GRADUATE AND POSTDOCTORAL STUDIES

McGILL UNIVERSITY

FINAL ORAL EXAMINATION
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

OF

DIANA VELA ALMEIDA
DEPARTMENT OF NATURAL RESOURCE SCIENCES
MINING, ENVIRONMENTS AND PEOPLE: DEPICTING
ENVIRONMENTAL, SOCIO-ECONOMIC AND POLITICAL
UNDERSTANDINGS OF MINING CONFLICTS IN CAJAMARCA, PERU
AND CORDILLERA DEL CONDOR, ECUADOR

Nov. 18th, 2016
9:15 a.m.

Macdonald Stewart Building, Room R3-045
McGill University, Macdonald Campus

COMMITTEE:
Dr. P. Seguin (Pro-Dean) (Plant Science Department)
Dr. B. Coté (Chair) (Department of Natural Resource Sciences)
Dr. N. Kosoy (Supervisor) (Department of Natural Resource Sciences)
Dr. H.R. Melgar-Quinonez (Internal Examiner) (School of Dietetics & Human Nutrition)
Dr. D. Studnicki-Gizbert (Internal Member) (Department of History and Classical Studies)
Dr. M.A. Perez (External Member) (University of the Valley, Cali, Columbia)

Dr. Josephine Nalbantoglu, Dean of Graduate and Postdoctoral Studies

Members of the Faculty and Graduate Students
are invited to attend
ABSTRACT

This thesis intervenes in an effort to contribute to the literature on extractivism in Latin America. Two case studies were selected, the Yanacocha mine in Peru and the Cordillera del Condor region in Ecuador. The aim from these studies is to illustrate the dynamic change in social and environmental struggles over the evolution of mining projects according to the development stage of the mine.

The first analysis of this thesis details a conceptual framework derived from the work of physicist Nicholas Georgescu-Roegen is used to understand mining as an economic productive process with entropic consequences. This analysis identifies the possibility to define ‘biophysical limits to mining extraction’ understood as the threshold to which ore extraction, resource use and waste generation are socially permitted. As decision-making regarding mining is not straightforward, the role of deliberative participation is emphasized in order to clearly define tradeoffs between biophysical requirements, environmental constraints and social conditions.

Using the approach above, the socio-ecological impacts of mining are examined, specifically in the hydrological system surrounding the Yanacocha mine in Cajamarca, Peru. This case study illustrates the impacts on the quantity of water in the Mashcon catchment, one of the most affected areas by the Yanacocha mine. Concerns relate to changes in water flows, lowering of water tables, and a decline of base flows. These disturbances indicate deficiencies in the distribution of water between small farmers and the urban population, and highlight a critical concern in a region where water is considered a scarce resource. Results of the hydrological analysis reveal important lessons over the future of water planning in Cajamarca and the contradictions between the distribution of water and the allocation of its use rights among users.

The second half of this research focuses attention on the Cordillera del Condor, Southern Amazon of Ecuador, where three large-scale mining projects are located. Two studies analyze the socio-political definitions and interests that determine the institutional and territorial changes accommodating political mining interests. Firstly, a grounded theory analysis was conducted in order to examine the transformations of socio-spatial relations in the Cordillera del Condor. These transformations explain how mining is currently co-producing territory in distinctive ways through the integration of five territorial partitions: institutional hierarchies, governance frameworks, social imaginaries, politico-cultural identities and productive transformations. These changes reflect the aim of the Ecuadorian state to centralize extractive decisions and build state power in contradiction to the nation’s constitutional intentions to build a plurinational state. A final empirical study assesses the positions of key stakeholders regarding the articulation of mining discourses in Ecuador. Results highlight four distinct mining-related discourses: (1) responsible extractivism; (2) local self-determination; (3) national economic development and (4) local economic development. The analysis of nuanced positions within these discourses permits the understanding of discursive articulation of how power is leveraged between
the geographical scale at which conflict is experienced and the scale at which
decisions are politically defined. The discussion reveals the role of politics of
scale in conceptualizing mining discourses across geographical scales and how it
is used to simultaneously structure, disassemble and restructure power relations
among actors and scales. Finally, this analysis provides insights for conflict-
resolution potential on the political complexities of mining conflicts.

The implications of this body of research suggest that mining decisions are
ultimately political decisions that do not necessarily acknowledge the importance
of contextualizing extractivism within the realm of environmental justice, human
wellbeing and rights for democratic decision-making. It is hoped this research
can shed light on how particular development futures, territorial transformations,
and struggles over decision-making interplay with the socio-ecological impacts of
mining. It is also expected that key policy initiatives become evident for
improving socially acceptable outcomes for mining development in Ecuador and
beyond.
CURRICULUM VITAE

UNIVERSITY EDUCATION

MCGILL UNIVERSITY – JAN 2013 TO DEC 2016
  DEPARTMENT OF NATURAL RESOURCE SCIENCES
  PROGRAM: DOCTOR OF PHILOSOPHY – RENEWABLE RESOURCES

WAGENINGEN UNIVERSITY – SEP 2009 TO AUG 2011
  FOREST AND NATURE CONSERVATION GROUP
  PROGRAM: MASTERS OF SCIENCE - FOREST AND NATURE CONSERVATION POLICY

SAN FRANCISCO DE QUITO UNIVERSITY – SEP 2003 TO JUN 2008
  COLLEGE OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES
  PROGRAM: BACHELOR OF SCIENCE - BIOLOGY AND APPLIED ECOLOGY

EMPLOYMENT

MCGILL UNIVERSITY
  RESEARCH ASSISTANT, ‘KNOWLEDGE, ETHICS AND ENVIRONMENT’ – JAN 2016 TO APR 2016

SAN FRANCISCO DE QUITO UNIVERSITY
  LECTURER, ‘STRATEGIC PLANNING OF NATURAL RESOURCES’ – FEB 2015

FRENTE DE DEFENSA DE LA AMAZONIA

CENTER FOR INTERNATIONAL FORESTRY RESEARCH – CIFOR
  RESEARCH ASSISTANT, PROJECT ‘FURNITURE VALUE CHAIN’ – APR 2011 TO JUL 2011

RODNY PENAFIEL CONSULTANCY GROUP

CAMAREN – TRAINING CORPORATION FOR THE MANAGEMENT OF RENEWABLE NATURAL RESOURCES
  RESEARCH ASSISTANT – DEC 2008 TO JUN 2009

UNIVERSITY OF GLASGOW
AWARDS

‘UNIVERSITIES OF ACADEMIC EXCELLENCE SCHOLARSHIP PROGRAMME’. SENESCYT-ECUADOR (2013-1016)


PUBLICATIONS


KOLINJIVADI, V., VELA-ALMEIDA, D., & KO SOY, N. PEAK TIME. ANTIPODE (SUBMITTED).


VELA-ALMEIDA, D.