissemination of Center-supported research and, therefore, its potential to influence policy. One could speculate, for example, that if LABOR's study would have been known by a broader group of researchers or research institutions that receive support from IDRC, the study's environmental policy implications would have influenced in a

⁸¹ Personal electronic communication received from David Brooks on 15 August 2002.

greater scale the environmental regulatory framework in Peru and, perhaps, in other mining countries in the region.

In many cases, IDRC would be in a much better position than local research centers to foresee or identify when a window of opportunity for influencing policy will be opened in a developing region. This, for example, may have been the case of the environmental policy reform in the first half of the 90's in Latin America. In these situations, IDRC can more easily than research centers in the developing world reach big international policy players such as multilateral financial institutions. If for IDRC promoting research to influence policy will be a priority, it may need to consider a more ambitious strategy of promoting policy networks in the developing world and help them to articulate with the web of key national and international policy players.

Last, as suggested by the IDRC program officer of the LABOR's study when referred to the main lessons that the Center learned from this project, "[IDRC] should spend as much time in follow up after a project is done as spends in working on the proposal."⁸²

⁸² Ibid.

4. CONCLUSION AND RECOMMENDATIONS

This section summarizes the main findings arising out of the cross case analysis of the research projects evaluated. It focuses on the lessons that can be drawn in relation to (i) what constitutes public policy influence in the cases analyzed; (ii) to what degrees, and in what ways, have the assessed research projects influenced public policy; and (iii) what factors and conditions have facilitated or inhibited the public policy influence potential of the research projects evaluated.

4.1 KNOWLEDGE GENERATION AND RESEARCH FINDINGS DISSEMINATION

Following Lindquist E. (2001) analysis, a common feature in both projects was their potential to expand policy capacities through improving the knowledge or data of relevant actors. However, the fulfillment of this potential has largely depended on the type of dissemination of the research findings and the strategy to deal with the research's policy implications. When the dissemination is mostly limited to an academic audience such as in the Mining and High Altitude project, the potential to influence policy tends to be low or negligible. On the contrary, if the diffusion of the research's results is targeted to key policy actors inside or outside the policy process, the policy influence of the research project can be surprisingly significant. This was, for example, the LABOR case against SPCC before the IWT II, which was skillfully assembled as an accusation of the Ilo main local institutions.

From analyzing these extreme cases, it arises that for bridging the research and policy gap is of utmost importance improving the dissemination of research findings and the strategies for dealing with policy implications of research studies. Indeed, a well-designed strategy for influencing policy has to include a well-thought dissemination of the research findings. For example, the Impact of Copper Mining on Water Resources in Southern Peru project shows how successful dissemination begins since the project proposal and continues throughout project implementation and after research completion. During the project design, LABOR approached key local actors in Southern Peru to inform them about its intention to present a case against SPCC before the IWT II. For getting their support to this initiative, LABOR had to persuade them that although the IWT II had no power to enforce its verdicts, it could mobilize the power of international public opinion to induce behavioral changes in companies and governments. Once this initial hurdle was overcome, during project implementation LABOR set out to give their case national relevance. Among other things, this implied diffusing the evidence available to key policy stakeholders and the national media. Finally, once the IWT II verdict was issued, LABOR strategy was to disseminate widely the research findings in Peru and to take advantage of all the opportunities available to present the SPCC case in international events and to the international media. Consequently, this case illustrates that for policy purpose, successful dissemination needs to be incorporated into a well-thought strategy of how to use a study's policy implications

The design and funding of the dissemination of research findings were insufficient in the proposals reviewed. The success of LABOR, however, was not by chance. As discussed before, LABOR had a sophisticated and highly political strategy to disseminate and use their

research results that they simply did not need to elaborate in the proposal because it was not requested by IDRC. The corollary could be that the traditional approach to dissemination based on seminars, workshops and publications once the research is completed is insufficient to bridge the gap between research and policy. Yet, researchers that leave the comfortable ivory tower of the academia may face the risk to be pulled into the dark waters of politics with unpredictable consequences. Further, if such a challenge is accepted, one runs the risk of polluting research objectivity with political partisanship. For example, LABOR is seen by some mining actors such as government officials and mining environmental specialists as a biased and a non-objective stakeholder. One could nonetheless argue that if this critical issue is properly pondered during the proposal elaboration, corrupting objective research with political partisanship can be avoided or minimized. Unfortunately, the evidence available from the case studies does not allow elaborating further on this topic.

4.2 CAPACITY BUILDING, POLICY CONTEXT AND THE DYNAMIC LANDSCAPE OF POLICY ACTORS

The case studies show that another way in which IDRC-supported research has influenced policy is through policy capacity building. Policy capacity building results when institutional or individual policy relevant learning takes place or institutional linkages are developed. For example, the relationship between UPCH, a health science based institution, with ADEC-ATC, an NGO working on labor issues, provided the institutional conditions to do relevant research on public health and safety policies in Peru. Likewise, the relationships between LABOR and the MPCE, the Ilo Municipality and the farmers of the Ilo Valley at the local level; and between LABOR and the IWT II, at the international level, were enabling factors to influence SPCC and public environmental policies in Peru.

The effectiveness from institutional learning and linkages to influence policy appears to be conditioned by the dynamics of both policy actors and the policy context. For example, ADEC-ATC intent to achieve recognition of CMS as an occupational illness was frustrated, among other things, due to two policy capacity eroding factors. First, the mining labor union, a key partner of ADEC-ATC, changed its policy priorities in response to a major policy change. Further, after project completion the political relevance of mining unions in Peru significantly reduced over time. Second, ADEC-ATC itself had to adapt to the changing priorities imposed by the new policy context and by the international cooperation that sidelined occupational and safety issues. After project completion, this caused the UPCH to retreat towards basic health science research losing their modest policy capacities accumulated in carrying out public health and safety policy oriented research.

On the contrary, a policy context proactive to environmental protection has allowed LABOR to keep and consolidate its links with the local authorities and farmers of the Moquegua and Locumba valleys. LABOR is recognized by these actors as an institution with technical environmental expertise. Since its participation in the IWT II some of their employees or members have pursued post graduated studies on environmental related fields. Moreover, LABOR has developed new links with international NGOs working on environmental issues and natural resources management. LABOR is considered a key actor on environmental issues in the region and its opinion highly regarded by local institutions.

Last, but not least important, research projects could be a way for promoting the participation of weak stakeholders and to give a voice to their concerns and needs. Avoiding or reducing the exclusion of relevant but weak actors would also have an impact on public policies. For

example, the Impact of Copper Mining on Water Resources in Southern Peru project was a contributing factor for the Peruvian government to pay more attention to local environmental and social concerns.

4.3 STRATEGY FOR IMPROVING POLICY INFLUENCE

The case studies have also shown that policy influence has been considered by IDRC mainly as a research byproduct. This has detracted IDRC from playing a greater role in fulfilling the potential to influence policy of the research it supports mostly because, as discussed below, national research teams usually lack both (i) policy entrepreneurship capabilities, and (ii) the resources and expertise needed for giving regional or global policy relevance to their local or national findings. Among other factors, this explains that the potential to influence policy was lost in the Mining and High Altitude project or was not optimized as in the Impact of Copper Mining on Water Resources in Southern Peru project.

At least there are three reasons that will justify a change in the current approach of IDRC that treats policy influence as a research byproduct.

First, in a number of cases policy influence results from a favorable confluence of events such as a shared vision or a common understanding about an issue across key policy stakeholders when a policy window is opened. This requires a minimal agreement around a *problematique*, which needs to be carefully cultivated and promoted since the project onset. For example, LABOR was able to form a coalition of local and national stakeholders against the Peruvian government leniency regarding the SPCC's environmental performance. This coalition was crucial in forcing SPCC to abandon its policy of postponing the adoption of an environmental adjustment plan for its mining and smelting activities. Forming such a coalition required leadership and policy entrepreneurship abilities that are different capabilities of those needed for performing high quality research.

Second, an effective strategy to influence policy has to cope with unexpected events. For instance, in the 90's the new labor and employment policies of the Peruvian government led to a major shift in the policy priorities of mining unions. As the mining unions were the foremost policy stakeholders supporting the policy implications of the Mining and High Altitude project, the priority shift significantly impaired the ability of the project to impact on the Peruvian occupational health and safety policies. Neither had the research team nor ADEC-ATC a plan to deal with this situation. On the contrary, LABOR was able to gain additional international support for its cause by taking advantage of the interest in the SPCC case by the European media once the favorable verdict of the IWT II was issued. This furthered the change of the SPCC's environmental behavior in the Southern region of Peru. Again, both cases highlight the importance of leadership and policy entrepreneurship for policy relevant research to influence policy effectively.

Third, for the optimization of a project's potential to influence policy, its results may need to be diffused and discussed at regional or global levels. One can argue, for instance, that for the CMS to be recognized as an occupational illness, the policy implications of the research study would have had to be addressed to the Andean countries or to the global mining industry. If Peru would have accepted CMS as an occupational illness, the competitiveness of its mining industry would have been affected vis-à-vis the mining operations in Bolivia or Chile. This may explain, at least partially, the initial rejection of the Mining and High Altitude project's results by the industry and government representatives. Unlikely, the discussion of the

project's findings at the international arena such as in the International Labor Organization would have avoided the said competitiveness pitfall as well as the negative impact from the lack of interest resulting from the new policy priorities of mining unions in Peru. Moreover, an international discussion might have spurred additional research on the subject, which if it would have led to more compelling evidence in the relationship between CMS and mining activities, the chances for CMS to be recognized as an occupational illness would have significantly improved. Clearly, neither the research team nor ADEC-ATC was in a position to propose such a strategy possibly because of their national focus and perspective. However, IDRC could have done it due to its regional and global perspective on development issues. Thus, this example points out the need for IDRC to play out a regional or global role, further discussed below, if it is to foster policy influence from the research it supports.

In summary, when research proposals have a significant potential to influence public policy, approaching policy implications as a research byproduct is not sufficient. There is a need for a framework in IDRC to treat and process these proposals differently than the ordinary research projects, if their potential to influence policy will be optimized. For this framework to be effective, on the one hand, should differentiate the research project from its policy influence strategy; and, on the other hand, it must assign different means and responsibilities for influencing policy both at the project and IDRC levels. Following are some suggestions in relation to this framework. They are presented distinguishing between suggestions for administering policy influence processes at the research project from those to be administered by IDRC itself.

4.3.1 Suggestions for administering policy influence in research projects

Research proposals submitted to IDRC are screened regarding their potential to influence policy. If the potential exists, a strategy is developed to deal with the policy implications of the proposed study. Usually, the strategy entails the identification and budgeting of the dissemination activities to be implemented once the study has been completed such as workshops, seminars with policy makers and publications⁸³. Thus, for dealing with policy implications of research projects, IDRC follows a sort of punctuated approach that reaches the stages of project design and dissemination of research results.

For better dealing with the policy implications of research projects, it is suggested that this punctuated approach should be replaced by a continuous process that extends over the project's lifetime. While the research is carried out, the project's activities for influencing policy would mainly be (i) developing and strengthening links with key policy stakeholders and decision makers and (ii) policy context monitoring. In this way the project would be able to pursue a flexible strategy capable of adapting to a changing policy context and for seizing the opportunities that may enhance its potential to influence policy. This would also make the policy community aware of the project's potential policy implications since the project onset, benefiting the project with timely feedback from potential policy users.

As influencing policy requires specialized human resources including leadership and policy entrepreneurship, during the proposal formulation IDRC program officers would have to assess if these capabilities are available in the recipient institution. Were these capabilities absent in-house, in the project design should be considered how best these resources could

⁸³ Personal communication from Andres Rius, IDRC program officer at the Montevideo Workshop on "*the Influence of Research on Public Policy*" held by IDRC in December 2002.

be provided to the research project. This would likely raise the issue of policy capacity building versus outsourcing. Due to the highly specialized nature of activities for influencing policy, it is likely that the latter might be a more efficient alternative than the former. For example, the success in influencing policy of the Impact of Copper Mining on Water Resources in Southern Peru project attests that, for influencing policy, policy advocacy institutions such as LABOR are more effective than academic institutions such as UPCH.

Properly funding of the policy influence component of a research project cannot be underestimated. If influencing policy is a worthwhile project outcome, additional resources to those required for the research itself and its traditional dissemination activities would have to be budgeted⁸⁴. Further, the budget should include funds for program officers to follow up after project completion because influencing policy is a protracted process that extends significantly beyond project completion. This would also encourage a greater commitment of policy entrepreneurs and researchers towards the fulfillment of their studies' potential for influencing policy.

4.3.2 Suggestions for administering policy influence in IDRC

Key for the IDRC's framework for influencing policy would be the establishment of a special unit for promoting, fostering and overseeing policy influence from IDRC-supported research. Having such a unit would provide IDRC with an organizational structure to seek proactively that policy relevant research could make the greatest possible impact on the policy process. This would also demonstrate that IDRC is not any more treating policy influence as a research byproduct but as a main outcome of the research activities supported.

The main advantage of establishing this type of unit in IDRC would be twofold. On the one hand, specialized resources would be allocated for this activity. Not only would this make influencing policy a more systematic and professional activity but also would provide the Centre with the capacities needed for coordinating the promotion of policy influence across IDRC's areas, programs and initiatives. On the other hand, there would be a unit accountable for optimizing policy influence from IDRC-supported research.

To identify the key policy issues at the national, regional and global levels on which IDRC supported research could influence or have an impact, the unit would carry out country, regional and global policy appraisal studies periodically. This does not need to be a huge and costly task for IDRC as these types of studies are usually carried out by international financial institutions and overseas development agencies. It is very likely that these institutions would be willing to share this information with IDRC as this would help to enhance the policy and development relevance of IDRC-supported research.

Based on these policy appraisal studies and policy guidelines developed by the unit, IDRC program officers would be in a sound position to identify and assess the potential for influencing policy of the proposals received. When a project's potential for influencing policy was deemed significant, a specific component for fulfilling this potential would be included in the project design and reviewed by the specialized IDRC's "policy influence" unit. Over the project research cycle, including following-up after project completion, the unit would oversee

⁸⁴ It is noted that this was a major concern of the researchers that attended the workshop held in December in Montevideo. They are afraid that IDRC may simply add the requisite of influencing policy when calling for proposals without providing additional funds to accomplish this task adequately.

and make recommendations, when necessary, for optimizing the policy impact of the research project. To do that, among other things, the unit would undertake regular policy context and conflict scenario studies to assess regional or global trends complementary to the policy context studies carried out at the national and local levels by the research teams themselves. For example, if such a unit would have had existed during the implementation of the Mining and High Altitude project, the major change in the Peruvian policy context would likely have been timely identified. This would have had probably resulted in redressing the project's policy influence strategy towards framing mining induced CMS into the process of setting up environmental regulations for the mining sector. In this way, the main threat from the policy context on the project's policy implications would have been averted.

The unit would also advise and assist IDRC's program initiatives and officers in developing policy networks where it would be relevant to disseminate IDRC-supported research beyond the local or national levels. Although IDRC supported research may be more relevant at the local or national level, in many cases the needs and problems of a community on one side of the developing world are similar to those communities located on the other side of the world. For example, a mining policy network could be established in Latin America where researchers, research centers, industry representatives, non governmental organizations and policy makers can integrate a forum for mining policy relevant research. In this kind of policy networks, the establishment of links with multilateral financial institutions such as the World Bank or the United Nations Development Program is also highly recommended. As the cases analyzed have shown, these multilateral institutions are key policy actors in the developing world.

BIBLIOGRAPHY

Arregui A., León-Velarde, F & Valcárcel, M. (1990), Salud y Minería, El Riesgo del Mal de Montaña Crónico entre Mineros de Cerro de Pasco. ADEC-ATC/Mosca Azul, Lima.

Balvín Díaz D., Tejedo Huamán J. y Lozada Castro H. (1995), Agua, Minería y Contaminación. El Caso Southern Peru. Ediciones Labor, Ilo, Perú.

Balvín Díaz D. and Lopez Follegati J. (2002), Medio Ambiente, Minería y Sociedad: Una Mirada Distinta, Asociación Civil LABOR, Lima.

Carden F., et al, (2001), IDRC-supported research in the public policy process: A strategic evaluation of the influence of research on public policy. Evaluation Unit, IDRC, Ottawa.

León-Velarde F., Arregui A. (1994), Desadaptación a la Vida en las Grandes Alturas, Instituto Francés de Estudios Andinos y Universidad Peruana Cayetano Heredia, Lima.

Lindquist E., (2001), Discerning Policy Influence: Framework for a Strategic Evaluation of IDRC-Supported Research, School of Public Administration, University of Victoria.

Neilson S., (2001), IDRC-Supported Research and its Influence on Public Policy. Knowledge Utilization and Public Policy Processes: A Literature Review. Evaluation Unit, IDRC, Ottawa.

Annex 1: Case Study Interview Questions

I. What happened after the project?

- (a) What has happened since the project was completed? What are you doing now?
- (b) What dissemination activity continued?
- (c) Who used the research (same people or new additions)?
- (d) If they have left the orbit of the project, where are involved researchers and policy makers now? (**Probe** – *Where are they? What are they doing?*)
- (e) If they are still involved with the project or its research findings and recommendations, what role are they playing and what actions are they taking?
- (f) What additional change has occurred?

II. What led to the project?

- (a) How did you get involved?
- (b) What was your role?
- (c) What was the issue or condition you were trying to address? (Gender probe – were there gender considerations and what were they?)
- (d) Who were the other key players in your view? Gender probe – be specific about who the key players are, what role they played in order to determine the type and/or level of involvement, engagement, participation of the various actors and to examine if there are any differences between the level and/or type of involvement by men and women (also, which women needs to be considered – local community members, national level politicians etc.)
- (e) Who makes policy – e.g. which individuals or groups? (Probe for researchers and IDRC staff, Program Officers - Try to get at their understanding of “good” vs “bad” policy making as one of the elements). Gender probe – specifically, who is involved at this level; how would you characterize their involvement?; to ensure different perspectives are heard and retained at higher levels, it is important to consider such questions as: Who records proceedings and checks conclusions? Who writes reports and edits any plans? To whom are decision makers accountable? Who monitors their accountability?
- (f) Did the project team (including the IDRC officer involved) discuss policy influence and was this incorporated into the proposal? (Alternative question – In terms of your understanding of the process of research influencing policy: where does this project fit in that process?)
- (g) Where there any constraints or barriers when developing this project? If so, what were they?

III. What happened during the project?

- (a) When it started, what did the project intend to achieve? (Probe in relation to project documentation)
- (b) What happened? (Outputs, constraints, approach)
- (c) Where the objectives met, revised, changed, dropped, added?

- (d) What dissemination strategies were used and to what effect? (Gender probe – were different dissemination strategies used for men and women? Why/ why not?)
- (e) Who was influenced? People inside the policy process – who and in what ways?
 - i. Policy workers (those in the front line of policy recommendations and development; gender probe – advocacy/lobby groups?; Who/what organization?; Do they have “hearing”? what role do they play?)
 - ii. Policy decision makers (in charge of policy decisions: political and bureaucratic; gender probe – be specific about who, what role they play etc.)
 - iii. People outside the policy process – who and in what ways? (Gender probe – for both iii and iv be as specific as possible in terms of who, what role they play etc.)
 - iv. Those who directly influence policy makers
 - v. Those who indirectly influence policy makers
- (f) Who used the research? In what ways? (Gender probe – be specific about “who” and “what”; men and women may not use research because one of the other did not find it useful; or they may use it for different reasons or purposes)
- (g) Now that the project is completed, what do policy makers know or do now that they did not know or do before? How do you know that? (Identify the type of policy influence you would call this from Appendix 1)
- (h) What do researchers know or do now that they did not know or do before? How do you know that? (Identify the type of policy influence you would call this from Appendix 1)
- (i) What does IDRC (POs) now know or do that they did not know or do before? (Identify the type of policy influence you would call this from Appendix 1)
- (j) Why did it happen?
- (k) What changed, or remained constant during the project in terms of the project’s environment (political, legislative, economic, technical, social)?

Annex 2: People interviewed

“Mining and High Altitude” project (3-P-89-0247)

Between 17 –19 June in Lima the consultant carried out several interviews, comprising researchers, project participants, government authorities (policy makers) and potential beneficiaries, in relation to the “Mining and High Altitude” project (3-P-89-0247.) The interviews agenda was kindly arranged by GRADE (Grupo de Análisis para el Desarrollo), a Peruvian research institution located in Lima.

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**“The Impact of Copper Mining and Water Resources in Southern Peru” project
(3-P-91-0041)**

The 6,7 and 9 August in Lima and 8 August in Ilo the consultant interviewed researchers, project participants, a representative of the Southern Peru Copper Corporation, local and government authorities (policy makers) and potential beneficiaries, in relation to the “The Impact of Copper Mining and Water Resources in Southern Peru” project (3-P-91-0041.) The interviews agenda in Ilo was kindly arranged by LABOR, a Peruvian environmental NGO headquartered in Ilo.

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